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AERO MODELLER

Style & Speed

NATIONALS SCALE & CONTROL LINE

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Cover

Ron Truelove's latest control-line scale showstopper, this impressive Heinkel 5lb, rests coolly between flights on the Nationals runway at Barkston Heath. Spanish livery is a fresh change on the circuit! Our first look at the Nats starts on p594.

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HANGAR DOORS

Right: Happy West Essex reunion at our Vintage Weekend saw Ron Moulton, Sid Sutherland, Dennis Allen, Ron Prentice and Ken Marsh in the company of RP's replica Boxcar, here held by original designer. Meeting was the occasion of first C/L flying for many moons by Sid and Ken – see our report in this issue. Below: Speaks for itself – another story of control line flying and overhead cables.....

M.E. Magic

Time to remind you that the next Model Engineer Exhibition approaches... and remember, this year the venue is the superbly-restored Alexandra Palace, a light and airy People's Palace just right for model aeroplane exhibits with plenty of room for all. Let's see even more model flying subjects this time! For news of competition classes and how to enter, call or write to Argus Specialist Exhibition. See our back page for more details. As well as M.E. support from loyal participants SAM35 and BMFA, Dave Rawlins of DPR Models will again host the DPR Model Flying Championships on 1st January. More details in our next issue!

Can you Coupe?

The first Sunday in December, the traditional date for the Aeromodeller Coupe d'Hiver event, approaches fast, so put 4th December in the diary now, identify RAF Henlow on the map, and set to with the trimming! As before, two classes will be run, 80gm and 100gm, but with minor differences this year. To correspond with latest FAI ruling the minimum fuselage cross-sectional area requirement of 3.1sq.ins will no longer apply in the 80gm class only; it *will* still be enforced in 100gm, as will the strict ROG rule in this class. Check those motors, too – because we'll be spot-checking to make sure you keep below 10 grams of rubber! The top Vintage (pre-1956) design will be awarded a prize, as will the top Junior flier. And the Aeromodeller and Bernard Boutillier Trophies await the main event winners...

What do we need from you? Pre-entry is essential, so notify us with (a) your name; (b) whether you are a competitor or spectator; (c) in which events you will participate; (d) your car registration number; (e) number of car occupants; and (f) your address and SAE for more information. More news next month!

And – as ever – overseas competitors will be made more than welcome. *Vive la challenge Anglo-Francais!*

Father saved after electric shock

Lucky to be alive

By LINDSEY SILL

A FATHER is lucky to be alive after receiving a huge shock while out fly.

And still they turn up! Nine-foot-span bestrutted wonder is currently in the possession of Chris Topp fron North Yorkshire. Model was designed in 1934 by R.P. Spencer of Newcastle-upon-Tyne – (but when built?). Plans exist – anyone interested? Love that nose-skid!

NZ in 1990?

Fancy flying down-under in the 1990 New Year? We have news of the Pacific F/F Championships to be held at Carterton on 4-5th February – the first World Cup event of 1990. Further, the North Island F/F Champs, a two-day 'warm-up' to the PFFC will take place at Rangitaiki, and will include FAI, Open and Mini classes.

Want more? The New Zealand Nationals runs from 29th December-2nd January 1990, again at Christchurch. Over fifty events will be on offer, more than twenty of which will be F/F.

More still? You could always combine some great flying with the major celebrations of the year in the land of the Kiwi, for 1990 will be the 150th anniversary of the founding of the Dominion of New Zealand. Prime attraction will be the Commonwealth Games to be staged at Auckland from 24th January-3rd February. Brit modellers who have attended NZ events report outstanding hospitality and fine competition. Why not plan ahead, and see for yourself? First details from Rod Lewis, 17 Walters Road, Mt. Albert, Auckland 3, New Zealand.

Shocking!

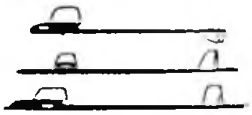
Once again, a careless session of control-line flying has made news. This time a Winchester enthusiast was flying a model built by his twelve-year-old son when the wires contacted – guess what – a high-voltage electric cable. Luckily, another adult was able to give the kiss of life and recovery was complete – but the force of the shock burned a half-inch-deep hold into the flier's hand and plastic surgery may be needed... 'My husband is very safety conscious', his wife is quoted as saying; 'but they were so intent on getting the thing to fly they didn't realise how far they had moved across the paddock'. No excuse. C/L wires and the National Grid don't mix. Always look around. Keep away from cables – that goes for towline glider and kit fliers too – and don't create bad publicity. You might just stay alive, too.

A lament for the SMAE

Times change; names too. By now the transformation from the SMAE to the British Model Flying Association is losing its novely and soon the initials BMFA will be perfectly familiar to us all. But take a moment to think on the passing of those famous letters. James Pelly-Fry, SMAE member No. 139 and ex-Council member circa 1928 sends the following lines:

In the early twenties, when I was a lad,
Jones and Camm sat down to plan
A fancy name that was not too bad.
They had to seek the blessing, you see,
of the Royal Aero Club in London town
to be the champions of you and me.
Soon the S.M.A.E. became renowned
for getting our hobby off the ground.
We travelled far to foreign parts
to fly and make rules close to our hearts.
Today the Society is no more – alas!

3RD PACIFIC FREE FLIGHT CHAMPIONSHIPS: N.Z. 1990



Fancy a 1990 trip to NZ for their F/F Champs? Dates are 4-5th February at Carterton, near Auckland. Other events are also taking place at the height of that Kiwi summer...

Let's hope the next sixty years will show
how the B.M.F.A. can do it better.
For me, the image still lives on, and will I'm sure, until I am gone.

Can you wait?

Lots to report in the December issue. The world's top events; control-line from Kiev, rocketry from Bavaria, and a detailed look at our own National events. And because we believe that competition does improve the breeds (where would Sunday fliers get their ration of rubber without the motor-busting F1B tactician, for example) we are happy to deal with major competitions wholeheartedly in detail and upon reflection. Top models and their achievements deserve space to inspire. Enjoy, then, our informal Nationals appetiser in this issue. Full analysis follows!

Brumfly boost

Just - and only just - in time for this issue comes news that the always eagerly-anticipated Brumfly event will be held at RAF North Luffenham on 23rd October. Further details from Stafford Screen on 0384 396535 (evenings) or 0384 893535 (day).

Yours?

From time to time the Aeromodeller office plays host to models lost or strayed. Presently we are caring for a metal-wheeled Keilkraft Ajax, a refugee from Vintage Weekend. Call us with further identification and we'll effect a reunion! Also, Mike Kemp reports the acquisition of two rubber winders - actually, drill conversions - after the same event. We'll forward letters.

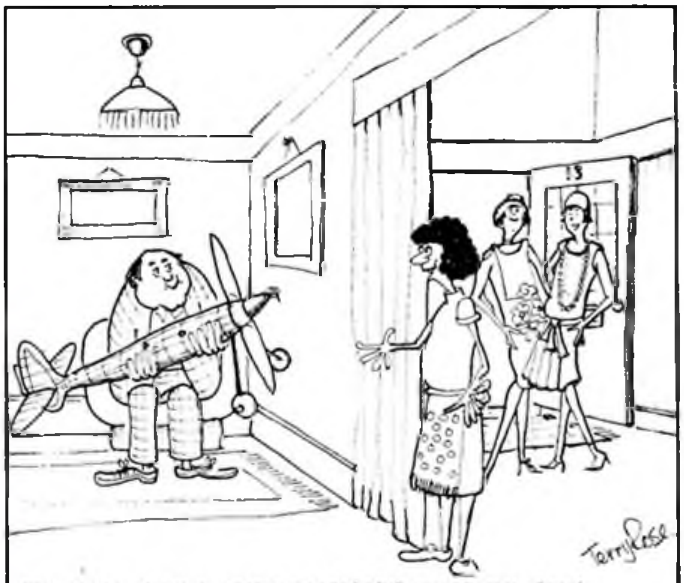
Fly me!

Good to hear of new enterprise. Simon Firth of Fly Me Models is importing a handy range of Stateside Vintage and Scale kits. See his classified advertisement. We have a couple for review - flight reports soon...

Fragment from the past

Peter Spence, who organised the Earl Stahl Skua event at last year's Vintage Weekend, updates the story with the news that a fragment from full-size Skua L2940 has been awarded to Ken Fordham for Prang of the Day at that competition, thanks to the generosity of the Fleet Air Arm Museum. L2940 went to sea in HMS Ark Royal, shot down a Heinkel He111, force-landed on a frozen Norwegian lake whence it sank during the Spring thaw of 1940. Subsequent recovery and return to these shores meant this memorable momento could happily be created.

Now - are we in for a spate of 'relic' trophies? How about Wellington, DC3 or Lightning fragments?



'Two ladies from a vintage model club to see you, dear'....

WHAT'S ON

23rd October
SOUTH BIRMINGHAM MFC VINTAGE C/L Rally
Venue: Rubery Hill Hospital, Rubery, Nr. Birmingham
General flying for SAM 35 and SMAE members. Fun competitions too.
Contact: Peter Martin. Tel: 021 459 5520.

30th October
SAMS INDOOR FUN FLY
Venue: Watford Leisure Centre, 11am - 6pm. Every form of Indoor model! Lympne Scale event. All welcome! Contact: George Wallbridge. Tel: 076 388 384.

30th October
CROYDON WAKEFIELD TROPHY
Venue: RAF Barkston Heath. Classes: F1B, Vintage Wakefield (8oz and 4oz); own-designs to pre-1951 rules. Croydon Club trophies and Ted Evans Memorial Trophy. Contact: David Beales. Tel: 01-858 2714.

12-13th November
RAFMAA INDOOR EVENT
Venue: RAF Upavon, 10am - 5pm. Informal competitions for Helicopter, Scale, Pylon Races, Portsmouth Duration, Pistachio Scale. SMAE members only. Pre-entry essential. Contact: Flt. Lt. A. Sephton. Tel: 0252 541009.
This is a date change from 29-30th October

20th November
SOUTH BIRMINGHAM MFC, SAM 35, MECA SWOPMEET
Venue: St. Brigid's RC School, Frankley Beeches Road, Northfield Birmingham. 12 noon start. Contact: Peter Martin. Tel: 021 459 5520.

4th December
AEROMODELLER COUPE D'HIVER CONTEST
Venue: RAF Henlow. Pre-entry essential. 80gm, 100gm, Vintage and top Junior prizes. Contact: Aeromodeller. Tel: 0442 41221.

31st December-8th January
1989 MODEL ENGINEERING EXHIBITION
Come to the First M.E. Exhibition at Alexandra Palace! The light, airy splendour is absolutely right for displaying model aeroplanes - so now is the time to apply for competition entry. Plenty of room for all! And don't miss the DPR Model Flying Championships. Usual support expected from BMFA, SAM 35, BSMA and clubs. More information from Argus Specialist Exhibitions on 0442 41221.

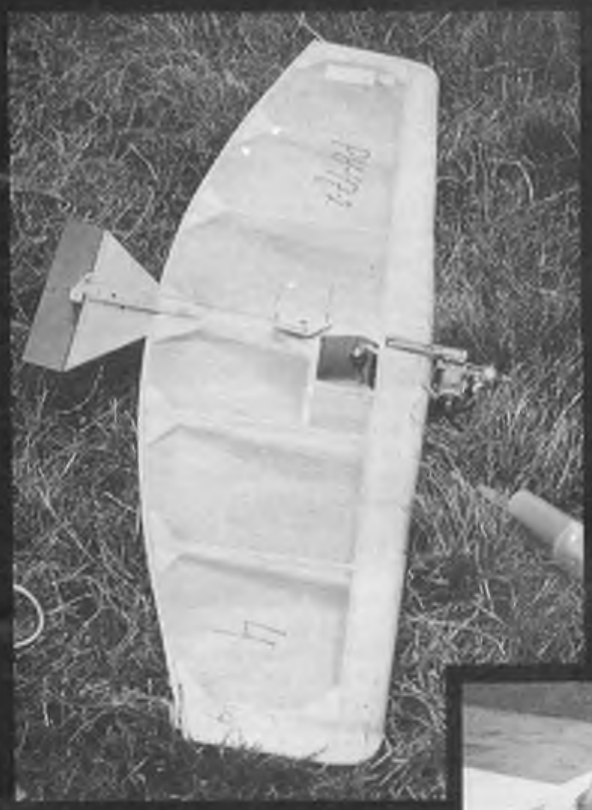
PICS FROM THE NATS

Just to warm up for the main report next month, here's an advance look at a super Bank Holiday Weekend

Heading: Happy Dave Smith and Johnny Hall after Handicap Speed success with Novarossi powered F.21. 174.45 mph!

Top left: Bang! Out goes Martin Leeper from the F2D final as John James bites hard. Below that: Charlie Newman's Bregeut 693 gets away in between motor breakages. Bottom left: Final seconds tick away as Bob Horwood gets ready to win Vintage 'A' with the Higgins/Horwood Time Traveller. Left: Charlie Taylor returned to the circle with 'B' racers old and new. Vintage T/R more popular than ever this year.

Above: Dave Bratton came from Wakefield to fly his APS Freebird in Novice Stunt. Model a favourite at this Nats – and why not; designer Tony Eifflaender was again victorious with his in the Gold Trophy. Below: New Open Goodyear Record was deserved reward for Dave Clarkson (left) and Ed Needham. Peter Halman at centre, designer of Irvine 15 used (in diesel-converted form).



Above: Stylish F2D craft from Holland proved tough opposition. It was a pleasure to welcome visitors from overseas. New Zealand, Spain, Australia all represented. Right: Ian Ward readies famous ex-Brian Horrocks 1961 Gold Trophy winner. Large model still flies majestically, if faster since re-engined....

Vintage Virtu

Right: French visitor Michel Pierrard brought along his 88in Civy Boy for all to admire.

Our intrepid reporters enjoyed Vintage Weekend on 14-15th August...

OLD WARDEN *habitués* know when to trust in this airfield's reputation for hospitable shelter. A threatening weather forecast did little to dampen enthusiasm. Even a couple of heavy showers, impartially arranged one on each day, gave many their first chance for years to visit the delights of the Shuttleworth Collection itself. But we beat the most dire of the predictions and – helped by the new flying field layout, tried so successfully for the first time at Scale Weekend a couple of months earlier – gave space for all to enjoy a healthy quota of Vintage aeromodelling at its finest.

Real Big Stuff

Radio control showstoppers were present aplenty. We particularly liked the enlarged Col. Bowden designed Big Stuff by Peter Howkins – a most elegant elliptical craft, neatly finished in all-natural style, the better to show that splendid, planked fuselage. Nor can we omit Arthur Fox's latest. Regulars at Vintage Weekend know that Arthur selects a major project each year – and the more unusual, the better. Product of Team Fox this time was Pleydell's Buzzard, as attractive radial-cowled and bespatted taper-wing job with a history so intricate we'll have to keep the tale for another time! All the favourites were present, in various degrees of enlargement or reduction to taste, and as always, every available frequency slot was filled well in advance. Our photographs will give a taste of the action; for greater detail refer to our sister R/C publications RCM&E and Radio Modeller. But there's space to remark that everything stops when Vintage Gliders take the air. Silent flight can be so compelling...

Favourites forever

Given extra space in which to play at Old Warden this year, we were happy to announce the Vic Smeed Commemorative Event to celebrate Vic's retirement from full-time harness with ASP. Still we did not know just how many of those super Smeed designs would turn up. A handful? A dozen? Charlie Vickers was first to show with his Madcap. Then came the others – to a stunning total of over forty examples paraded in an informal static park for all to admire. Some bore evidence of careful research; Brian Peckham's Nirvana, for example, drawn up from an Aeromodeller Annual 3-view. Others took care to decorate their choice sympathetically. George Stringwell's Paageboy was especially neat with its winged-footed APS messenger. How to choose? Impossible really (next year – for we will do it again – there will be clear competition, probably with a precision target) but after discussion a select few were asked to demonstrate their models. Eventual winner Mike Allen's Sea Nymph filled the spirit of the event to perfection, we felt; but it was a close choice!

Over to Alex Imrie...

The segregation between free flight and R/C, previously commented upon, again worked well. As ever, the biggest problem is actually getting out onto the aerodrome, since one invariably gets involved in discussion with acquaintances, or upon seeing an unfamiliar model. In such a situation it is often difficult to disengage. This year in particular I noticed that many old American magazines were to be had – but not for long. Piles of Flying Aces, Model Airplane News and Air Trails simply melted before one's eyes. Because modellers from all over the country congregate at Vintage Weekend, it is one of the few chances actually to meet enthusiasts previously known only via letter or telephone. A most important facet of the Vintage movement.

Early diesel design

We were pleased to see again the German contingent from SAM 85. Herbert Bayer from Nürenberg again brought his old own-design strut-braced low-wing model that we commented on in last year's report. In the interim he has fitted a WAF diesel of 1.3cc. Only 50 examples of this engine from West Berlin were made. He now uses an ingenious method of attaching the strut ends and the mainplane at leading and trailing edges by means of plastic R/C servo snap-on connectors. Not only does this ease assembly, it provides good knock off ability in the result of a firm arrival. This model was finished in red and yellow, which colours were also used on his Irvine Mills .75 powered Dyno I, a 51in. 1943 Swiss design by Jakob Klemenz specially produced for the 2cc Dyno, the first practical model diesel, which was in series production from 1941. I did not see this model fly but hand glides proved the need for much ballast at the nose, doubtless because of the difference in weight between the Dyno and the Irvine Mills (about four ounces). Herbert used mainly balsa, while the prototype was a spruce and plywood job.

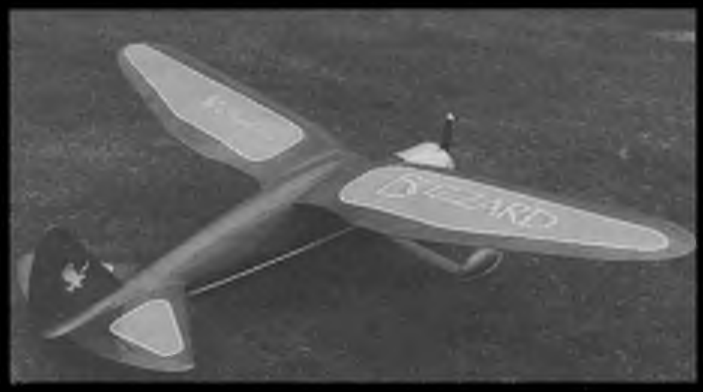
Vintage par excellence

Derek Ridley is a fine modeller with a penchant not only for high performance free flight models, but for finishing them in the manner of the original. Last year we saw his excellent Claude McCulloch designed Toreador. I particularly like this approach, for it is extremely satisfying (as Derek agrees) completely to decorate a model as per prototype. In my book Derek scores again, since he flies his models exactly as they used to be flown. This year he recreated Norman Marcus' Firecracker, which won the Open Power event at the All Herts Rally in 1948, the model being described in the Ian Allan Model Aviation Series 'Model Aeronautics'. Powered by a PAW 1.5cc this model was a real shot in the arm to any enthusiast who remembers the old days. A steep spiral climb with a judiciously short engine run (because of the Old Warden jungle) was followed by the flattest glide you ever did see. Derek also brought his absolutely beautiful Frank Ehling Super Phoenix. I have always wanted to build that one since seeing the constructional article in the January 1949 issue of Air Trails. This was finished with Frank's old number AMA 798 – but again, was PAW

ɔsity

diesel-powered. C'mon Derek, go the whole hog and put the right ignition engines in them. Your models deserve that – the crack of an Ohlsson 23 in the Firecracker and the tearing calico exhaust note of the Arden .199 in the Super Phoenix would complete the illusion that the clock really did stop in 1948!

Below left: Pete Howkins' super Bigger Stuff, an enlarged Bowden rubber design. Below right: Bespatted elegance – Arthur Fox's Pleydell's Buzzard for R/C. Centre left: Mike Allen's neat Sea Nymph won the Vic Smeed Commemorative. Below right: Jack Humphreys, ever present at Old Warden, flew a nifty Kangette this time. Bottom left: PAW-powered Super Phoenix by Derek Ridley was most impressive. Bottom right: Herbert Bayer's Dyno 1, a Swiss design from 1943.



Compressed air

Tony Turner was hoping for a lull in the wind to fly his latest creation, a 1929 Bert Pond designed compressed-air model. Tony used the same power plant that powered his D A Pavely-type model that we saw at Old Warden some six years ago. This is a three-cylinder motor, built from F J Camm instructions, fed by a copper foil, wire wrapped container capable of taking 120 pounds per square inch. This model evoked much interest. Tony remarked that many modellers were keen to have a go at this type of power unit and model if detailed building instructions were available. I undertook to rectify this deficiency, and if the Editor allows, I will compile a 'How to' article on this subject in the near future. (*OK. GC*). Tony's model is all-balsa and tissue covered. Because of the frailty of its structure doping is at absolute minimum. Tony estimates that the 29oz model should be capable of flights of around one minute duration. His previous model, which used a lot of hardwood and had a long toothpick skid like two Avro 504K's to protect the propeller (and crankshaft, since this is easily knocked out of alignment) managed only 30 seconds. Three-minutes-plus is now being obtained in the USA with plastic-bottle reservoirs; the time is ripe for a resurgence of compressed-air interest in this country. Tony's engine, container and propeller weighs twelve ounces. The 4 thou. copper foil container is made on a mandrel, spirally wrapped and soldered. Ends come from old fashioned cistern balls, which were of copper in the old days. A 12 swg strainer wire runs from end to end to prevent them blowing out, and of course, the whole container is wrapped with 28 swg steel wire with a pitch of about 1/4in, soldered at every turn. With 100psi in the container this accounts for two ounces, and the engine will run for 60 seconds although power is not being developed during the whole period. There is a compensating effect, for as the air is used so the weight decreased and less power is required to fly. The final ten or fifteen seconds of the engine run merely prolong the glide, so the power output is like that of a rubber motor, with a burst of power initially, then a continual gradual decrease. Trimming is therefore not the easy power on/power off situation that power modellers enjoy. Let's look forward to seeing more models of this previously neglected class. Some years ago Peter Harvey of Birmingham put up a trophy for compressed-air models but apart from Jack Humphreys (who made some Joe Ott engines and used the plastic bottle container) I seem to remember there was a distinct lack of enthusiasts to build models that actually reached the flying stage. Maybe we can change all that. Let's hear from you.

Oiled silk and cardboard

Norman Peacock was flying his Bontoft stick tractor when I ran him to ground in the free-flight area. This model used a genuine Warneford propeller and thrust bearing but the remainder had been either renovated or replaced by Norman with an exactness that few other vintage modellers can emulate. He had made a new wing and tail unit. As these are single-surfaced they would not look right unless they were covered with oiled silk. Norman produced his own. Others who aspire to build or renovate models of like age will be interested in the process. He covers components with ordinary lightweight silk, attaching it to the outlines with Bostik clear adhesive. Surfaces are coated with ordinary varnish that has gold size added. The exact proportions may be gauged only by experiment, and since this mixture 'goes off' quickly it must be applied fast. A home-made 'dope' quoted by W Rigby in a 1932 Modern Boy would also provide a suitable period finsh; namely 'best quality varnish and linseed oil in the proportions of three parts varnish to one part of oil'. Norman also had a replica of the F J Camm thread-braced model that was featured in this column in June and August thanks to information kindly sent by George Blair. This an attractive 15in. model in blue and orange construction was deduced from information then available. It would appear that the area of the fin/rudder is inadequate and attempts at flight in the rather unsuitable condutions at Old Warden were not successful. In the interim, through the good offices of Julian Snook of Dorset, we are in possession of the sought-for issue of Modern Boy that details the propeller; this also gives the only dimension (wheel track) which confirms our original estimation of the size of this model. A full-length feature will be given in due course so that readers can try their hand at this 1929 design. Norman produced yet another beauty from his model box! This was a 36in. version of the Rigby Swallow, a craft of substantial construction with two full-length longerons inside the card fuselage, a reinforced leading edge with microply around the wingtips, and the bracing struts with a wide base where they join the wing surface strengthen the structure considerably due to triangulation effect. Weight is 12 ounces ready to fly, power being 14 strands of 1/8th rubber driving a 12in. Keil Kraft plastic propeller through a step-up gearbox in the ratio of 2:1. On Rigby's original model of this size the wheels were made from cork, and Norman has used the same material culled from commercial teapot mats! By the way, Norman tells us that the name of the manufacturer of material from which the model is made carton card of 365 microns thickness is Gelliot Whitman; this corrects the information given in the June's Vintage corner.

Above: Manfully struggling with his enlarged APS Pinocchio for Comp Special power (surely it can't be as heavy as it looks?) John Walden displays suitable dress for the occasion. Opposite page: Similarity of poses but vastly different types. Stan Horne's Sporty II is an archetypal late-forties American sport/competition design, while Tony Turner's 1929 compressed-air lightweight portrays an altogether gentler approach. Compressed-air models to be featured in these pages ere long.

Models galore

Everyone seemed to have several models, but it was the less-common types that caught my attention. R Gordon of Henton was flying a nice red and yellow Strato D powered by a Frog 100 diesel fitted with a modern Japanese timer (Airplane Timer MK II) that pulled back a length of wire allowing the old original spring-loaded plunger in the Frog fuel tank to cut the fuel supply. Charlie Havis was seen with a red and yellow (these are popular colours for vintage models!) Phoenix designed by Bob Woollett and powered by a PAW 35, but it was his pair of identical P.E. Norman-designed Natsneez that caught my eye. These twins were powered by the PAW 80 diesel and were attractively coloured with blue fuselage and fin with orange wings. Stan Horne was operating a Sporty II (described in Model Airplane News, November 1950) which was the first of the type that I had seen. Power came from an Indian replica K gold-head diesel; and it was attractively coloured in black, yellow and red. Stan scaled up the drawing from the magazine as modellers always used to do before they were pampered with full-size plans without which many would never cut wood today! The 65in. model was designed by Walter Musciano for stable, realistic flight, but the model turned out to be a surprise since its performance was better than the average pylon model of the day thanks to well-balanced force arrangement. Jack Humphreys flew a nice replica of C E Bowden's little elliptical-winged biplane Kangette made from drawings researched by Oini Schlachter from Switzerland, a keen CEB devotee. The model performed well on its green-head AM diesel and was complete down to the Bowden-type house distemper finish!

Another most impressive model was Phil Smith's replica of C E Bowden's Bee high-wing model. This was the third petrol-engined model made by CEB in 1932 and Phil has done an excellent research and construction job of this model which, since it uses the original Bee cowling, might qualify as a 're-build' rather than a replica (well... they do that sort of thing with full-size aircraft!).

Not yet flown, the model was provisionally fitted with an Ohlsson 60 previously owned by Dr Forster. Now there is another little bit of history!

So despite not being blessed with our usual fine weather, this was a good meeting of which it is impossible to do justice in the written word of a roving report which has concentrated on a very few of the models seen by your columnist. There were many more of the better-known models without which no Vintage Weekend would be complete. When the last modellers left the aerodrome on Sunday evening, groups of enthusiasts lingered on in the car park until the onset of darkness, talking about the vintage designs they had seen or the ones they intend to build for Old Warden... maybe next year!

...and Mike Kemp reports

Frank Zaic and 4A Trophies

The Zaic Trophy was to be awarded to the best representation of any design published in the Frank Zaic Yearbooks - very difficult to judge, bearing in mind the great variety that could qualify.

Peter Spence's Joe Hervat chuck glider was neatly made from traditional materials. It flew well too. Terry Rose produced Brian Marsh's 1950 Wakefield, The Silver Eagle (1951/52) in an all-red finish. Peter Sanger had finished the unusual Ehling Flying Stick (1937) in maroon and silver for a mills 1.3. Even more unconventional was Stan Wisbey's German Record Tailless Glider by K. Schmidtberg (1938). The sleek Chas. Tracy/ Willard Meyers 1938 At Ease - Arthur Fox's choice - was beautiful in maroon and yellow. Nevertheless, after deliberation the Trophy was awarded to Phil Smith's white and orange 1937 Bowden Trophy Winner designed by Caroll Krupp (1938 Yearbook). The original model was flown in England by Herbert Fish. Phil's model was powered by a Webra 6.5.

The 4 A Trophy was meant for the best model that could generally be described as being different and very interesting. One model which came into all these categories and caught many an eye during its impressive flight was Sebastian Robinson's 1.1/2 size Pegasus Canard. The original model was a one time British Record Holder in the hands of G.H. Harrison. The plans are still available (U 396X) from APS.

The wind-up

The wind had dropped on Sunday but it occasionally veered towards the trees which created retrieval problems. However, this did deterred few, and the free flight area quickly filled. Certainly, the demarcation between the F/F and R/C areas was successful and no complaints were heard.

One of the first models in the air was Mike Allen's Wattie, the Flight Cup model featured in July's *Aeromodeller*. Impressively, and after an absence of five years, Trevor Faulkner's beautiful Silver Jackdaw II flew well straight out of its box.

The Keil Kraft Gipsy is a deservedly popular vintage Wakefield model because it has few vices and you don't have to be an expert to get it to perform well. Paul Hamsom's blue and red example proved this, as did Tony Wards' all-red version. Welcome back to aeromodelling Tony - after thirty years away.

Our attention was drawn to a group of twelve Blackburn Skuas all nicely positioned on the grass, ready for their photograph by Peter Spence, who ran a very successful 50th anniversary event for his model last year. Brian Welch's superb Frog Witch and Veron Fledgeling flew well. Both models' props were carved from jelutong rather than the more conventional balsa block.

Dave Wotton and Reg Parham were doing some trimming with their Hereward Wakefield and A-Frame pusher respectively - but not too successfully since the models were put back in their boxes with some damage. Bigger-than-normal models always catch attention and this year I noticed Brian Peckham's immaculate Pup (a larger version of the popular Cruiser Pup), Andrew Long's 1.1/2 size Ajax and Sebastian Robinson's similarly enlarged Pegasus Canard, 4A trophy winner as already described. Sebastian also flew his Clipper Wake; and whilst on the subject of vintage Wakes, I am reminded that Stan Wisbey flew Herbert Fish's 1937 Wake and Terry Rose did likewise with the MSS Lynx. That other Keil Kraft Wake (the Contestor) was being put through its paces by Tony Rushby. The red wings and silver fuselage certainly made the model look attractive.

Smaller rubber models are well suited to the confines of Old Warden and many were being flown, particularly Senators. I saw only one Competitor and one Victoria Parker this year, flown by Gerry Johnson and George Spain respectively.

Finally, I was pleased to see one particular model that is fairly well known yet seldom seen flying. The model in question is the Yorkshire Pudding; Bob Walden, its builder, assures me that I will be seeing it again for it performs reliably.

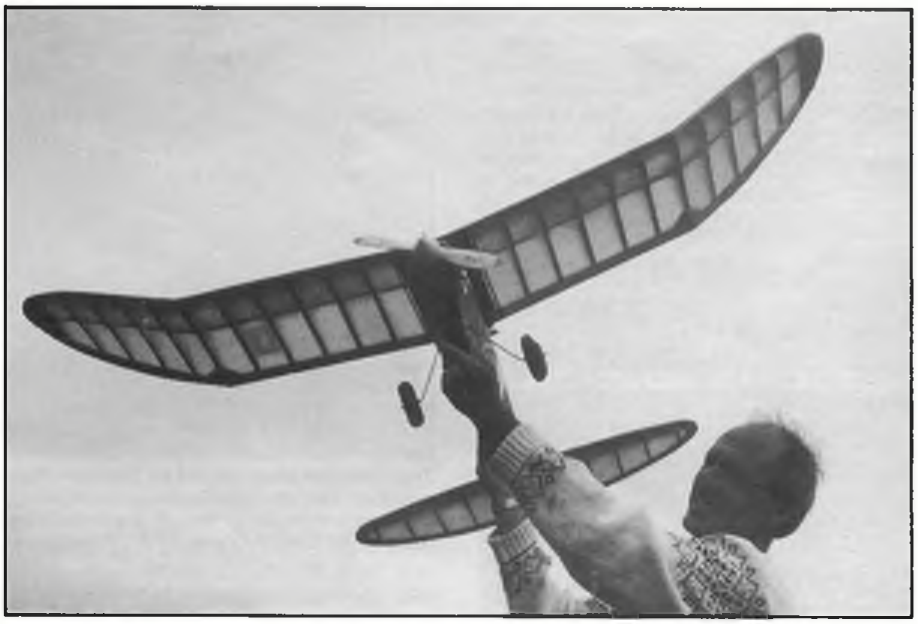
Competitions!

Apart from the Achilles competition, support was low thanks to unhelpful weather.

C.A. Rippon Trophy
This event for Cruiser Pup attracted four entries, of which only two returned scores. Terry King (proxy for Chris Strachan) managed a best flight of 1 min 16 secs to beat Ron Brownson's best of 45 secs.

Rupert Moore Memorial Trophy
Even though this precision event was broadened in scope to include large scale models, there were only two entries. However this should not detract from Trevor Faulkner's magnificent Jackdaw flights to achieve an overall error of 12%.

Achilles events
The Achilles event was very popular, no doubt thanks to the hard work put in by



organiser Alan Wiggs over the last few years.

28 entries were received for the senior class; 21 returned flights. The max was set at one minute, and 13 maxes were achieved; highly creditable in less-than-ideal conditions.

In the end, both Gordon Beal and Adam Beales had maxed out and we were treated to a simultaneous-launch fly off. Gordon just beat Adam – but it was close...

Two ladies competed this year, Jessica Nash and Margaret Horry; both did well.

Two entries were received for the Junior Achilles contest. Rupert Kemp won with 112 secs, whilst young David Toyer managed 56 secs.

Chobham Trophy (Wakefield Mass Launch)

A short rain shower ceased just before the countdown. KK Gipsies were (again) the most popular model of the 22 entries, seven taking part. The rare models this year were Spencer Willis's Red Rumpus, a Gill Harris design; G. Bickerton's Schmitbert 1937 Wake and Mike Hetherington's 4oz Bob Jeffery Wake. Streamliners were represented by just one example, namely Paul Dancer's 1939 Parham.

When the signal to launch was given there was the usual spectacular burst of models. Only one crash was reported, but it soon became apparent that the air was not particularly good and models were not getting very high. At forty seconds Peter Michel's Yankee IV was judged the highest so Peter took the Trophy (not for the first time). His D/T did not function and the model was lost. Spencer's Red Rumpus and Paul's Parham Wake finished in the trees. Of course this event was, as ever, one of the highlights of the weekend.

Danny Sheelds Trophy (A Frame Mass Launch)

Five entries were received this year but two didn't make the countdown. It was a pity that Brian Stichbury's, a design taken from a 1920 Amateur Mechanics article, crashed earlier in the day since I know a lot of work went into this model.

Both Peter Michel's Kummer and Spencer Willis's Skyscraper dived in soon after launch, and only Bob Walden's model got away to manage fine flight in the conditions to win this unique trophy.

Top: Bontoft stick tractor by Norman Peacock features real oiled silk surfaces. A fine piece of restoration. Above: Shown proudly holding aloft his Bowden Bee, Ohlsson 60 equipped, Phil Smith was in the money on Vintage Sunday, taking the Frank Zaic Trophy for his fine Carrol Krupp 1937 Bowden winner.

Earl Stahl events: Report by John Lawson

A remark at lunch time when it was drizzly and gusty (a deadly combination for lightweight rubber scale) summed it up: 'There is only one thing worse than an English winter...'

Not an inspiring day for this event and the dismal forecast may have contributed to the reduced entry. In fact the breeze was not so bad and there was the occasional whiff of 'good air'. No models were lost or caught in trees; a tribute to the improved layout for free flight as arranged by *Aeromodeller*. We were pleased that last year's winner, Doc Martin came back from Mr USA to give the locals another crack at him but regetfully the Wildcat suffered two broken motors at critical times.

A welcome innovation was Don Knight flying a Skua as proxy for Dick Sherman (USA) – and pulling off second place in the low wing event. I see no reason why other modellers in the US, Europe, Far East or the UK, who could not get to Old Warden should not take advantage of this and utilise the services of experienced flyers who attend this meeting.

The skill factor in the building, trimming and flying these delightful scale models is extremely high and there were plenty of outstanding examples. The other major factor is reliability and this style of contest places a premium on this aspect.

May I extend my thanks to my helpers and all those competitors who came up after the event to offer advice and encouragement to continue.

Vintage Class 1 Speed for the Lancastria Cup: Report by Andy Brough

The unsettled weather reduced the number of entries for this most prestigious of speed events, but the wind was not too strong and despite a one-hour rain break all went smoothly.

One or two fliers asked if they could double enter, but this is not allowed, although one can use a different model for the second flight – sometimes necessary because of breakages! Only one person took advantage of this; Mike Bennett's Elfin refused to run properly so he switched to a PAW version recording a respectable 85.7 mph.

Models powered by vintage motors get a 10 mph bonus; if the engine is a Mills 1.3 20 mph is added. This Mills allowance is still not enough, as an American visitor Bert Striegler found out. His model, the Flounder, an American design managed only a sedate 63.3 with 20 mph added! Nevertheless, Burt received the Johnny Hall Cup for his endeavours. Burt is well known in the UK for his Ebenezer and Roaring 20 *Aeromodeller* plans.

Dick Roberts brought along a cute 12in. Little Rocket built from the instructions in the May 1949 *Aeromodeller*. A note to all for the future – please remember to bring along documentation if your model is not a Midge

so we can both verify the design, and have a good look at the plan too..

To place in this event one has to own a good Frog 150 or Elfin 149. But even with a good motor it's going to be difficult to catch Barrie Wade whose Elfin Midge flew a superb 102.8 (coincidentally, his winning speed at the Nats last year). Hopefuls will have to wait until his motor needs a rebore! Brian Lister's Frog 150 Midge got closest at 97.4 mph. According to the owner it is capable of better...

Old Time Stunt
Report by Ron Prentice

This year's Aeromodeller Vintage Weekend proved even more enjoyable and nostalgic than ever, although the weather was not up to its usual expected standard.

Scheduled judges were that noted engine designer and early stunt control line star Dennis Allen and, as usual, Henry J. Nicholls, but because of a mistake in his diary, Henry arrived from Tiverton 24 hours late. He had the comp noted for Sunday afternoon... Nevertheless he enjoyed his visit and we were able to tell him about Saturday's highlight, of which - more later!

Perhaps because of the dismal forecast, we had fewer entrants this year. New SAM SPEAKS stunt correspondent Mike Rolls was first to fly with his Babcock Magician which performed a rather shallow climb, but a nice dive. His wingover was way over the vertical, but he was able to compensate by flying very nice inside loops. Unfortunately the high wind affected his outside loops, as it did his inverted flight. Still fighting the wind, he was able to produce good intersections on all his figure eight manoeuvres but managed a passable square loop.

Mick Taylor, flying another Magician, but powered by an Oliver Tiger, made a good start. His climb and dive were particularly well executed. Inside and outside loops were nicely positioned but his inverted flight was troubled by the wind. Horizontal and vertical eights were well flown, with the exception of the last 'vertical' one which suffered from a slight hardening of the motor run. Square loop and landing were excellent.

Dave Day was next to fly, with his Elfin 2.49 Ambassador. He had an excellent start, followed by a take-off run of about six inches. The model flies very fast and thus coped very well, notably performing a first class climb, dive and wingover. His loops quickened considerably, resulting in a near crash at one point. Inverted, horizontal eights and landing were good but the model tipped over thanks to the wind.

Ron Prentice came next with his well known de Bolt Stuntwagon, Merco 61 powered, a model which tends to be a handful in a breeze...

After a good start the level flight, and dive were shaky. Wingover pullout was also slightly unstable. Inside loops were tracked nicely, but with the pullouts slightly high. Inverted flight was rock steady. The roaring 61 cut immediately after the square loop in rain and the landing was managed without difficulty. Peter Michel, that great all-rounder, was next to sample the gale force wind. This OS 25 powered Hot Rock roared away after a prompt start. Much of the schedule was competent, but overhead eights were a problem when his engine went sick, but he managed to complete the schedule and made a good landing. Last came Brian Lever flying a Mercury Monitor built from a Ron Prentice kit and powered by an AM35. After a poor start, his model was hand launched but very nearly flew into the ground. His AM35 was sounding very hard and he was obviously having trouble throughout the flight. The plane had difficulty fighting the wind, and the motor finally gave up at the end of the horizontal eights.

After a short break the second round commenced in the same flying order. Mike Rolls was unfortunate to fly during a really bad patch. Almost immediately he took off, the wind blew his hat off and then with the engine running over rich, he struggled through the schedule. At this point it started to rain very hard, so the competition was postponed temporarily. When the rain stopped and the wind dropped a little Mick Taylor flew his second round flight, which was very smooth and almost perfect in every detail. Dave Day again had a good start, but again was dogged by a badly missing engine run. In spite of this he managed a very tidy schedule.

Above: Barrie Wade admires his ever-improving Elfin-Midge, once again winner of the Lancastria Cup at over 120 mph corrected speed.

The big Stuntwagon of Ron Prentice was the next to take to the air. Despite losing time and starting points when a backfire loosened the prop this was a more consistent flight. Peter Michel took taking advantage of the improved weather to put in a fast flight but was inaccurate with the positioning of some maneouvres. Brian Lever's Monitor was given a much better hand launch but because of an over compressed motor he was able to complete the schedule only with difficulty.

With the competition over, several long-time West Essex club members took their chance to make good-natured fun of judge and ex-clubmate Dennis Allen. This soon moderated when I pursuaded them to fly my Devil Bat, assuring them that in spite of a gap of 33 years, they would still be able to fly C/L - and if they did crash the aircraft, it wouldn't matter.

Ken Marsh was the first to try and after insisting that I stay in the circle with him, took off in a very convincing manner. After a few laps and some gentle climbs, he tried a loop. Having successfully accomplished this, he went on to wing overs and horizontal eights. However the effect of the long layoff was becoming apparent and he handed me the handle before becoming too dizzy to stand up.

Not to be outdone by Ken's performance Sid Sutherland took off and managed smooth

Centre: Hectic stuff as Terry McDonald assists Steve Betney with his immaculate DH Comet from MAN plans. Red racer was a likely candidate for Fireball Trophy honours until an unscheduled meeting with terra firma put paid to its chances.... Above: Back in the Stunt judge's chair, West Essex man Dennis Allen added a period touch to proceedings. News of current Allen engines next month!

level flight; then with teeth gritted he said 'I'm going to try a loop'. The first one was very small, but after I had reminded him not to use so much 'up' elevator, they became much better. He then managed horizontal eights, a wingover and some inverted flight and appeared to be thoroughly enjoying himself. When the motor cut, he did a beautiful landing then collapsed on the ground with dizziness and laughter. In spite of attempts to get Dennis Allen to fly, he refused all persuasion. Finally all the West Essex club members, Ron Moulton and myself returned to a hostelry for a drink and a meal to discuss old times. Exactly the spirit of Vintage Weekend!

Fireball Trophy: Report by Ron Prentice

As usual the models were chosen for this award by Mike Beach – assisted on this occasion by *Aeromodeller* editor Geoff Clarke. The criteria are that the models be made, powered and flown in a manner as authentic as possible.

This year the models selected were: a 1948 Boxcar powered by a Super Cyclone Spark motor and built by Robin Clews, an APS Yoicks powered by a Nordec, beautifully finished in red, by Ron Davenport, a J.T. Sadler Trainer scaled up from Ron Moulton's Control Line Manual by Tom Hughes; Full Boost – an American speed model by Dick Roberts, Mick Taylor's Demon King stunter, a Mercury Team Racer with a Frog 500 by Charlie Crawley, a KanDoo complete with an ED Comp Special made by Peter Lilly and a Frog Vandiver complete with a Frog 180.

Having been selected to take part, the owners of the models made their way to the flying circle near the control tower, but at that point, the rain, which had been threatening for some time, began to pour down. It was quickly decided to abandon the flying section of the competition and the judges chose Dick Roberts' Full Boost speed model as the most authentic of the period and this year's winner of the Fireball Trophy.

Vintage Gas – CO_2, that is

Chart-Micromold again hosted their CO_2 event, reports co-organiser **Peter Gibbons**, to healthy support and to the by now well-known rules: five flights, all to count, flown to a 1:30 max. Standards were high. CO_2 aficionado John Pool flew his reduced-size Bougeret design Le Kid into an unassailable lead (coincidentally, Peter Spence's version of the same design – to the same approach – is one of the full-size plans this month). Special mention must go to Brian Waterland whose little blue and yellow Simplex improved as the day went on, culminating in a fine two-and-a-half minutes flight. Ken Rippengale presented the prizes – Telco motors for first and second place, and CO_2 bulbs for third – and declared intention to hold the event again next year. Get building!

Vic Smeed Commemorative
Mike Allen Sea Nymph

Frank Zaic Trophy
Phil Smith Carroll Krupp Parasol (1937)

4A Trophy
Sebastian Robinson enlarged Pegasus Canard

Lancastria Cup
1 Barrie Wade Elfin-Midge 102 8 mph

Fireball Trophy
1 Dick Roberts Full Boost McCoy 60

Johnny Hall Cup
Bert Striegler, USA

Rupert Moore Memorial Event
Trevor Faulkner Jackdaw

C.A. Rippon Memorial Trophy
Chris Strachan Cruiser Pup

Achilles Competition
Senior 1 Gordon Beale
Junior 1 Rupert Kemp

Chobham Trophy (Wakefield Mass Launch)
Peter Michel Yankee IV

Danny Sheelds Trophy (A Frame Pusher)
Bob Walden

Vintage HLG
1 Mark Lester

Rolie Leliott Trophy (Jetex)
Mark Redwell

SAM 35 Glider
1 Geoff Smith

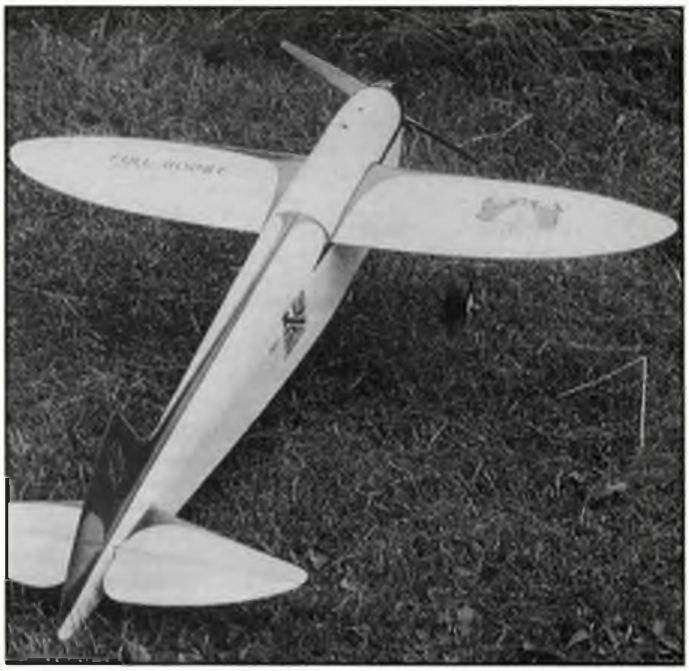
Chart-Micromold CO_2
1 John Pool The Kid

Earl Stahl competitions
Low Wing
1 Ron Brownson Magister

High Wing
1 Simon White Rearwin
Prize for tenacity: Dick Skerrett

Old Tyme Stunt
1 Mick Taylor Magician 622 pts

Keil Trophy (best KK R/C model)
John Matthews Falcon



Right: Potent stuff. Fireball Trophy winner, Dick Roberts' sleek Full Boost looked and sounded the part with McCoy 60 power. Theme of the meeting was mushrooming interest in vintage C/L – interesting... Below left: Ex-speed merchant Ron Davenport flew this immaculate Nordec-powered Yoicks and turned many heads. Below right: Just part of the assembled entry for the Vic Smeed event. Bet you can't recognise them all!

READERS' LETTERS

Vintage enjoyment...

Dear Sir,
I really must thank you for so kindly inviting me to the Old Warden International Vintage Rally this year, which I very much enjoyed, even though the elements weren't quite so kind as in previous years. However, in no way did this detract from the day and it was great to see so many friends of yesteryear - and to meet new ones.

It heartens me greatly to think that my prowess, even at 72 years of age, still enables me to harvest the occasional trophy! (Phil's Caroll Krupp parasol replica was awarded the Zaic Trophy. GC). I must admit it may hold a considerable pint or two - probably much more than the occasional pint in my pewter one at the local. Only joking, of course. I had the great pleasure of meeting Frank Zaic in pre-war days when he visited England and stayed with 'Rushy' in my home town of Manchester, and where, with other members of the Lancs MAS he enjoyed flying together at both Barton and Woodford. I was with them all when we met Roy Chadwick of Avros, who at the time was President of the LMAS.

Thanks again for a great day, and my appreciation on behalf of all visitors to all at Aeromodeller *who made it all such a happy day.*

Southbourne, Dorset ***Phil Smith***

...and again...

Dear Sir,
May I take this opportunity to thank you and all the staff of Aeromodeller *and Old Warden for another memorable Vintage Weekend. I would also like to thank John Kay, Dr. John B. Martin (Miami), Vic Smeed and Bob Copland, Phil Smith, Peter Fisher and Ray Malmstrom for giving up their valuable time to put their monograms on the wing of my CO_2 Crossbow (APS Plan PET 1341), plus all the lads from SAM 35. I did some flying too - who said time does not stand still? It did for me!.*

Emsworth, Hants ***Ray Swallow***

Mysteries

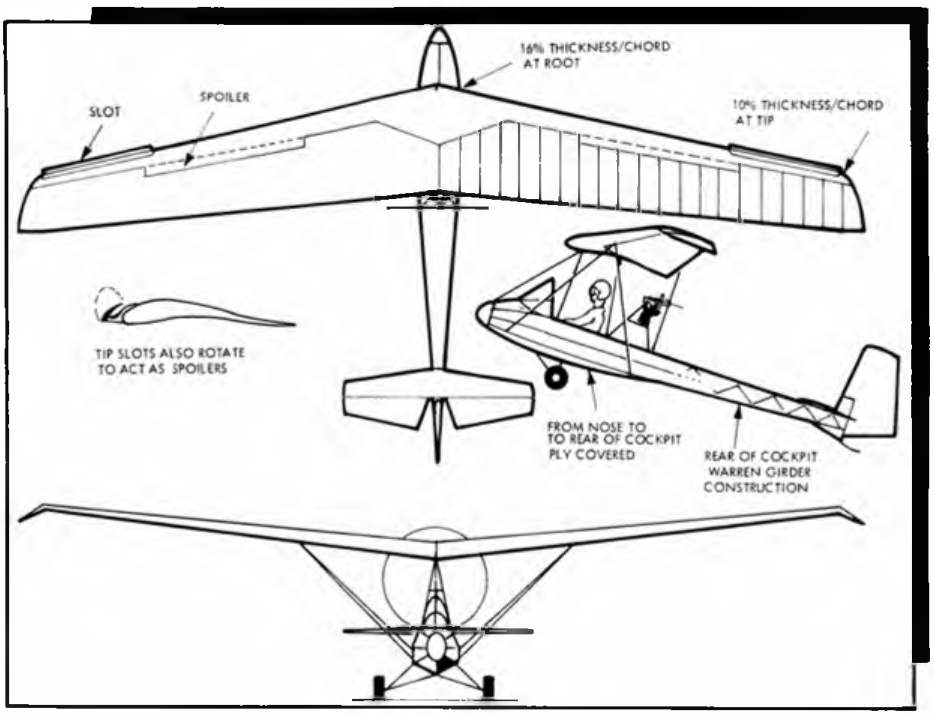
Dear Sir,
I am at present building a rather large 'model' of 34 foot span which is well on the way to completion. It owes much to technical features produced by Aeromodeller *in the past; these stirred me into finding out more about the mysteries of aerodynamics and structures. Thanks again for a great magazine.*

Stoke-on-Trent, Staffs ***Ernest Sherry***

Memories

Dear Sir,
I have just finished several enjoyable hours with the July issue of Aeromodeller. *The article on P.E. Norman took me back over 25 years to Epsom Downs, where as a schoolboy with KK Pirate and DC Merlin I would watch this shirtless gentlemen chasing a Fokker Triplane at a great rate of knots.... On another occasion a Javahawk variant attempted a low pass through my bicycle - unsuccessfully!*
You will hold another Vic Smeed event at Old Warden, won't you? (Yes. GC.) *I own a Chatterbox powered by an Irvine Mills; it flies on rudder only but may be trimmed F/F, less nicads! I had never before seen the lovely Nirvana and am scaling it up from the small drawing published. Is there any chance of a series on Vic's designs, with scale three views of his non plans service models? We don't all have access to early copies of* Aeromodeller.
Keep up the good work!

Garstang, Lancs ***D.J. Curry***



Ern Sherry's Buzzard Microlight (see Mysteries) of 34ft span will have an all-up weight of 354lbs. Designed empty weight: 154lbs; wing area 109 sq.ft. Estimated level speed: 55mph. Engine will be a 210cc Solo giving 110lbs static thrust via a 50 x 32 prop. Interestingly, wings feature 2:1/2 degrees of washout as well as sweepback and slots. Registration will be G-MMNN - look out for it!

Think again

Dear Sir,
Alan Jupp's article 'Mr. Natsneez and his Models' (Aeromodeller, *July) really brought P.E. to life as I remember him. I was unaware that he was both a musician and violin maker. It was particularly interesting for me to discover this aspect of his life, because I am also a professional instrument maker and musician. This caused me to list modellers of my acquaintance who are also musicians. It is surprisingly extensive.*

Noel Barker: Drums
Fred Barnsley: Double Bass
Hugh Bean: Violin
Colin Bilham: Double Bass
Stan Burke: Drums
Joe Deniz: Guitar
Ian Harwood: Viol maker
David Hedges: Viola
John Kergon: Double Bass
Peter King: Alto Sax
Peter Michel: Guitar
Jim Shelley: Banjo
Vic Smeed: Sax/Clarinet
Arthur Watts: Double Bass
Jack Emblow: Accordian
Ken Tansley: Electric Organ

I wonder whether there is a connection between the musician's artistic creativity and the ability to build and fly models?

Bishops Lydeard, Somerset

(Yes - and couldn't we get them all together sometime? Bit heavy on the rhythm section, perhaps. GC)

A glorious noise?

Dear Sir,
I really must write in support of the sentiments expressed by Mike Woodhouse regarding the possible degradation of Area F/F meetings (Aeromodeller, *June).*
As any of the humble Ashdown Forest assembly would testify, the number of aeromodellers who would abandon F/F is large. Locally-run smaller contests would not provide sufficient interest or incentive; and many of us who are keen (in my case since 1946) just haven't the means or time to travel several hundred miles each weekend to the proposed major meetings. Also, the chances of attracting the much-neded newcomer would be greatly reduced.
Please think again....

East Grinstead, Sussex ***Harry Hutchings***

That's Progress!

Andrew Nahum visits Macclesfield to meet a noted motor manufacturer

FOR AEROMODELLING-MAD boys growing up in Cheshire, 'Progress Aero Works' was our Mecca. It was always a great treat to visit, and we would often cycle over to Macclesfield to buy parts or replace bent needle valves, but really to breathe engine smoke and talk to Gig Eifflaender. The 'Works' was actually the tennis pavilion of Field Bank, a rather fine house; and at that age I did not really think how unusual the set-up was.

Verandahs and antechamber

The verandah of the pavilion had been closed in, making a long thin antechamber, and there in the early years were copy mills of Eifflaender design for making wooden PAW and Trucut propellors. Trucut were cheaper – the customer had to sand them. This operation generated a vast amount of beech dust which penetrated the interior of the pavilion where engine manufacture took place and mixed with the cutting oil on the machine tools, forming sawdust stalactites that clung everywhere. Gig would always look up with a grin from the test bench – as if he had never lost that boyish thrill of hearing another of his creations bellowing on the test bed.

Father Eifflaender had come to Macclesfield from Germany in the 1930s to start a silk mill but, as an enemy alien when the war came, he could no longer continue in business. Likewise, Gig was banished from Metropolitan-Vickers, where he was working in conjunction with engineering study at Manchester University. (In fact, Metrovick were developing the first axial-flow British turbojet – then a very important secret.) Thus the family fell upon hard times. 'One day Mother said "There's £71 in the Co-op bank, and when that's gone there's no more"', recalls Gig. As a modeller since the age of nine, Gig decided to try and turn this to profit and hand-carved thousands of propellors for rubber models, which were sold in the war years through Model Aircraft, Bournemouth (which became Veron) and Wakefield specialist Len Stott's Halfax Models.

Soon Gig's hobby den, the tennis pavilion, became a small factory. He was the 'chief designer' helped by wife Elisabeth, brother Wolf, sister and father (who coined the business name). Everyone earned just under the income tax threshold, and the taxman didn't like it, because he suspected, quite wrongly, that only a couple of Eifflaenders were working, and dividing the income to avoid tax. 'Surely your grandmother of seventy-five can't be involved?" Come any day and see her working – she loves it', replied Gig.

Motors?

The business was soon working to full capacity making cowls and small turned wood parts for aircraft recognition models, though these orders fell away in two weeks when the war ended. Then Gig steered the enterprise to model wheels, rubber and power props. He remembers the date of his first try at building a petrol engine (1945) because 'the night Chris was born I was making one'. Then, in 1947 or 1948 he saw his first model diesel and converted some petrol engines to compression ignition. Thereafter he made his own-design 2.2 cc motor (called E 1 in our classification). The first of these was piston-ported, Mills style, but Gig quickly found out the benefits of a shaft rotary valve. Seven or eight of these were made for private sale.

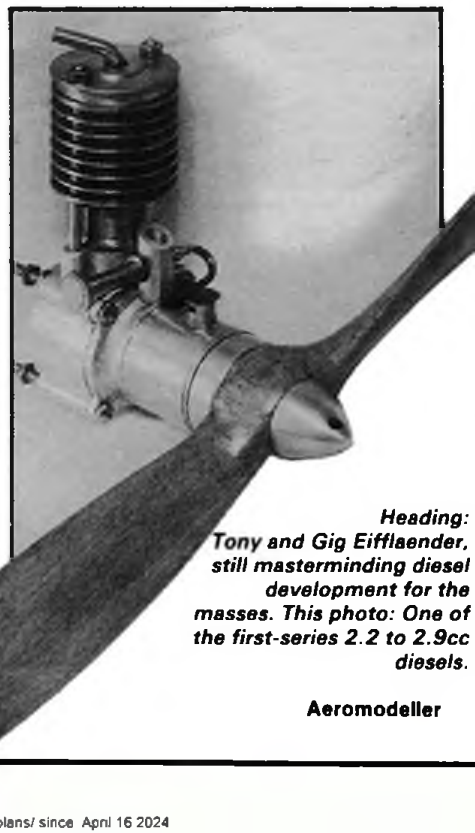
Stunt success

With an over-bored 2.9 cc version Gig mopped up most of the stunt championships of the day, becoming Champion of Europe in 1950. He was also adept at free flight power, winning the class at thhe Woodford rally in 1949, and frequently winning C/L speed events. His Macclesfield friend Peter Ridgeway also gained numerous victories using Eifflaender engines, including the European stunt championship in 1952. As a textile machinery engineer Ridgeway helped from time to time with foundry work for the motors and PAW today is located in his premises in a former mill.

Gig remembers winning the stunt class at the earliest post-war Woodford rally, mainly because of the first outside loop tried in that part of the world. Runner-up Mike Booth also attempted one, but on the upwind side of the circle, and crashed. However, Gig was inspired by Booth's 2.5 cc Elfin. 'The Elfin was cleaner, lighter, every bit as good as what we were doing, if not a bit better.' So there soon followed by a threaded-barrel motor, with three radial exhaust ports and transfer ports underneath in Arden style. And because 'the engine experts said a disc valve was better' it had that too. This was a most effective design and Gig took his personal example out of his contest F/F model for Alan Hewitt to use in Belgium for the speed event at the 1951 European Control Line Championships. Hewitt won with a speed of 159.292 kph. In the version used by John O'Donnell to win the F/F Nationals in 1955, weight could be pared down to 2.3/4 ounces.

Quick learning

In this period Gig learned a lot about model two-stroke performance. 'It doesn't take long to learn about port timing. You make a conrod too short, and find out you don't like the way it runs.' Soon Arden-style slotted ports went out in favour of his own distinctive pattern – almond-shaped scoops that reach up between the exhaust ports, giving enhanced overlap. He also learned the value of sub-piston induction from an ED Comp Special



Heading: Tony and Gig Eifflaender, still masterminding diesel development for the masses. This photo: One of the first-series 2.2 to 2.9cc diesels.

and realised that competitive 2.5 cc engines needed to breathe extra air this way because they were restricted by the size of the induction passage in the crankshaft (the BR 2.49 Elfin had a shaft of only 3/16in diameter, for example). Thus for his first run of production engines (called the Mark I, or E3 in our classification) he adopted a 3/8in shaft supported on two Hoffman ball races that were fitted in a 1in. diameter carrier. At this time Keil Kraft had introduced the flexible plastic Truflex prop so it was clear that the market for wooden propellors as about to take a dive. These engines were never openly marketed, but a sale of about 50 direct to Roy Lever (later of Powermax) helped PAW to change direction.

However, the use of twin ball races was too costly and troublesome in assembly, for alignment is crucial, and thus Gig evolved his particular system using a single rear ball race and a short cast iron plain bearing. Today he jokes that a single ball race engine is 10% more powerful than a plain bearing one, but with twin races it may be 3% worse! His system works well, and alignment is assured by first fitting and reaming the plain bush, and then cutting the ball race housing with a special 'self piloting' tool located in the bush.

The Special and afterwards

This evolution led to the first PAW made for general sale. In December 1957 *Aeromodeller* tested the 2.49 cc 'Eifflaender P.A.W. Special'. Ron Warring found a peak power output of 0.249 bhp at 14000 rpm and commented 'A custom-built unit receiving more man-hours and individual attention than a normal production engine produced in greater numbers... we can confidently say you get a very good engine right in the top class for 2.5 cc diesels and which, because of its rugged construction, should outlast many a model.'

This assessment was absolutely correct. The engine set the tone for all subsequent PAW products by being remarkably bullet-proof in service. Its *forte* was control-line work; the internals wore well at 'combat revs' while the robust crankshaft and shaft construction enabled it to endure being 'buried' frequently in high-speed crashes. There were one or two more powerful 2.5 cc diesels available, and quite a few that were cheaper, but none that offered so much performance per £, or so much durability. To put the engine in its market context, the price in 1961 was £4.18s, although you could have an Allen Mercury AM 25 for £3.6s. A Rivers Silver Streak, on the other hand, would have cost you about £7.5s, and a tuned Oliver Tiger £8.15.

These were busy times in Macclesfield, for in 1960 the new PAW 149 was born. *Aeromodeller*, June '60 reported, 'one of the best - made engines we have has the pleasure of examining for some time... the most powerful 1.5 cc engine we have yet handled... yet as cosy for starting as any beginner's design!' The new 149 was indeed a gem - and the best-selling PAW to date. For control line it proved to be one of the few 1.5cc engines which could fly a 1/2 A stunt or combat model well on fifty-foot lines. To get it well known, Gig campaigned one in an ultra-light, 36in. stunt model, and though high-speed diesel stunters had become unfashionable, he achieved a second place in the Gold Trophy.

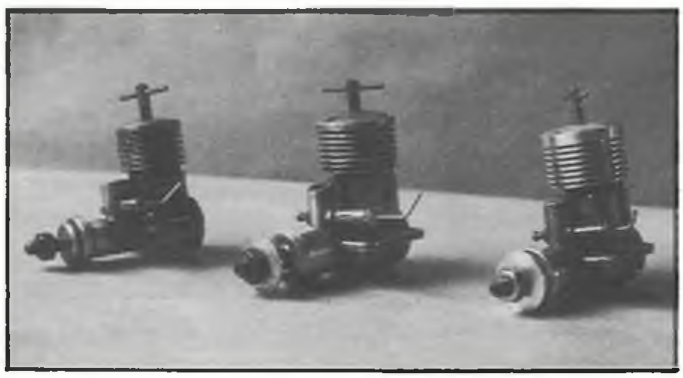
The 1.49 was followed the next year by the 'Mark III' 2.49 which now reached nearly 0.32 bhp on *Aeromodeller* test - well up with other other small series competition motors. In the same year too the 19D was introduced, specifically for combat.

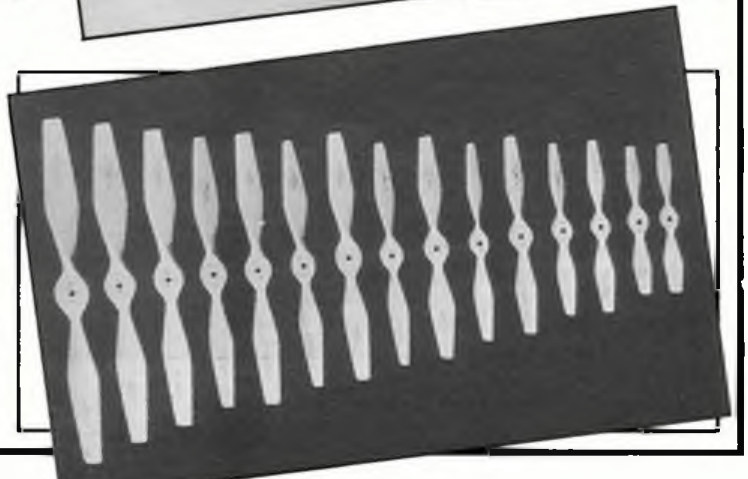
Up to date

The more recent history of PAWs is better known but some major changes should be recorded. From the mid 1960s the 2.49 was re-designed to eliminate sub-piston induction, allowing a silencer to be used, and later, PAW's own R/C throttle. To restore power a bigger intake passage was then adopted, made possible by a larger 7/16in. crank carried in a special ball race made by Ransome and Marles, which still retained the original overall diameter. Also incorporated was a new flat-topped piston and a contra piston featuring an annular squish band. The result was the Mark IV - the sweetest handling PAW of all, in the designer's opinion.

Today PAW engines are as popular as they ever were. Gig's sons Paul and Tony have joined the enterprise, and a variety of new engines have been devised. Much of this development has been driven by Tony Eifflaender's own enjoyment of modelling, and his desire to equip himself with suitable engines. Thus an early venture of his was the 'Schnuerle port update' of the 1.49 in 1979 which allowed him to put up good speeds, with fuel economy, in Mini Goodyear racing. Then, in 1981/2 came the 0.8 cc - a charming little motor - and its 1cc derivative. This was a rational move for there was a gap in the sport and oldtimer markets, but Tony could not resist engineering a ballrace version bored to .85 cc for .049 speed contests - with which he has achieved 90.6 mph. This design experience is now feeding through even to Vintage modellers, for the single ball race in the new Classic gives reduced low-speed friction and hence better starting and more power on bigger props.

Right: Large-scale commercial success came with the PAW Special of 1957. This is one of the first examples. Below left: PAW Special is flanked by an early 1.49 (1960) and a 19D from 1961. Below right: From 14 x 6 down to 6 x 6 via such exotica as 6 x 10 and 11 x 10 - a full range of PAW-Trucut power props.





In 1983 Tony wanted bigger engines for his own stunt flying and so the 29 and 'stretched' 35 variant were produced, confounding the long-held theory that large diesels vibrated savagely and were unfriendly to operate. A brief flirtation with glo-plug versions occurred at this time, but it became evident that the established design would require too much re-tooling in order to make a really powerful glow version and PAW reverted to being an all-diesel enterprise. In the event, the glow development proved unnecessary, for Tony could perform outstandingly well in stunt competition with the 35 diesel, indeed winning the Gold Trophy in 1985. This must have been an exceptionally satisfying achievement for both father and son, for it was the first diesel-powered victory in the Trophy since Peter Ridgeway's 1958 win with a PAW 249. No fluke, either, for Tony won in 1986, and again this year, and has been selected five times for the British international team.

PAW must now be the longest-surviving British model engine maker in continuous production and ownership. Looking back, it is striking how prudently Gig and his family worked to wring a living from the lean post-war years, when he offered popular a re-bore service offering 'Bees and Elfins 12/9d - all others 16/9d', at a time when the keenest modellers had little to spend. This financial caution prevented him from ever taking the precarious step of investing in machine tools for high-volume production, joking, when he used a Mini hub and wheel bearing to develop a crankshaft grinder that 'if you need expensive equipment you're not very skilful'. All PAWs have been powerful in their class, but his good sense also stopped Gig from persuing out-and-out performance for the few top-class competition modellers who could use it, although his technical skill and design ability would certainly have allowed this. Instead, the philosphy has been to offer a rugged product to an informed popular market - not a Ford or a Ferrari but, perhaps, a Rover. Production currently runs at about 140 per week, of all types, and PAW engines remain among the best value in British model products.

Chronology of Eifflaender engines

This chronology is included to simplify the often misunderstood history of the early Eifflaender diesel motors, based on Gig Eifflaender's recollections in 1988. The 'E numbers' are not official. It should be borne in mind by collectors that not all the engines in the group are identical. In the pre-production types cubic capacity and other details were often altered for special use.

E 1
Shaft induction. Cylinder held down with two long bolts in Frog 100 style. Made in 2.2 and 2.9 cc sizes. Could be fitted with tank also carrying undercarriage. Used for most of Eifflaender's C/L stunt victories in the 1950s.

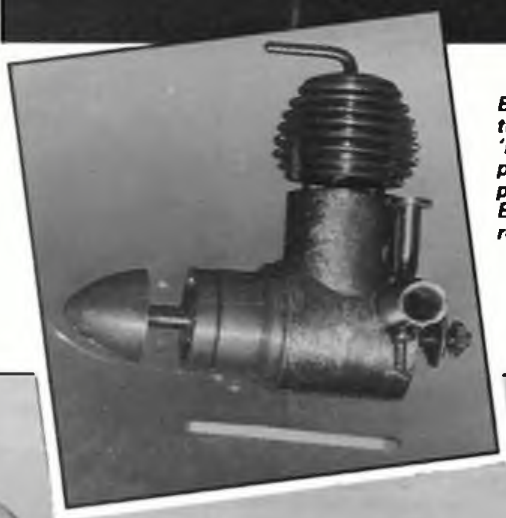
E 2
Rear disc induction with sideways choke tube, threaded cylinder barrel, three exhaust ports. Round crankcase with rear ('radial') mounting. Possibly a dozen made. Won the European C/L Championship speed class in 1951.

E 3
The 'Mark I'. Beam mount. Cylinder held down with three screws and has vertical front (shaft valve) intake. Resembles later production PAW's except for the one inch diameter front bearing housing, carrying two ball races. Between 50 and 100 made. Most sold to Roy Lever. No photograph or actual engine found at time of writing.

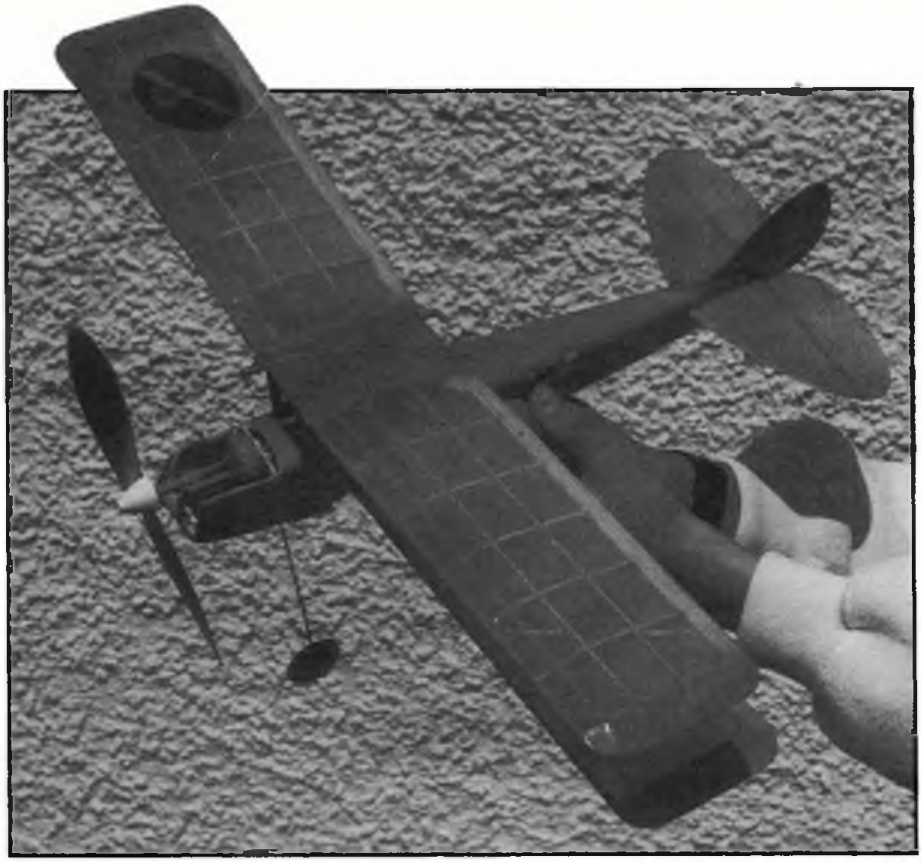
E 4
Called the 'Short Stroke' and sometimes the 'Eiffy Special' by Gig. Beam mount development of E 2, with rear pointing (disc valve) intake. Ultra-short stroke (1/2 stroke x 5/8in bore) for high speed running. Not intended for general sale but perhaps 12 made for competitive flyers. Some finished by Peter Ridgeway who made all the castings for the series using his works central heating burner. Production may have overlapped with E 3 and E 5 models. Used by John O'Donnell for a F/F win at Woodford and the 1958 Nats fly-off.

E 5
Marketed as the 'Eifflaender PAW Special' though also referred to by Gig as the 'Mark 2'. (Confusingly, *Aeromodeller* in 1961 referred, incorrectly, to this motor as the Mark I.) This was the first engine offered for general sale (1956-1957), and the first with single ball-race/plain bearing combination. Intake tube is slightly levelled. Cup-shaped prop driver. About 50 made.

E 6
Marketed from 1959 as the 'PAW 2.49 cc Mark III'. Revised porting and more power. Conventional prop drive now fitted (though some cup type perhaps fitted). Intake tube no longer bevelled. Perhaps 300 made. The PAW line is now mature, the 1.5 cc (1959) and the 19D (1961) are based on the same essential design.



Below: Left is a 'short stroke' version of the 'E4' and (right) a rear-disc induction 'E2' - both 2.5cc motors in the possession of John O'Donnell (J. O'D photo). Left: Close-up of one of Gig Eifflaender's own 'E2' engines showing robust construction.



Chris' neat, own design 18in. biplane weighs 80gm and flies well on a Union motor with six-inch Peck prop. Three 50 mah cells used.

High potential

More on electric flight intricacies with Chris Coote. This month charging, fuses and switches...

Batteries and charging

The batteries that we use for electric flight are nowadays all of identical type. These are known as vented nickel-cadmium or nicad rechargeable cells with sintered plate construction, and they are the type suitable for rapid charge and discharge. Most of the 'cylindrical' as opposed to 'button' cells available nowadays are of this type. Beware of attractive looking small battery packs (usually of 4.8 volt) which are made as backup supplies for electronic and computer equipment. These normally accept only slow rates of charge and discharge, and will not be capable of hard life in a model! Lots of these are around on the surplus market, but avoid them! I find that it is better in the long run to buy individual cells of reputable manufacture and make up my own battery packs as required. One benefit of electric power is reliability, and you don't want to forego this by using cheap cells, which will invariably give inferior performance anyway. My own preference is for Sanyo cells, if possible of industrial grade. Some recommendations of sizes with type numbers are shown in Table 1.

Table 1: Sanyo Nicads

Part No: Size	Capacity (mah)	Diameter (mm)	Height (mm)	Weight gm
N50AAA 1/3AAA	50	10.5	16	3.7
N100AA 1/3AA	100	14.5	17	8.0
N150 N N	150	12	29.6	9.0
N180AAA AAA	180	10.5	44.5	10.0
N270AA 2/3AA	270	14.5	30	14.0
N450 A 1/2A	450	17	28	19
N450 AR 1/2A	450 (High Temp)	17	28	19

This last cell is better for high current on 380 and 540 motors. The N50 or 1/3AAA are the size used for the small indoor applications such as the KP or Union setups. The remainder have all been used successfully on larger 380 type motors where the capacity is dependent on the duration and power required. A 380 outdoor free-flight set up in a typical sports model can use 100 to 270 sizes, but the more heavily loaded scale types usually seem to end up with at least 270 cells. Small radio models start with 450 cells and increase from here, dependent on payload carrying characteristics and required duration.

How's it done?

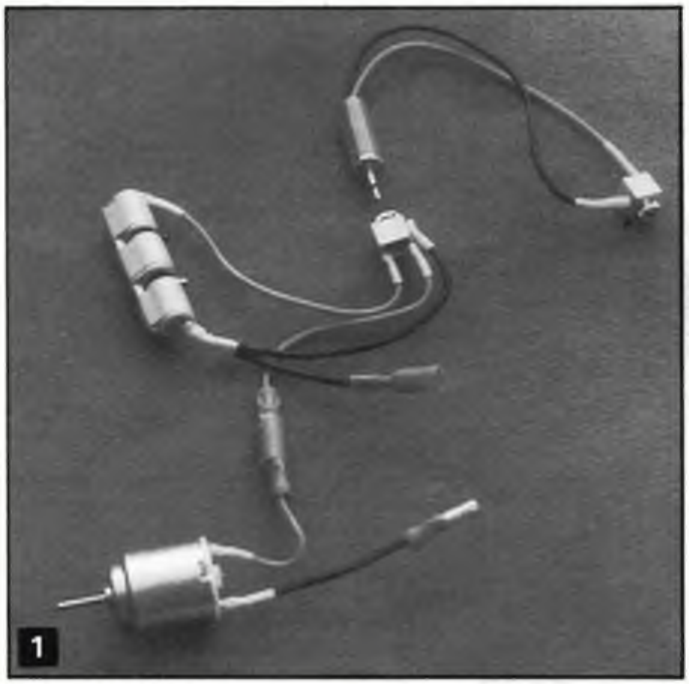
So how do we charge these batteries, and how should we calculate the currents and times to obtain best performance, and yet avoid damage to the batteries? Nicads are robust devices but they may easily be damaged during a rapid charge if we try to put too much into the batteries at a high rate. Charging even a fully charged battery at a low or 'trickle' rate for long periods even will result in no damage. This is a useful technique for 'topping-up' to guarantee an absolutely full charge without harm. Since we are interested in recharging in a few minutes I prefer to calculate the battery capacity in amp-mins rather than the usually quoted amp-hours or milliamp-hours (milliamp=1/1000amp). This is simply done by multiplying the quoted figure by 60. Thus for a 50mah(milliamp-hour) battery pack as used on the smallest KP and Union systems the capacity is:

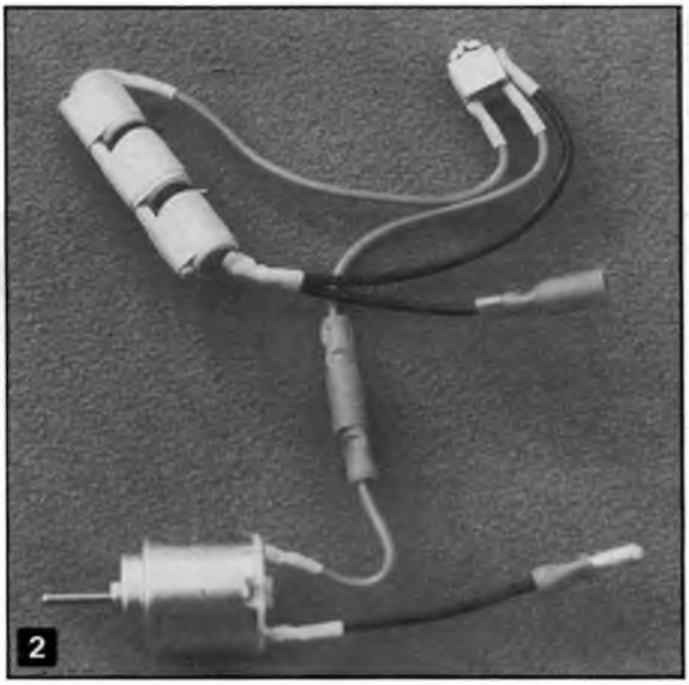
$$\frac{50}{1000} \times 60 = 3 \text{ amp-mins.}$$

Thus for a full charge we need to put in, say 3 amps for 1 minute or 1.5 amps for 2 minutes, and so on. In fact, to allow a margin for error, I prefer to charge at the high rate for only about 80% of the time and then top up the charge at a safe low rate whilst waiting to fly. Usually the basic 80% charge is enough for a good flight anyway, and batteries certainly last longer if treated like this. The low charge rate can be that recommended by the manufacturer as the 10 hour rate. That is the current required for full charge in 10 hours. In the above example this will be

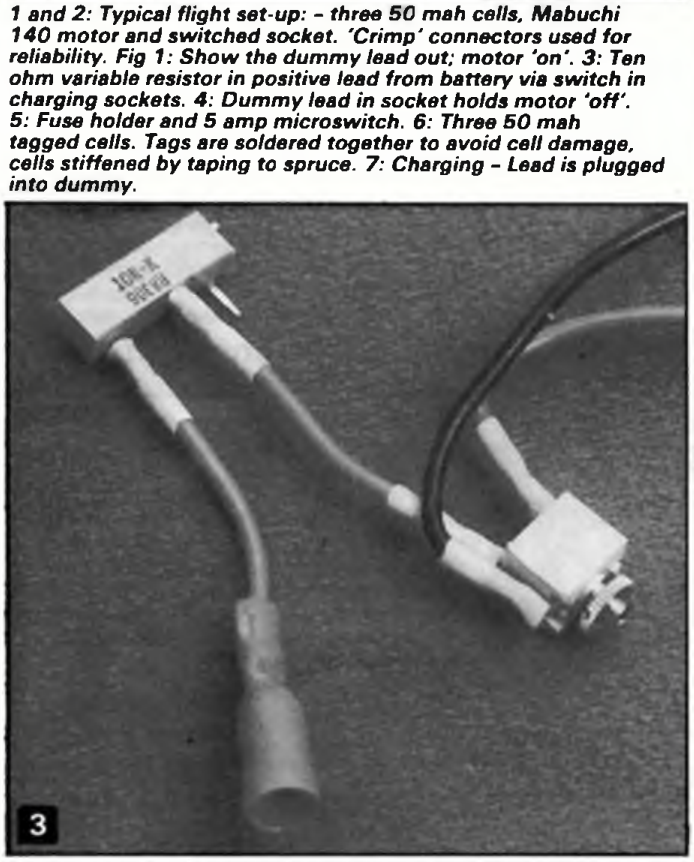
$$\frac{50}{10} = 5 \text{ milliamp.}$$

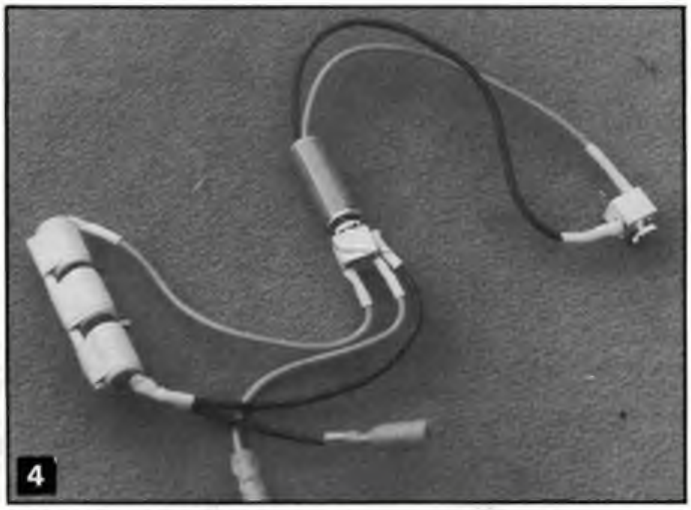
Rapid charging seems a brutal way to treat batteries, but in the case of nicads it can be positively beneficial by building up battery capacity and increasing the ability to supply very large currents without dropping too much voltage. The action of rapid charge and discharge seems to alter the internal crystalline structure of the cells and both increase capacity and reduce internal resistance.

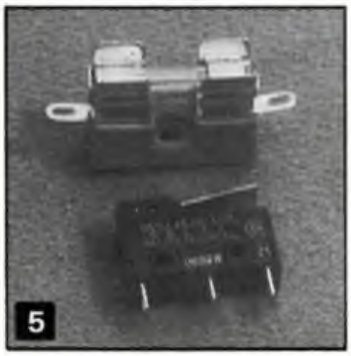




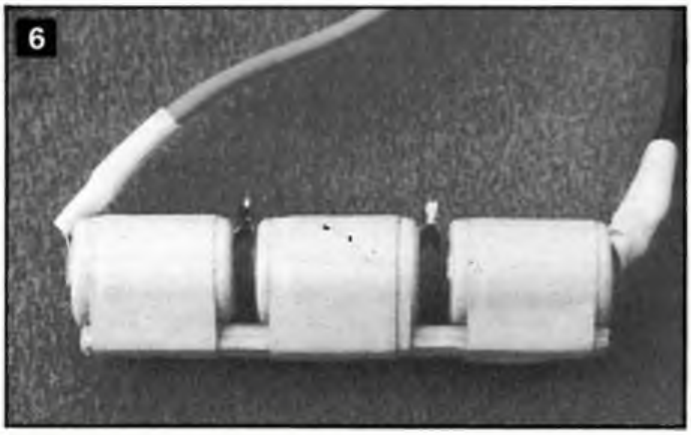
1 and 2: Typical flight set-up: – three 50 mah cells, Mabuchi 140 motor and switched socket. 'Crimp' connectors used for reliability. Fig 1: Show the dummy lead out; motor 'on'. 3: Ten ohm variable resistor in positive lead from battery via switch in charging sockets. 4: Dummy lead in socket holds motor 'off'. 5: Fuse holder and 5 amp microswitch. 6: Three 50 mah tagged cells. Tags are soldered together to avoid cell damage, cells stiffened by taping to spruce. 7: Charging – Lead is plugged into dummy.

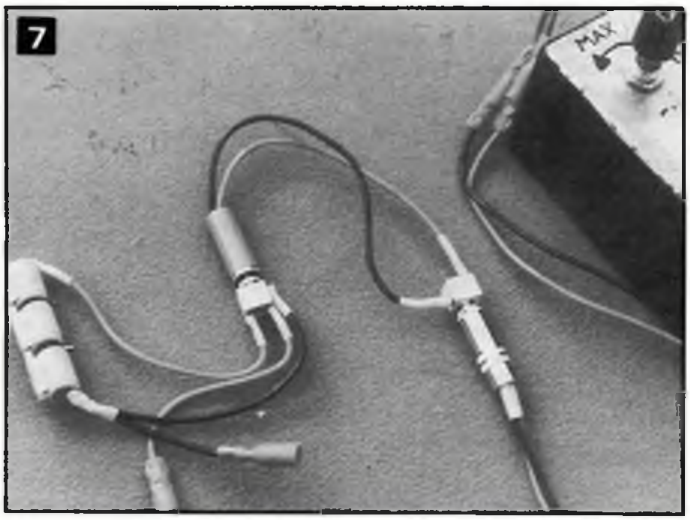






Practical layout details





Since the rapid charge phase is of such critically short duration it is a good idea to make sure that the timing is accurate. Some chargers have a clockwork time switch built in (MFA for example), but these are often only accurate enough over a 15 minute period. The smaller models tend to only need a couple of minutes charge and I prefer to use a count-down alarm type timer sold for use in the kitchen. Some digital wrist watches have similar features, but make sure you are confident about how to drive them!

Hot stuff!

The cells will get quite hot at the end of a rapid charge, but if they are too hot to touch then you are probably over-charging. They will also get very hot on rapid discharge because the current flowing then is usually much greater than in the charging situation; as we know, power dissipation in a given resistance (here, inside the cell) is proportional to the square of the current. This heating effect can be used to advantage since cell capacity can be increased at higher temperatures. Thus a 'warming' charge and discharge cycle can have a similar effect on duration as a 'cooling' run on a CO_2 motor! This sort of thing is only relevant if you are after that last bit of performance but it reduces cell life by using up the limited number of cycles available and stresses the battery internal structure to the limit.

A lot of nonsense is talked about nicads having a 'memory' and needing to be 'cycled' to retain performance. In our application this does not seem to apply, and I suspect that the myth is perpetrated by the marketing men to increase sales of both batteries and cyclers! If several batteries are connected together as a pack then there can be a problem of 'balance' of individual battery capacities within the pack. If the pack is discharged absolutely flat, then the stronger cells will tend to put a reverse current onto the weaker. This will reduce their next charge retention. It is a good idea every now and again to 'slow charge' the whole pack for long enough to make sure that every cell is topped right up. I usually do this by charging at the ten-hour rate overnight. Starting at 6pm and ending 8am next day gives 14 hours at the 10 hour rate – sufficient overcharge to ensure that even the weak cells have received a full dose to balance the pack again.

Lastly, but most important of all, is the obvious fact that connection to the charger with the wrong polarity will cause immediate and irreparable damage. It is therefore a must to use some form of connection which can only go in the correct way around. If you do not you are almost certain to destroy at least one set of batteries.

Faults and fuses

Nicads are amazingly robust when it comes to discharging, especially in small sizes. The 50mah cells are quite capable of supplying 2.5amps (fifty times their nominal rating) for short periods. Even shorting out the battery at the end of such a discharge does not result in damage; indeed, it can guarantee a completely empty battery before attempting a rapid charge. Nothing destroys a battery quicker than trying to overcharge at the rapid rate. It is a bit like trying to squeeze a fat lady into a tight dress quickly without splitting it! The batteries' ability to supply large currents has to be respected. Under fault conditions (for example, if the model crashes into ground and motor stalls as prop digs in!) it is quite possible to achieve currents that will weld up motor commutators, melt wires and switches – even the cells themselves. It is good practice to include a fuse in the circuit, especially on larger models where the weight penalty is not so severe and the fault currents potentially very large (perhaps 100+amps). I use small open fuse holders for 20mm fuses which are good for at least 10 amps.

These are standard items from any electronic hobby type shop (I suggest your local branch of Tandy, or similar establishment). The excellent KP unit uses a cunningly contrived integral switch which disconnects the batteries when the prop shaft is pushed backwards, thus needing no fuse. This also means that the overall installation is simplified since no extra switch is required. You merely pull the shaft forward and fly.

Installations

My personal preference is to have some form of switch on even the lightest model, since I value the non-nonsense 'switch on and fly' approach. I have tried simple systems with plug-in batteries, but I do not like fumbling with battery packs as the motor whirrs into life, nor continually cleaning battery-box contacts to maintain performance. Convenience is achieved only with a neat, fully soldered-up installation! Small models can make use of a combined charging socket and switch as shown in **Fig. 8**. Here the motor is switched off as long as the dummy charging lead is inserted in the socket mounted in the model. Actual charging is initiated by plugging in the long lead into the socket on the outer end of the dummy lead. When charging is complete, the long lead is withdrawn and the model picked up and taken to the launch point with the short dummy lead still in place. This is simply pulled out to fly. It is a good idea to tie a brightly coloured piece of ribbon or tape to it so that you can find it again in the long grass! Larger models can afford to carry the payload of a decent quality switch. If you can get one with plated contacts so much the better since it will have a greater current carrying capacity for a given size. Surplus equipment for government or military sources usually contain excellent quality components and are a fruitful source of bits for home experimenters like you budding 'electrickeers'.

Battery packs can be a source of trouble with bad contacts unless they are securely soldered up with adequately sized wire. I usually strip the solid copper earth wire from a piece of mains cable, using it in short lengths to connect between 'positive' and 'negative' of adjacent series-connected cells. Often cells come with convenient welded tags at each end for interconnection. These can be soldered together directly if all the cells are aligned one behind the other. To avoid stressing these joints the cells have to be held by taping or gluing to a wood brace. The photograph shows three 50mah Sanyo cells taped to a piece of 1/8th square spruce for use in an indoor model. More conventional packs are made by stacking the cells side by side and alternately upside down, and connecting adjacent positive and negative ends by means of the aforementioned short rigid copper wire links. I find it a good idea to lightly epoxy or cyano the cells together before soldering connections. Cells are damaged by heat, so use a big, hot iron applied briefly. I tin all mating surfaces first (after thoroughly cleaning up the battery ends with fine emery) using a smear of 'Fluxite' on them. The flux in cored solder does not seem to work too well in this situation. The battery leads themselves should be of multistrand wire and adequately supported at the battery end by taping to the cell pack. Using lots of tape is a bad idea since you want air to circulate freely around the cells for cooling.

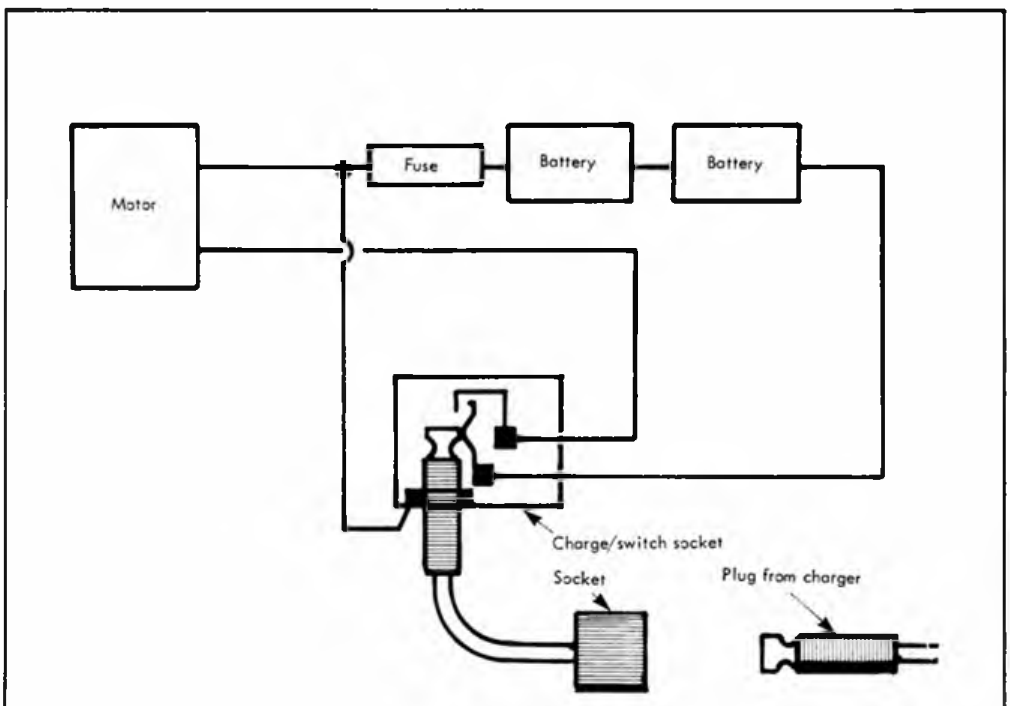


Fig 8: Combined charge and switch socket

MOTOR MART *Checkout*

We look at the latest version of the wellknown Telco CO_2 motor.

NEWS THAT Chart-Micromold have introduced an improved version of their Telco CO_2 motor will interest all whose choose this handy little device for mini-vintage Scale and Duration. Ken Rippengale tells us that the crankshaft now has a ground finish, and the eccentric bush for timing adjustment is reamed to match; crankshaft and bush are now fitted and sold as matched items. The Telco spares list has been amended to suit. Smoother running (and thus longer duration per charge) is the aim, with the added benefit of a wider range of power adjustment.

And the result? John Pool, winner of a new version Telco in the CO_2 event at our Vintage Weekend, gave the motor a thorough once-over. He reports 'a smooth sweetness that beats anything I've had before'. Tests results below; best run was 16min 49 sec – very slow at first, says John, but seemingly capable of sustaining his lightest duration model in calm air once the first two minutes had been run off.

The motor run of 4:09 from the second capsule – second charge – would have been enough to power John's flyoff model in a steady climb throughout.

Over to John:

The new Telco felt firm but the prop freewheeled readily on a hand flick. On initial test from a part-used capsule it ran fast but very smooth. The marker pip on the bush face was already set at the bottom so the engine was slowed by unscrewing the cylinder head a little until the motor wouldn't run at all, then nudging the bush round until it did.

Our tests confirmed manufacturer's claims... Note clear plastic full-size installation template. A splendid idea.

All tests with Telco prop, balanced and weighted at the tips. Motor weighs 17 ozs.

Retail price of this latest Telco is £19.95. Recognise it by the new, rectangular box. Also included is a full size template of motor, tank and filler on clear film – a useful installation guide that we hope other manufacturers will emulate.

First capsule – supplied with engine. All liquid charges. Natural workshop temp 70°F. Dry.

23rd August Evening	Charge 1	Tank natural temp. Capsule likewise	Engine set slow	Run 3 min 58 sec	Ran at good speed after 20 secs. Speeded up at 3m 15
	Charge 2	Charged straight after above run. Charger held in arm-pit	Same setting as above	Run 4 min 09 sec	As above. Speeded up at 3.30
	Charge 3	As above	"	Run 4 min 22 secs	First 25 rather slow. Speeded up at 3.40
	Charge 4	Charged as above. Left 20 mins before starting	"	Run 1 min 32 sec	Started fast and ran fast

Second capsule – Sparklet. All liquid charges. Natural workshop temp 68°F. Dry.

24th Afternoon	Charge 1	Tank frozen. Capsule arm-pit warmed	Same setting as above	Run 4 min 43 sec	Ran 7 secs only and stopped. Waited 2 mins and restarted. Ran fast after 2:00 min run.
	Charge 2	As above. Waited 4 mins before starting	"	Run 4 min 09 sec	Started fair and continued through run.
	Charge 3	As above. Waited 1 min	"	Run 2 min 51 sec	Started a bit slower. Speeded up after 1.00 min.
	Charge 4	"	Motor slowed a little	Run 2 min 19 sec	
	Charge 5	"	Tried to slow a little more	Run 2 min 27 sec	

Third capsule – Sparklet – All liquid charges. Temp nearer 70°F. Dry.

Immediately after above	Charge 1	Tank frozen. Capsule 'armpit warmed'. Waited 2 min	As above	Run 16 mins 52 sec	Slow but regular start. Speeded up at 14:30. Afterwards fast enough for outdoor.
	Charge 2	As above	Wouldn't run till opened up a bit. Run 13 min 56 sec	Speeded up at 13:00	
	Charge 3	"	Wouldn't run. Waited 6:00 mins. Run 5 min 48 sec. Ran gas off by flicking		
	Charge 4	Tank frozen. Capsule 'armpit warmed'. Waited 2 mins	Waited 6:00 min	Run 5 min 43 sec	
	Charge 5	Started immediately after charging		Run 1 min 23 sec.	Started fairly fast and continued so.

Little Kid

BUILD FROM OUR FULL SIZE PLANS!

Peter Spence reduces a French favourite for CO_2 Vintage

THE ORIGINAL design, by Frenchman M. Georges Bougueret, was a 111cm span, parallel-chord and twin-finned pylon model powered by a Guerpont compression ignition motor of 2.8cc. It was christened Le Kid. The model was very successful in the Ratio competitions held in Occupied France, and is credited with wins in 1941 and '42 with a best effort of 6 mins. 27 seconds from a sixteen-second engine run – a ratio of 24:1. This earned the title of 'Le Moto D'un Grand Champion'. Le Kid was competitive for a number of years, later gaining a second place in Paris in 1945.

Imperialism

The model burst onto the British scene in the July '47 issue of Model Aircraft – the then Journal of the SMAE – in the guise of a 44in. wingspan Kid, anglicised to suit the Mills 1.3cc diesel and our Imperial balsawood sizes. The wings, rear fuselage and tail unit were, except for the wing tips, essentially the same as the original design but the front fuselage had been changed in many respects. The first version's pylon featured an all-sheet keel with a single former down onto the fuselage, but this was lightened for the English-published Kid with a built-up structure, and two formers keying into the fuselage. The u/c legs were raked differently and the wheel design was changed from a round section to streamline profiles. The bottom longeron and adjacent structure was also simplified for the 'Imperial Kid'.

Variations on the theme:

I have produced(!) Kids not only in the standard 44in. versions, but also at 66in., 22in., 11in., and 3.7in. (1/12th full size) – the latter being a non-flying mantelpiece model. The engines used in the flying variants have been Mills Mk.1 and ED Mk.2 in the 44in. models, and an AM25 in the scaled-up version. The 22in. Little Kid, the subject of this plan, has both a Humbrol CO_2 and a Telco Turbo 3000 installed, whilst the 11in. Baby Kid is powered, literally, by an elastic band!

Build your Kid

The first items to make are formers F1 and F2; these require the u/c tubes to be bound and epoxied. Fuselage sides are made in the usual way. It may be found easier to handle the short spacers with a pair of tweezers. F3 can now be cut out. When the sides have been separated they can be attached to F2 and F3. Allow to dry before adding the cross-pieces. Make the pylon parts, add F1 and build up the pylon, trueing it up with the 3/32in. sq. along the top. The wing platform is added last, ensuring it is angled to suit the dihedral by using a dihedral brace as a template.

Cut out all the wing ribs taking care with the spar slot – this being an unusual feature of the wing construction. Set the notched TE over the plan of one wing panel and thread the required number of ribs onto a spar. A couple of strong straight pins are pushed into the building board at each end of a wing panel spar, and with a blob of PVA at each rib notch, the ribs are positioned. With the spar located between the end-stop pins the ribs are spaced out parallel with each other and a bead of PVA applied at each rib/spar juncture, except at the root as these ribs will be glued in conjunction with the dihedral braces. Fit the LE and build up the segmented tip. Repeat for the other wing panel. The panels may be joined by chamfering the ends of the LE spars and TE to suit the dihedral and threading the braces through the root ribs. These can be held in place with paper-clips whilst the glue dries, preferably overnight. The centre section is covered with sanded-down 1/32in. sheet, steamed to assist bending. A more traditional method of wing construction would be to use top and bottom spars but it wouldn't be in the spirit of re-creating a vintage design, albeit a scaled down version.

Tail and undercarriage

After the wing, the tail is simple but care must be taken to keep the structure true by lightly weighting down whilst drying. Don't omit the 1/8 x 1/16in. strips inboard of the tip ribs as these stop the ribs bowing and provide a flat surface for the fins which are glued on after covering.

With the undercarriage wires cut to true lengths and approximate angles, obtain a length of softwood, trim about 3in. down to the width of the fuselage and drill undersize holes at the same centres as required for the model. This jig is used to adjust the angles and also to hold the wires whilst binding with fine wire and soldering. I find this method far easier than using the inverted model as a jig.

Motor installation

The Telco T3000 installation is straightforward but remember that the nozzle has to point away from the pylon for charging operations. For other units it may be necessary to mount the motor on a block as shown for the Humbrol. Note that this type of tank has a neoprene split collar around its neck to hold it through F1 by friction. See also the paragraph at the end of this feature.

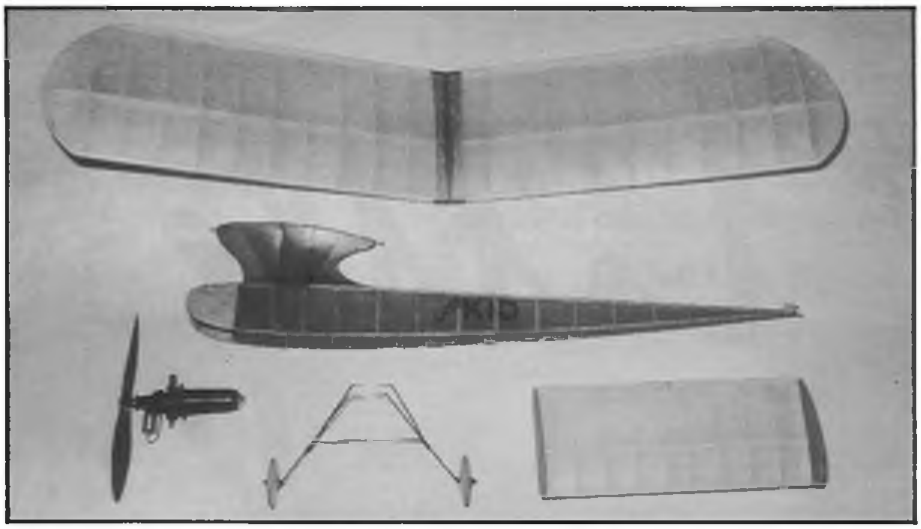
The classic '40's streamlined wheel

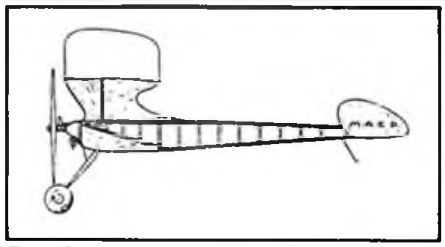
The wheels are laminated from 1.1/2in. squares of 1/8in. sheet each side of a 1/16in. ply core with brass tube inserts. The lamina-

tions are glued up with PVA and left overnight, under weights, to dry. The hole for the axle tube is drilled as true as possible and slightly undersize. Lightly countersink the balsa faces and press the tube, with a smear of epoxy on it, into the hole. Fill the countersunk areas with a fine bead of epoxy, rotating the tube with the tang of a Swiss file as a mandrel. Allow to harden. The next stage involves a bench disc sander. After marking a 1.1/4in. circle on the wheel blanks, rough off the corners almost down to this line. Using a short length of 22swg wire, drill a hole half an inch from the end of the softwood and tap in a one-inch length of 20swg piano wire. With a wheel blank on this spigot gently offer this assembly to the sander and rotate the blank with the fingers to sand down to the 1.1/4in. dia. line to produce the wheel discs. To form the streamlined section, a cup washer is soldered two inches along a 12in. length of 20swg wire and the circular blank slipped on, followed by a two-inch piece of 20 swg tubing. This tube held in the left hand, forces the blank against the cup washer. The wire is held in the right hand. Offer up the disc to the sander but near to its periphery and gently sand off one face at a time allowing the sander to rotate the wheel, with the left hand controlling the rotational friction and the wire in the right hand acting as a radius rod. Try to obtain a curving profile between the ply core and the axle tube. Repeat for the other wheel faces. Two coats of thinned clear polyurethane completes the wheels. Nifty, n'est pas?

Paper and pylons...

Covering is easy except for the pylon – always the problem area for me regardless of the size of Kid. I resolved it by glueing paper angles at the fuselage/pylon junctions and thus covering each bay in individual pieces of tissue, working forwards. Both surfaces of the wing, tailplane and fin are covered. The fuselage side-





Top: Component breakdown. 22in. model is very portable! Above: Side elevation of original Bougueret model. Below: As anglicised for Mills power in Model Aircraft magazine, 1947.

panels are two laminations of writing paper glued with PVA. Dope with a 50/50 dope/thinners mix – two coats on the fuselage and wings, and one on the tailplane and fins. Pin the wing panels and tailplane down to a true surface and sandwich the fins between two pieces of glass or rigid plastic. The original plan from the '40s sported the model's name in large capitals as shown and it would be nice to perpetuate this feature as well as the style of construction. The characters I used for 'Little' were from pressure sensitive WHS No. 19 Series 2 type.

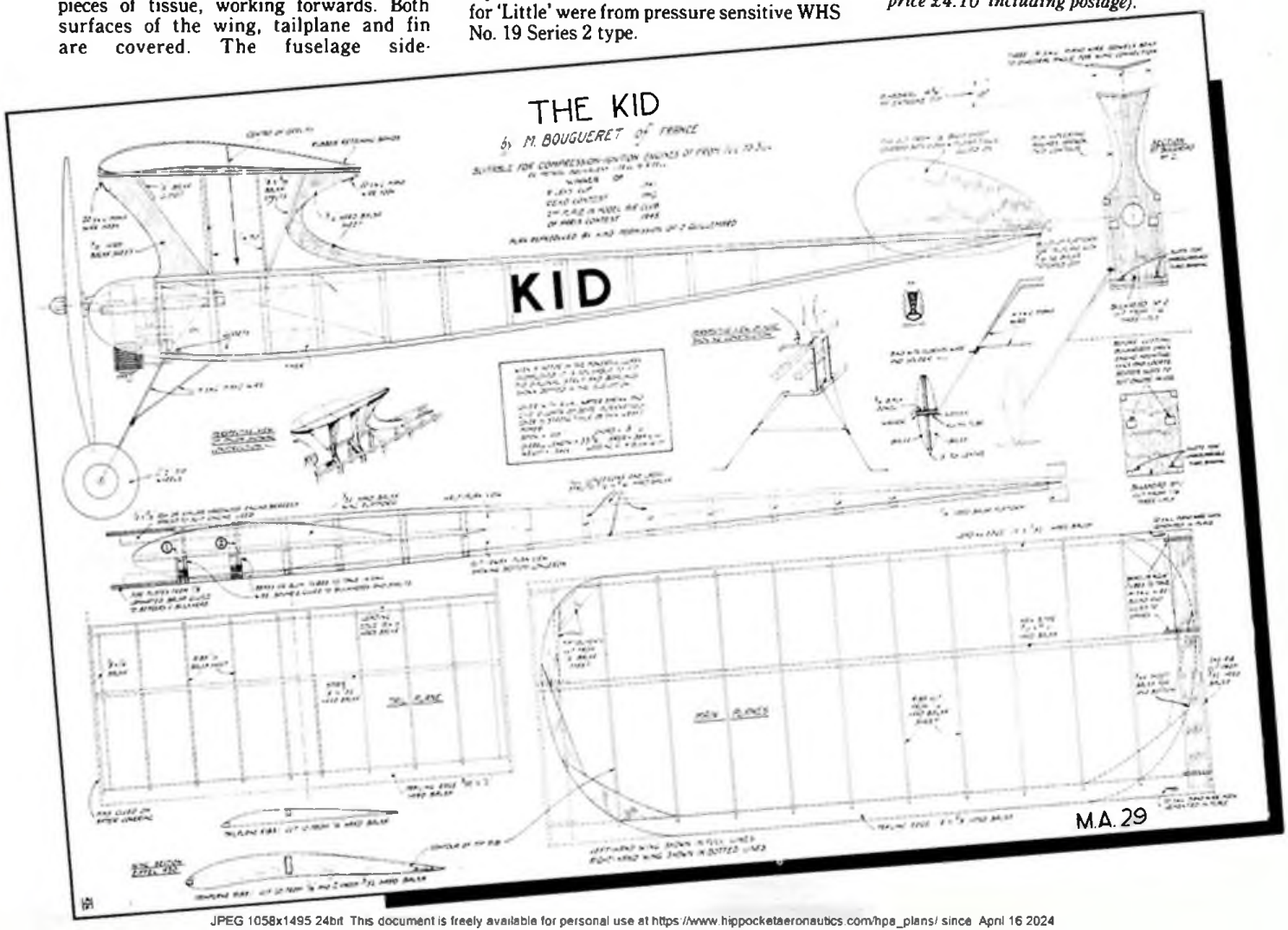
Flying!

Check the balance where shown on the plan. Hand launch trimming for glide can be carried out in a hall – if calm weather is not forthcoming – using 1/32in. sheet and/or thin card for packing. The power/glide trim is right/right with a pleasing climbing turn followed by a gentle transition to the glide mode as the power dies.

Development

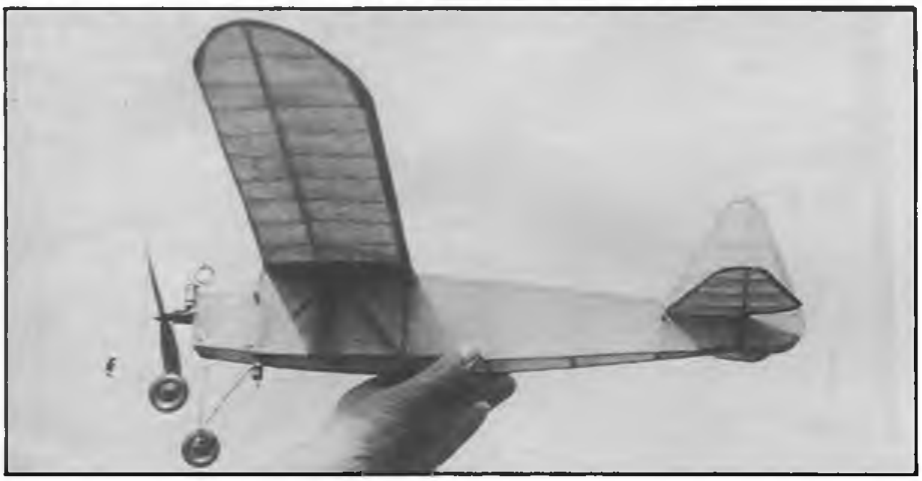
Although I haven't tried this power it is thought that the K & P 01 free-flight electric unit would fit into this design with little alteration to the formers or fuselage width. To improve performance by 'adding lightness' (my Little Kid weighs just under 1.9 oz) the fuselage structure could be from 2mm square, the formers from 1mm ply and the pylon from 2mm sheet with all the ribs cut from 1/40in sheet; but this would be above and beyond the original concept of producing a half-size replica.

(Original plan is available as MA29; price £4.10 including postage).



The Littlest Vagabond of all

Build Tony Brookes' CO_2 miniature for small-field fun!



MY INVOLVEMENT with G.W.W. Harris' Little Vagabond began in 1979, when I came across it in an old Aeromodeller Plans Handbook. At the time, I was unimpressed. The illustration, I think, was responsible for that unjustified state of affairs. It was a ground-to-air shot which showed the model from an unflattering angle. Later, I had cause to consider it again, and decided it would be ideal for my Mills 1.3 which was uncommitted at the time. One look at the plan and I was hooked.

To begin with, the model I built was a disaster. With the Mills 1.3 it was severely overpowered and impossible to trim. Finally I had to build a new fuselage, and took the opportunity to fit an Indian Mills 0.75. With that motor (since replaced by a Frog 80) success was immediate and lasting.

The design happens to have all the attributes desirable in a CO_2 miniature, and some time ago I turned my attention to such a project. The lowish aspect ratio makes it easy to scale down without running into problems of aerofoil efficiency. The structure is simple enough not to become unduly tricky when miniaturised. Only one or two features really need any modification. It makes sense to build the tail unit in one piece. The two-piece wing is to my mind unnecessary, even on the original; the battery box, of course, is left out, but the ignition coil bearer is retained for use as a tank mount. The engine cowling was included at first, but eventually I got rid of it in an effort to cure a nose-heavy condition. Since I fly my 'full-size' example with the engine uncowled, I considered this to be justified.

In case the name mystifies, I couldn't call it "Little Little Vagabond", since that name has been used already for a miniature – though not so small a version as this – in 1970! But who knows – maybe someone will make one smaller still...

The traditional manner...

Starting with the fuselage, the two sides are built by pinning them down one on top of the other in the traditional manner. Allow them to dry well, then take them up and separate them. Take care not to break any cement joints. Re-cement the ones you do break and join the two sides with the main bulkhead and the three shaped cross pieces located at the wing position. Taper the two sides at the rear, draw them together and cement. Add the remaining cross pieces and those gussets which are joined to the bulkhead.

Now comes the only awkward bit. Attach the motor to the front bulkhead, using the thrust wedge to provide a little downthrust, and attach the tank to its bearer. Carefully bend the pipework to the indicated shape, so that the tank bearer and the front bulkhead are as close as possible to their correct relative positions when there is no stress on the pipe.

Then install the entire assembly in one operation, using cement for the tank bearer and epoxy for the engine bulkhead. Install the undercarriage tubes and the dowels for the wing and tail bands. Glaze the cabin with thin acetate, leaving a gap for the pipe. (On the original, that gap was for the ignition lead). The filling nozzle is taken through the bottom of the fuselage and allowed to 'float'. This eliminates the need for massive strengthening of the fuselage to withstand the force exerted by the charger.

Take five wires...

The undercarriage comprises five wires. Bend them to shape and plug the appropriate ones into the tubes. With the fuselage lying on its back, bind the joints with fine copper wire and solder them. Retain the wheels with a binding of wire soldered on. Once this is finished, it should be possible to remove the undercarriage by easing the wires out of their tubes. Finally, bend the tailskid to shape and bind and cement it to the rear of the fuselage.

Since the wing is in one piece, the 'Bill Dean' method of construction is adopted. The first step is to assemble the spar by pinning down the left- and right-hand spars and joining them with the dihedral keeper. Then build both the TE/tip assemblies. It is probably sensible to do them separately rather than one on top of the other, although the latter is a possible option.

Next, pin down the left-hand half of the spar, raising it 1/64in. from the board. Add the TE/tip assembly; the forward edge of the tip should be raised 3/32in. Cement the ribs in place and add the LE. Then build the right-hand half in the same manner. The LE, TE and tips should be sanded to section and the two innermost bays covered with 1/32in. sheet.

All the rest

To build the tailplane, first pin down the TEs and tips. When these are dry, take them up and proceed as follows. Pin down the spar, raising both ends by 1/16in. Then pin down the LE. Strictly speaking, this should be raised by 3/64in. but I put that forward as an ideal rather than a practical suggestion. The same goes fo the TE/tip assemblies, which are added next, and should be raised by 5/64in. Then add the ribs and the centre block, and the job is complete apart from the sanding. Make sure you choose good sturdy wood for those thin outlines.

The fin is built just like the tailplane.

Cover the model with the lightest tissue you can find and dope sparingly. Install the wing and tail fixing dowels last of all.

An embarassment of flight...

My first prototype took a long time to get right – indeed, I made all the same mistakes with it which I had made with its big brother. Eventually I solved the problems by accident while flying indoors at Nottingham University Sports Centre. The model hit the rafters, causing the front bulkhead to buckle slightly, resulting in a degree or two of unintended downthrust. After that the model behaved much better. It was all very embarassing.

The second prototype was another story. It was fully trimmed before lunchtime on its first day out. That one had the downthrust built in.

Keep the power low and aim for a gentle left turn. As confidence is established and the power can be increased, the turn will tighten. It is quite surprising how much left turn the model will take without becoming unsafe, but pushing one's luck is not to be recommended – when it does spiral in, it spirals in fast. That downthrust is the important thing. Without it, the model will stall badly and curing the stall with turn simply does not work – enough turn to cure the stall is too much. Don't expect it to fly like a real Little Vagabond – there are similarities but there are major differences too. Just enjoy it for what it is!

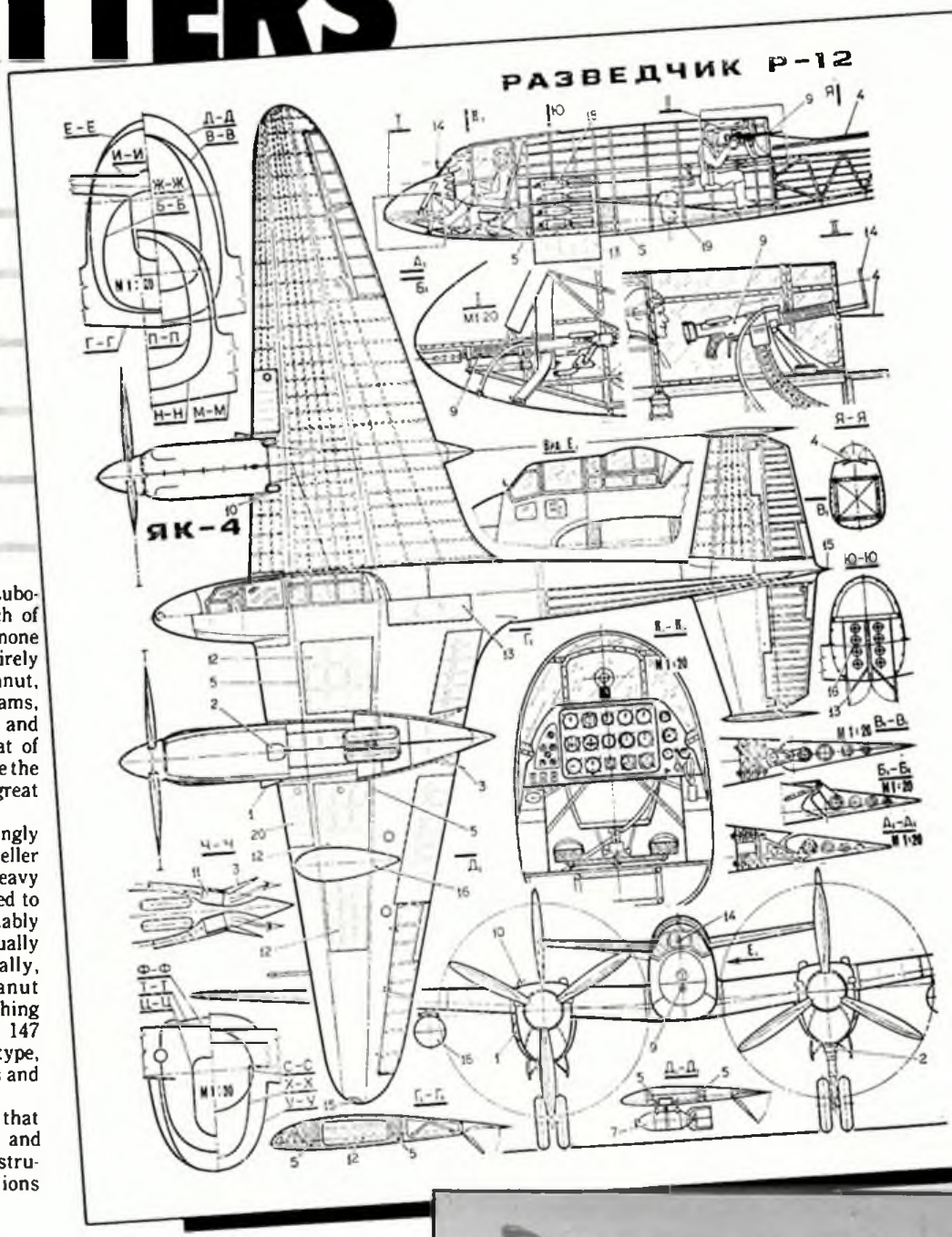
SCALE MATTERS

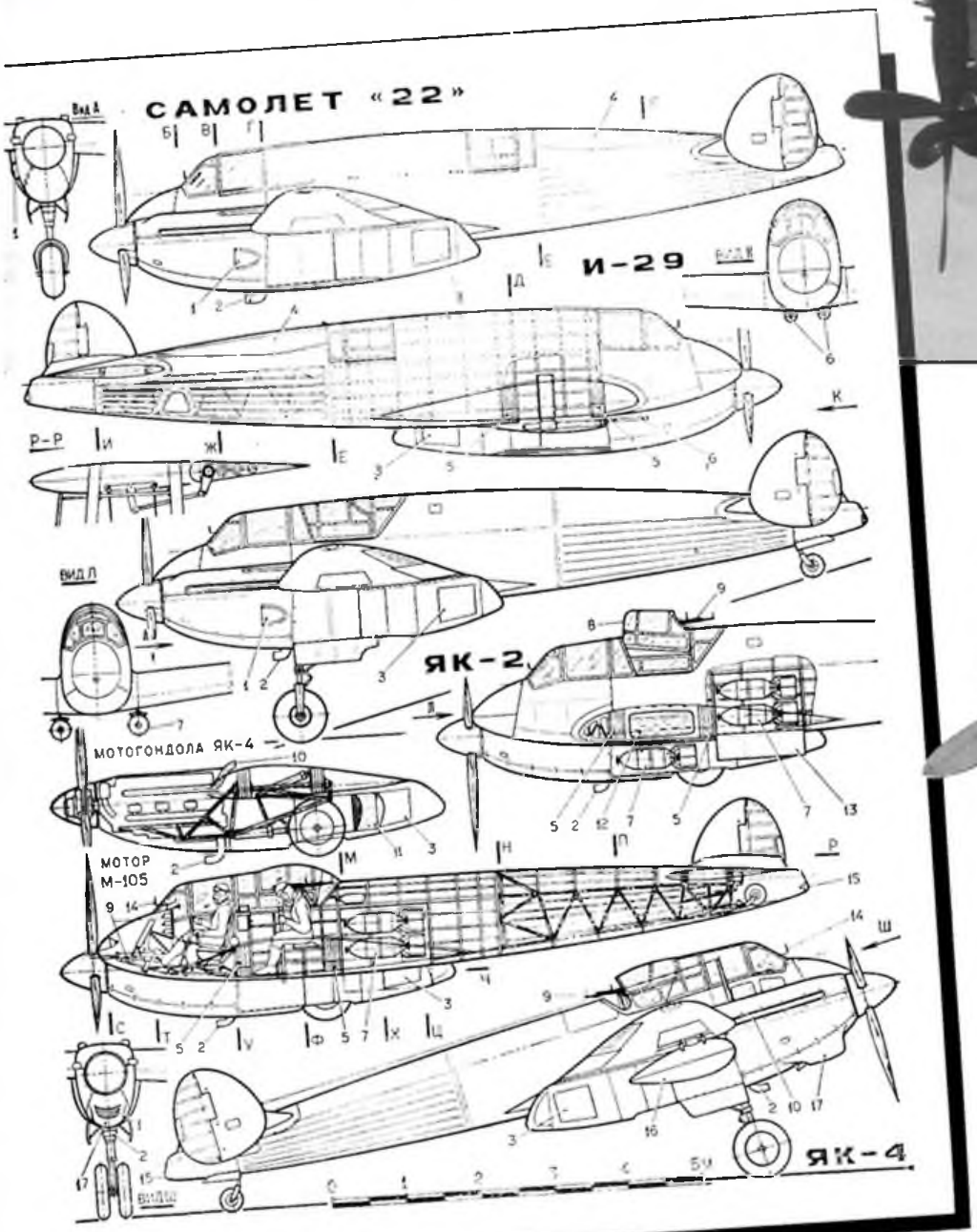
Bill Dennis receives a letter from Czechoslovakia and we glance at a super twin subject

CZECHOSLOVAKIAN enthusiast Lubomir Koutny has sent another batch of photos of some very interesting types, none more so than the Heinkel 70, built entirely from foam by Antonin Alfery. This Peanut, which weighs a remarkable seven grams, flies for around 110 seconds: the realism and craftsmanship is evident. So too is that of Paul Straniak's twin Mustang P-82 where the fuselage contours are maintained by a great many stringers.

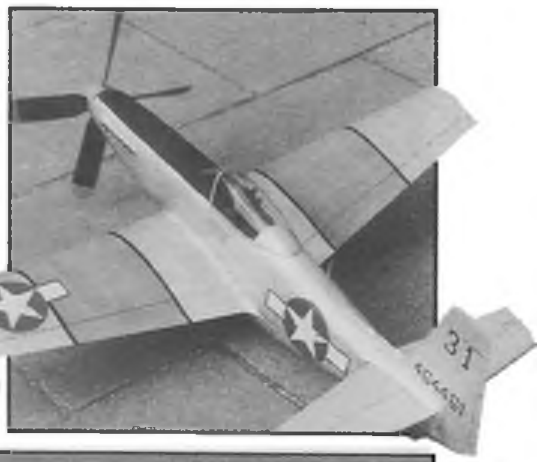
My favourite of the bunch is the seemingly large Douglas Skyraider by young modeller David Merta which, although rather heavy (by Czech standards!) at 110g, is reported to fly very well. George Merta (presumably David's father) is responsible for an equally impressive Ju 87 and Fw 190. Finally, returning indoors we have the Peanut Kalinin K-5 by Lubomir himself, weighing only 3.5g and capable of a duration of 147 seconds. If you are interested in this type, I know your editor has a set of drawings and a few colour schemes up his sleeve.

From all these photos it is apparent that great care is taken in propeller design and construction, and I am sure this is instrumental in the relatively high durations attained.

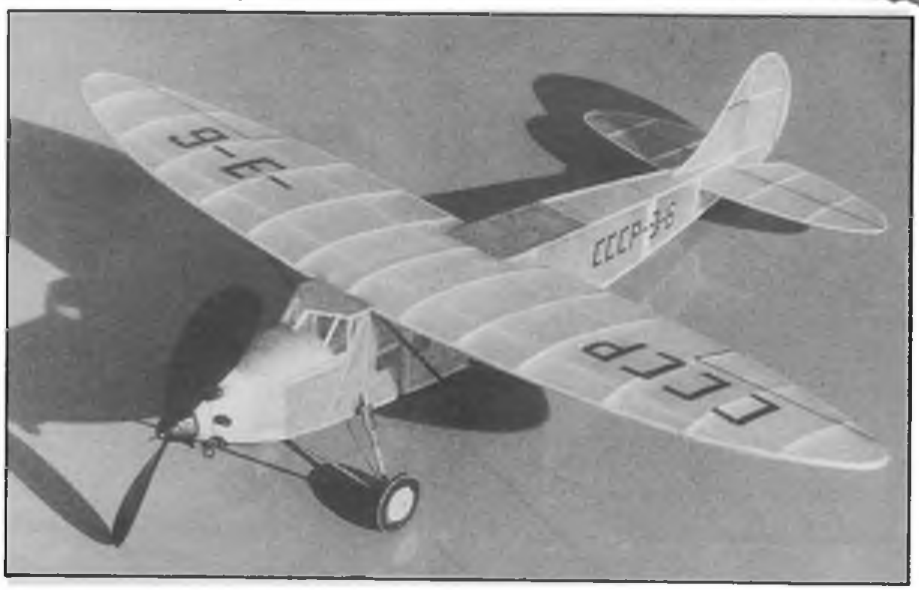




Above: Chunky Skyraider by David Merta spans 700mm and weighs 110gm. Below: Antonin Alfery's polystyrene He 70. Hmmm – British registered German aircraft modelled in Czechoslovakia... Below that: Our correspondent's splendid P-51H.



Above: Elegant P-12, a little-known Russian twin, looks a great prospect for rubber or control line... Below: Czech masterpieces; at left: Paul Stranik's P-82 Twin Mustang. Centre: Ju 87 to 1/20 scale by George Merta flies well. Below: Lubomir Koutny's neat Kalinin K5.



Below: Nicely-detailed Blackburn Dart for electric power by Doug Sheppard. Note typical 1988 Sunday weather...

Left: Neat Be2e by Ron Melton hails from down-under. Stable F/F subject. Below left: Evocative early-morning shadows as Gary Odgers refuels his APS Albatros DV at the Australian Nationals.

Down under!

While all these Czech models are rubber powered, it is nice to see that in Australia the diesel model is still king. Here are a selection of photos from the Oz Nationals from Gary Odgers, via Charlie Newman. The Albatros DVa, built by Gary himself, is from the Doug McHard APS plan; it looks very smart in its mauve/green scheme. From the same era is Ron Melton's Be2e design.

And home again...

Returning to these shores, we have a new model by Doug Sheppard, whom many will know best as the organiser of the Indoor Nationals. The Blackburn Dart is an ugly aeroplane, but an interesting one all the same. This version is about 3ft span and electric powered. First flight tests showed a certain lack of stability which a more forward CG should cure.

I have recently received a letter from Cyril Edwards, design of the APS Fokker EIV on which title I cast some doubt in a recent article. Over to Cyril:

'In your article on my Fokker EIV you expressed doubts about it being an EIV. You are correct that most of the EIVs had a long cowl to fit a double-row radial engine, but my plan was based on an American EIV of which I had a colour photo, obtained from a 1952 magazine. I forget the name of the magazine, now lost, but the colour scheme on the plan was based on the photo.

'Since the plan was published, various other books have given details of the machine, notably Profile Publications, Aircraft of the 1914-18 War by Harleyford; and Kenneth Munson's Fighter Aircraft 1914-18. They all vary from one another in small details. Harleyford says that only one EIV was built, but Profile Pubs. gives the serial numbers of three.

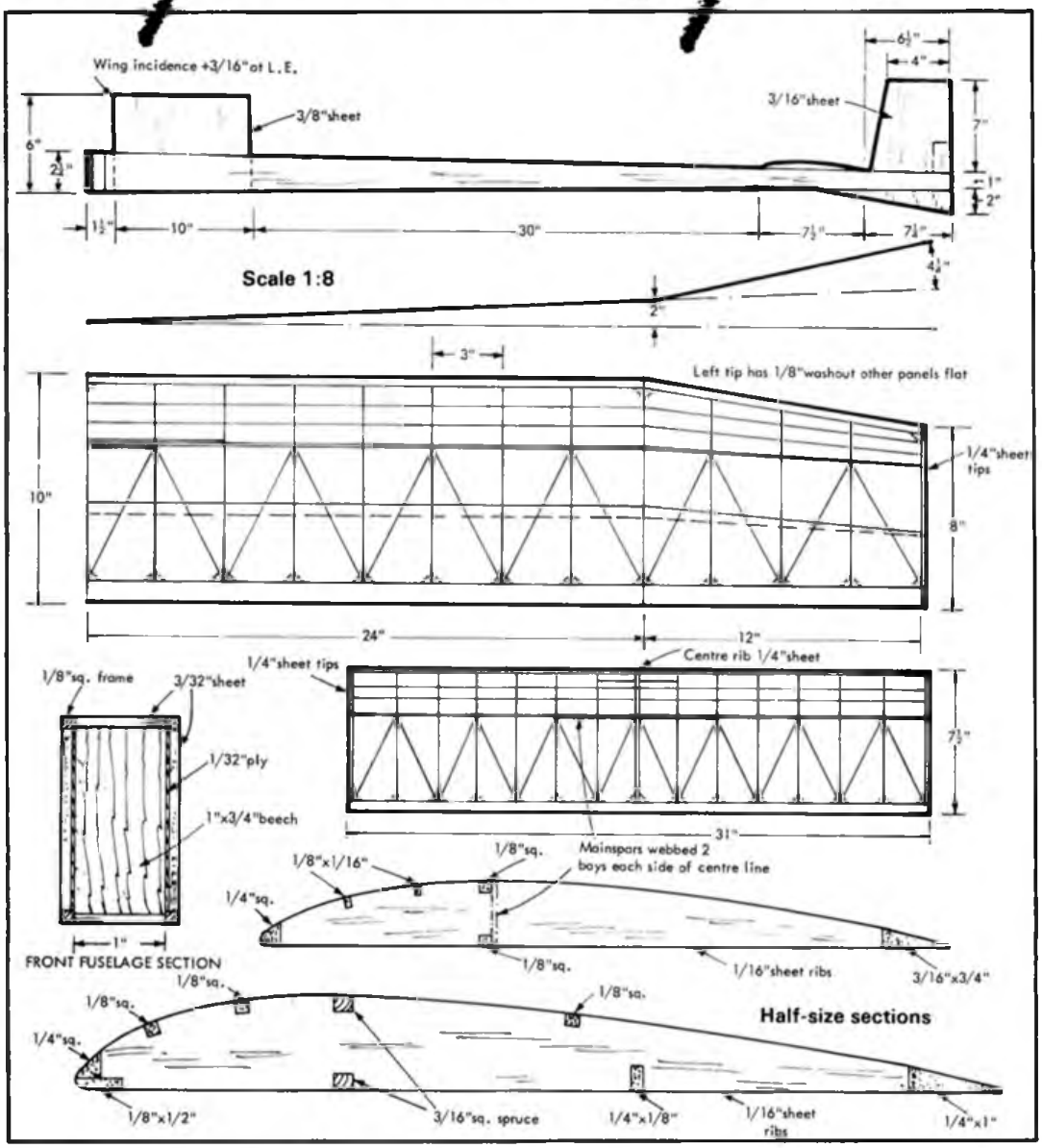
'With knowledge gained since 1952, I would move the cowl and engine forward half-an-inch and reduce the wing span to 33in. This, together with your colour scheme would make a more accurate model of the EIV. One thing that I have found missing on the plan, which I have never noticed before, was that the wings need 1/4in. washout. This is essential.

'Inspired by your article, I have started another model with these modifications incorporated. The fuselage sides will be 1/16in. sheet with 1/32in. top and bottom, and the lift wires will be made with button thread. Spars on the wing will be placed on top of the bottom ribs. The D.C. Dart used on the 1953 model, now in use on a Gordon Whitehead Sopwith Triplane, will be fitted.'

We look forward to seeing this replica at next year's Scale Weekend.

Open Up!

Pete Watson describes his 1988 Nationals Open Power Winner...



THIS MODEL was conceived as the simplest and quickest way of producing a .40 sized open power model with reasonable performance. Hence the lack of curves in the outlines.

Trimming this sort of model is not quite as horrendous as many people seem to think. My technique is to set VIT and A/R at what I think will be the power settings and, without the engine running, glide the model horizontally, as fast as I can, after a run-up. If the model goes out straight and level, or veers slightly left, then it shouldn't be too far out when launched engine-on. Then it is simply a matter of a short run, steep launch and D/T two seconds after the motor cuts. If you survive that, you should be OK!

I have been rather concerned by the low number of entries in open power comps recently. There must be loads of second hand, cheap R/C 40 motors out there, just waiting to go into a F/F model. We can't let Russell Peers win all the comps!

3/16in ribs at dihedral breaks. First four bays of each half webbed with 3/16in sheet between mainspars. 1/8in sheet spruce dihedral braces either side of spars and web. Both taper from 3/4in to 1/4in depth. R/C engine mount bolted to 1/4in ply bulkhead, glued and screwed to beech inset. Bulkhead faired with soft block. Fuselage: 3/32in box; 1/8in spruce at corners. 1/32in ply doublers, 13in doublers.
Other data: Sealing timer working flood-off brake, VIT, A/R D/T.CG at 70% chord. Weight: 36oz. Motor: OS 40SR; 10 x 4 prop.

Southern Gala, Little Rissington: Friday 2nd September. Dave Hipperson reports...

This was breezy – very breezy, and entries suffered as a consequence. Perhaps many of those planning to take the day off work thought better of it when shown the close spaced isobars and the absolute certainty of wind on the television forecast the previous evening. The geographic trough that surrounds the aerodrome played its part too adding difficult turbulence as the wind rose to gust nearly 30 mph at lunch time. Despite this, high winning times appeared in both A/1 and CDH. Johns Cuthbert and O'Donnell made it look easy as they towed regularly into strong lift. Steve Philpott picked his air carefully too with an almost standard Garter Knight. He plugged away in the occasional thermal lulls that came by and totalled over eight minutes in CDH: way ahead of the rest.

Russell Peers had stopped flying in Open Power when it became obvious that his two maxes were to be unchallenged. He nearly made the mistake of flying in 1/2.A but his clubmates quickly 'advised' him to fly Rubber where no one had yet completed a full score; yet there were sufficient entries for Senior Championship points. He started flying mid-afternoon and with other Falcons members downwind practicing some radio retrieving managed three maxes using two models and sustaining the minimum of damage to win the Flight Cup and gain nine points! Before he put the 1/2As away Russell couldn't resist a couple of quick flights just before the contest closed to take second place in the Quickstart Trophy. Both models were seriously damaged in the process, however.

During some of the more flyable patches in the afternoon Phil Ball had made four maxes and one very close flight in HLG to take this class by a fair margin but it cost him his new, colourful model. A pity such a potentially big event as this was so seriously blighted by the wind, particularly as the following days of the weekend were much calmer. CD Mike Howick kept on the job throughout and without the large flyoffs that usually keep the entry occupied until dark was able to hand out the hardware to everyone soon after of the event.

Sadly, patches of still un-cut crop had been responsible for the loss of a few models. In these conditions such an important event as this would be much improved (and more would compete) if we could organise an efficient model-spotting system. It would have taken only a few more people to set up such a network at Rissington but then the sad truth is that at most competitions it's hard enough to get a CD of Mike Howick's calibre, let alone a retrieval gang downwind.

Open Glider for Pilcher Cup (7 flew)

1	J. Carter	7:09
2	G. Beal	5:20
3	J. O'Donnell	4:40

Open Rubber for Flight Cup (7 flew)

1	R. Peers	7:30
2	A. Ball	7:12
3	P. Ball	7:02

Open Power for Short Cup (1 entry)

1	R. Peers	5:00

A/1 Glider for Ripmax Trophy (5 flew)

1	J. Cuthbert	9:03
2	J. O'Donnell	8:43
3	D. Cox	3:29

CDH (no trophy) (7 flew)

1	S. Philpott	8:10
2	E. Hawthorne	7:17
3	M. Chilton	7:16

1/2A Power for Quickstart Trophy (4 flew)

1	M. Lester	2:04
2	R. Peers	1:56
3	G. Bryant	1:34

HLG (no trophy) (6 flew)

1	P. Ball	7:09
2	J. Bailey	3:58
3	D. Bird	2:24

FREE FLIGHT SCENE

Dave Hipperson runs through rules revision and takes a trip abroad

AT THE end of July the Free Flight Technical Committee decided the 1989 Contest Calendar – subject to SMAE Council's approval. At the same meeting they formulated their proposals to Council for Rule Changes.

Calendar

Many will be relieved to learn that the calendar is to revert to a familar shape, with Area events beginning in mid-March. Alterations could include the dropping of both CO_2 Duration events, because of an almost total collapse of interest, and the addition of a purely Mini meeting in mid-summer. There is one change at Area level too. The FFTC are suggesting that the Astral Trophy at the 4th Area meeting should be flown for Slow Open Power models and not F1Cs (FAI Power has shown a declining interest against the blossoming of Slow Open). This may serve as a sweetener for traditional Open flyers who, I am afraid, may be stuck with a seven-second engine run for next year despite some 70 or more valiant objectors. All else remains much the same. The Nats line-up is unchanged. Thankfully, any International FAI meeting to be run under the auspices of the SMAE will be a totally separate contest later in the season.

Rule changes

The FFTC were under obvious pressure to adopt the new FAI changes across the board. It is to their credit that the ones taken up were included only after the utmost thought and discussion. Some notable differences still apply between us and the continent; and they are to the good.

We have fallen into line with the rules for Coupe d'Hiver. No longer is there a minimum cross section requirement. But watch out at the Aeromodeller 'do' for they will enforce the 3.1 sq in. minimum total cross section in 100gm. to comply with the true, old-fashioned French rules.

It was the FAI's hope that the new F1J Class 1/2.A Power model formula would be adopted world-wide – that is, minimum weight of 160 grams and max engine capacity 1cc. However, although the minimum weight limit offers no threat, being very low indeed, the 1cc motor does. It was thought that to allow the 1cc motors would make all traditional TD.049 powered models - *the* motor in 1/2.A since 1962 – obsolete overnight. Certainly they would be at a tremendous disadvantage. That of course doesn't preclude any flyer who wants to compete abroad in F1J from purchasing such a motor and building a suitable model but it does retain intact our domestic event which, it was thought, was already becoming enough of an experts domain. Thus the FFTC has suggested the UK 1/2.A rule remains unchanged. Neither did the FFTC think it appropriate to drop the Builder of the Model rule. I can only assume that due regard had been taken of the considerable argument against this that I had aired in this magazine (and had sent direct to interested parties). A triumph for common sense. Undoubtedly the issue will be raised again. It is a very complex question.

After adding, not so long ago, the facility for attempts in flyoffs the FAI have now gone back two steps by removing the possibility of attempts on *any* flights of under 20 seconds duration. In other words they allow a re-flight for an over-fun, a mid-air collision with another model, a tow-in with a glider, a piece falling off the model, etc, etc... but not for a crash! However, the FAI didn't have the confidence to apply this logical, though harsh rule, to the Mini classes as well! We will, for the sake of simplicity and logic. The FFTC propose that from 1989 attempts will not be allowed for flights of under 20 secs in *any class*.

We can be justly proud that our sensible abolition of the line-cross rule some years ago has now been taken up by the FAI too, so here we lead. Let us hope that the FFTC's modification of the towing rules proposed in 1989 find favour abroad too. On the grounds of safety, the FFTC are suggesting that no glider flights may be made with a winch attached to the line. Moreover, any attachment to the competitors end of the tow line must not weigh more than 15 grams. Not only does this guarantee the safety of other competitors and spectators from the occasional (but deadly) possibility of flying winches but as a double-edged sword it actually helps the competitor by ensuring that he can't commence towing a contest flight with anything that might disqualify him were it thrown, dropped or pulled out of his hand – as is the case now.

Some years ago we allowed timekeepers to follow their charges on foot at the CD's discretion. This has often made for a sensible day's contest flying in conditions of poor visibility when a contest may not otherwise have been possible. However, to continue this facility into the flyoff, particularly when, in Open flyoffs for example, distances and speeds to travel could be considerable, was thought undesirable. In such situations timekeeper's fitness – and to some extent imagination – has had a bearing on the outcome of a contest! Faced with this argument the FFTC have decided to limit the CD's discretion to comp. or qualifying flights only. In flyoffs the timekeepers *must stay put* no matter what.

From 1989 there will be a Slow Open Power capacity limit of 3.5cc but no other changes to this fast-growing class. There was almost unanimous agreement that CO_2 duration has had its chance and failed, mainly because of the erratic behaviour of the motors, and thus has been dropped from the SMAE contest duration programme.

Those are the proposals for next year, along with the rules passed this time last year which have already been voted through by the SMAE Council. It would be improper to pass by two very important suggestions that *didn't* receive the committee's approval.

The first was my suggestion of a Mini Vintage event (rules for this appear next month). This was a very close run thing. The nub of the argument against was that we should resist more classes on principle.

Anthony Ball was unlucky in his last Open Rubber flight at the Southern Gala (reported elsewhere in this issue). Model hit turbulence when well up on the glide and was down short of the max.

Left: More from the Southern Gala. Pete Tribe prepares his glider. Clubmate Dave Greaves' attention is elsewhere! Right: Pym Ruyter won Coupe d'Hiver at the Two-Minute International. Neat design features carbon reinforced wing, Tomy timer and glass-fibre rear fuselage tube.

However, the committee did agree that it should be given a try. At the SMAE Summer Mini event planned for July, Mini Vintage will be run as an experimental non-SMAE status event to test reaction. If it gets support it may well find itself on the official calendar next year. Remember, this is how we started with Slow Open back in '83...

One of the most controversial issues on the FFTC rule change agenda was the possible adoption of some form of launch point restriction for centralised contests. For those who have in the past suggested this idea and are bemused as to why it has never been adopted one has to consider that these are 'catch-all' rules we are drawing up. Rules that must be implemented practically, clearly and fairly by all SMAE CDs no matter how enthusiastic or disinterested in the job they might be. Certainly we have all seen launch restrictions work quite well at non SMAE events, usually run in rounds and always by enthusiastic individuals. That's a far cry from a three-flight Open even run on behalf of the SMAE. Therefore after considerable and impassioned debate the FFTC could not come up with an infallable rule. I must admit that all but myself were initially in favour of such a system - any system. I am delighted to report that my colleagues eventually understood my practically endless and probably very tedious list of reasons why such a rule would be unworkable and fraught with potential upset and unfairness. If any of you wish to draw up a rule and submit it in whatever *written* form you like then we would be happy to discuss it. However, be warned. When you consider all parameters it becomes a very complicated matter.

Your turn

All the above are the FFTC's suggestions to Council. SMAE members who disagree must now proceed to their Areas and convince them on which way they should vote so that we get a democratic decision at the SMAE rule changes meeting in October. In the past it must be said that some decisions by Council have not appeared that way and it should be remembered, like it or not, that proposals from the FFTC tend to take along with them the backing of those delegates at Council who either do not have any opinion or have insufficient knowledge of the subject to make an objective on-the-spot decision. Access is through your Areas and you still have enough time to make your opinions for or against our ideas - don't waste time.

A short European Tour: Poitou and the Eifel Pokal

These two events, both major FAI contests counting towards the World Cup, were held on the last two weekends in August. Up until the morning of the first day Europe had been experiencing hot, settled weather - a heat wave by British standards. This ended as the Mini events the day before Poitou itself started. Copious quantities of warm rain delayed the start but from there on in the weather improved throughout the weekend.

The organisers of both the Moncontour two-minute International and the Poitou event can be justly proud of their standards of management. Before the start all competitors were handed documentation that left little unexplained. Luis Dupuis was in charge of the Mini meeting on Friday. A different site to that of the main event was used. This was not large - in fact, it proved rather too small for any high thermalling flights in the breeze of 15 mph or so. Some models were clearing a downind valley and river and overflying woods and some houses. Numerous models were lost. Turbulence was a problem too, particularly at line height. Actually, turbulence was a complaint with most of the continentals throughout all the contests attended probably because the winds were fresher than they are used to. It was nothing compared to Barkston!

It was immediately noticeable how much more popular A/1 is abroad than in the UK, particularly when the wind blows. Entries far exceeded the other two classes together. Baguley and Bailey flew steadily; Jim only dropping a little time on his middle flight, although he had one miraculous escape when a low flight went away after all seemed lost. Jim's total looked good enough for a high place and when poor Jean Bogaert's last flight fell

off the line into bad air he was home. Incidentally, Jean took this disaster extraordinarily well without the slightest sign of anger. Very calm!

Throughout all this Jim Baguley had also been flying in CDH and as well as maxing twice he had repeated a flight time of 82 seconds no less than three times to complete a quite respectable total. The wind had grown particularly nasty for the last round and the entire entry – bar one – failed to max in CDH on this flight. That included Pym Ruyter who needed a re-flight after his first attempt looped in. This extra pressure after four maxes did not seem to worry him, for he had a lead that required a flight of only just over a minute to clinch the contest. Pym's was a smart but none-too-large model with very thin, yet stiff, plug-on wings, glass-fibre tube boom and Snoopy D/T timer. In general the French CDH models were on the large side but many were using quite short motor runs. Some were trimmed for quite open but positive power patterns, and most seemed to cope quite well with the wind on climb. Only Mike Evatt managed to max on the last round, cheering up the end of his day after no luck until then. Baguley's total thus became good enough for third place.

1/2A power (not quite F1J yet) was a British benefit. Eighty per cent of fliers were GB entries – the top Frenchman being well off the pace. Pete Harris got started early as soon as the rain had finished. Screen made a mess of his fourth flight which let Martyn Gregorie in with a chance. By the last round Martyn's only trimmed model was broken and he was about to retire when Ken Faux talked him into flying a brand-new one! Its first test hop had to be the official flight, but on reduced power and too short a run it never had a chance to get into the glide so was down in less than 20 secs. This gave Martyn the chance to make a few adjustments and be a little bolder with the re-fly. This was much better and burbled away high enough for a flight of over a minute and a brave 3rd place-only five seconds short of second.

Moncontour 2 min event

A/1 (F1H) 46 flew

1	J. Baguley	GB	9:51
2	A. Trachez	F	9:37
3	J. Bailey	GB	9:36
4	J. Bogaerts	F	9:13

CDH (F1G) 14 flew

1	P. Ruyter	NL	9:32
2	M. Desvignes	F	8:13
3	J. Baguley	GB	8:06

1/2A (F1J) 7 flew

1	P. Harris	GB	10:00
2	S. Screen	GB	9:03
3	M. Gregorie	GB	8:56

11th Poitou FAI International: 20/21st August

The following two days were set aside for the main event. This was run on the Plain of Noize, just north west of the town of Moncontour. Almost perfectly flat, this was the same venue as used the year before for the World champs. It was still sprinkled with numerous fields of sunflower, maize and melons – the latter at least offering no retrieval hazard. The weather improved for the start of Glider with a mere light breeze at dawn. It was obvious that this was not to remain for long as distant billowing cloud showed conditions to be in a much more unsettled frame of mind. Throughout the weekend we were treated to considerable wind, some rain but plenty of sunshine too.

Gwen and Terry Dilks struggle with their F1B during the first round at Poitou. Terry blew several motors before getting away to a max. Placed fourth.

F1A

Thanks to a couple of dozen British glider flyers we were the best represented country in F1A, after France itself. Many of the visitors had trouble with the first round which coincided with that difficult period just after the dew thermals have dried away but before the proper lift had developed. The wind rose quickly to 10-15mph by the second round, giving retrieval teams real work to do spotting the models into or near cropped fields. It was debatable which was the more difficult to search. The maize reached nine feet in height, but the sunflower heads, although lower, were very heavy, hard and sharp. They made a mess of bare arms. The advantage of flying one class each day (or in Poitou's case, the largest entry class the first day, then the other two on the next) is that it releases a whole section of competitors for rescue and retrieval work. This team effort is something that has been borne of numerous World champs and the advent of CB radios – thankfully clear of idiots on the continent as they use a different system. I cannot remember such a well-organised system developing at the old Trebod event, even on the rare occasions when it was windy. Without a really good line or, better still, two cross bearings, models in the high crops were difficult-sometimes impossible-to find. As one flyer was heard to remark, without this teamwork system on a windy

F1B winner Newham Beaumont prepares his distinctive elliptical-dihedral model for its first-round flight at Poitou.

day it would be, at least, very costly in models; and perhaps impossible for individuals to take part. By the fourth round it was no longer pleasantly breezy. Now you could lean on the wind. Worse still it was swinging about, taking models riding lift not only deep into the countryside but fanning them over an area subtended by an angle of anything up to 20 degrees at the launch point. The lift was coming through fast. A moment's hestitation at the top of the line, or a hitch unlatching, and the model would be in the strong sink that followed. Although the standard of towing seemed high (and wing folds and tow-ins fewer than one might have expected) Carter, Fantham, Sharman and Dilly all had disastrous sub-50 sec flights on this round, Martin Dilly managing an incredible 27 secs from full tow line height - and on trim! Not suprisingly, half the entry had retired, and it was with some relief that the remainder paused for lunch. Surely the wind would decrease? The organisation obviously thought so and they then trapped themselves into an unsatisfactory end by gambling on the fact. They extended the lunch break an hour or so well into the late afternoon!

The elements did not co-operate. When the signal came for the re-start the wind was probably at its height. My machine registered lengthy gusts in excess of 30 mph. In these circumstances and with so much time lost already there was no alternative but to fly one more round and take the results on five flights only. All quite within the FAI rule book, but still most unsatisfactory.

Gary Madelin, Van Dijk and Wilkeling were the only fliers with unblemished scores but it was Cuthbert and Williams who put on the pressure with good last-round maxes. When it was the leaders' time to fly both Madelin and Van Dijk ruined their scores with less than a minute-and-a-half apiece, such was the turbulence on tow. Any maxes at this time left the site over two miles from the launch point, many of them to disappear forever into enormous fields of maize too far from the retrievers to get a useful bearing. Even an enormous search party of some two dozen enthusiasts was unable to locate Cuthbert's last flight, such was the density of the crop. In the really high fields visibility was so bad that many were the stories of retrievers almost stepping on the models before they saw them. It was as hit-and-miss as searching for models in an open field blindfolded in the dark. Stumble on until you hear it crunch! Wilkeling (Germany) had survived the last flight with a full score but Cuthbert's fine effort at the end brought him up to 3rd, having dropped only 40 seconds in the second round. Contestants lower down the list with both the inclination to fly and models left must have felt peeved, although I heard few moans that evening.

F1B and F1C

It couldn't be said that anticipation was at its height for the following day! Nevertheless, it was at least a calmer start, and soon it became obvious that the wind was not going to be such a problem. Once again Britain was the second best represented country with a dozen in F1B and seven - nearly half the entry - in F1C. Far more people coped with the early round maxes and when eventually the breeze did start to freshen more than half those with full scores in F1B were British! Beaumont, Dilks, Halford, Hipperson and Morley all had four maxes and earlier nerves seemed to be ebbing. Despite a flight line move after the second round, fliers were settling into a routine with lift spotting. Suprisingly there were few thermistor set-ups; certainly, none of the super-complex systems predicted. Even mylar streamers were fewer than I remember previously. Could it be that people are finding them too much trouble for their debatable advantage?

Having been caught out the previous day the organisers waived the lunch break altogether and flying continued throughout the day, with rounds a little over an hour in length. This did not preclude their serving a very satisfactory meal on the field to contestants and helpers who had booked it, as was the case on the previous day before. Drinks, alcoholic and otherwise, were constantly available close to the centre of activity. Very convenient and well planned.

First of the problems for the leading British came when Screen flew in a terrible hole to drop nearly a minute in F1C; Faux and Johnson still had scores intact. Morley lost an F1B model after already damaging one. He then damaged another in a handling accident and retired rather upset. On the fifth flight Johnson suffered a disastrous 82 sec flight after a very flat power pattern and Barry Halford lost a little over half a minute after another respectable climb from his Wakefield. Terry Dilks, remembering last year's six straight maxes and then a huge hole, was being very careful. He chose his moment well but late on into the glide the air seemed to break up and dump the model 20 seconds short. Then Hipperson flew in a calm patch which felt like a lull in the now considerable breeze. The model sank fast and drifted slowly and landed 45 seconds short. The lull lasted more than a quarter of an hour and fooled others too. Matherat and Zeri (the latter down to a reserve) both dropped time here.

As flyers prepared for the 7th round only Newham Beaumont retained six maxes in F1B; Thomas Koster and Ken Faux the same in F1C. Despite (or perhaps because of) enthusiastic assistance from his mates on the flight line Ken's last power flight went horribly left at launch and dashed his chances with a terrible climb. Koster maxed to win; and Screen's clean score since the 4th round was enough to hold onto second place. Even Ken's disaster only dropped him to 3rd. The remaining top six were all British. (If we thought F1C was dying in the UK - it's almost dead in other parts of Europe!)

The top British scores in F1B maxed on their last flights giving Dilks, Halford and Hipperson all a chance of high places if the leaders faltered. They didn't. Both Germans - Sauter, very young looking and flying a much-mirrored-mylar covered model, and Seja-using a very Doring inspired set-up right down to the same design motor tube/tool box/winding jig/thermistor and model, maxed and took top places. This left Newham Beaumont with a winning chance if he could make the last one. There was some delay whilst his first choice model was located and returned but eventually the flight was spectacular complete with what Newham insisted were victory loops through the D/Td portion of the flight. (One could hardly call it a descent.) Newham thus became the first Briton to win this event (or the Pierre Trebod) since Dave Greaves' victory in '75. On his birthday, too!

Much of the key to the success of this day in particular was that fliers were confident that downwind retrieval teams of compatriots were watching their models. Nearly everyone got involved in this during the weekend and many others helped on the flight line, launching gliders, reading meters and maintaining the vital radio link. Those involved might have felt it a shambles but to the fliers upwind, having their models

Winning F1A at the Eifel Pokal meeting. Crha's magnificently-constructed model features a foam wing, mylar covered.

brought half-way back often after having been plucked from impenetrable crops far downwind by unseen hands it felt like magic. Thanks are due to all.

The management laid on a very comprehensive prize-giving a few hours after flying ceased and back at the main campsite in Moncontour. It was a youthful-looking Newham Beaumont who sprang onto the rostrum to collect the Challenge Trophy for F1B. He was delighted! Trophies and bunches of flowers were presented down to 5th and complete results sheets were distributed resplendent with the names of the winning nine men printed on the front cover. Nice touch. Luis Dupuis made similar awards for his Mini event. Jim Baguley seemed to be permanently on the rostrum! It also came as little suprise that GB's 1st in F1B, 2nd in F1C and 3rd in F1A had lifted the team event as well.

The banquet that followed was far better than I have heard tell of in previous years. Excellent food, speedy service and lashing of free wine. Altogether a big, well run event with a prestigious feeling. The continentals moaned about the wind and turbulence but for us flying was much less of a lottery than usual with no houses, trees or brick walls to hit. No roads to have the model stolen from or run-over and no runways to grind the tips off after the short flights. No threatening farmers either - just hoards of helpers ready to pounce on your model and keep it safe. Recommended for next year - even if it's windy.

Poitou: FA1 Event

F1A (95 flew) 5 flights only

1	F. Wilkeling	D	15:00
2	A. Van Wallene	NL	14:50
3	J. Cuthbert	GB	14:20
4	R. Mikulla	D	14:18
=	C. Breeman	B	14:18
6	J. Somers	NL	14:00
7	P. Williams	GB	13:41
8	G. Madelin	GB	13:29

F1B (49 flew)

1	N. Beaumont	GB	21:00
2	B. Sauter	D	20:48
3	F. SEja	D	20:39
4	T. Dilks	GB	20:36
5	B. Halford	GB	20:25
6	D. Hipperson	GB	20:16
7	A. Zeri	I	19:26
8	B. Boutillier	F	19:18

F1C (17 flew)

1	T. Koster	DK		21:00
2	S. Screen		GB	20:04
3	K. Faux		GB	19:54
4	P. Harris		GB	19:34
5	R. Johnson		GB	19:22
6	F. Chilton		GB	19:10

Eifel-Pokal: Zulpich, West Germany: 27/28th August

The second leg of the tour took in this favourite German event, flown on a smaller site than the French one with some slight undulations but a somewhat more attractive background of trees, ancient churches and towers. Zulpich is really only just inside Germany; the event takes its name from the Eifel area which includes the hills that extend from the south of the flying site through

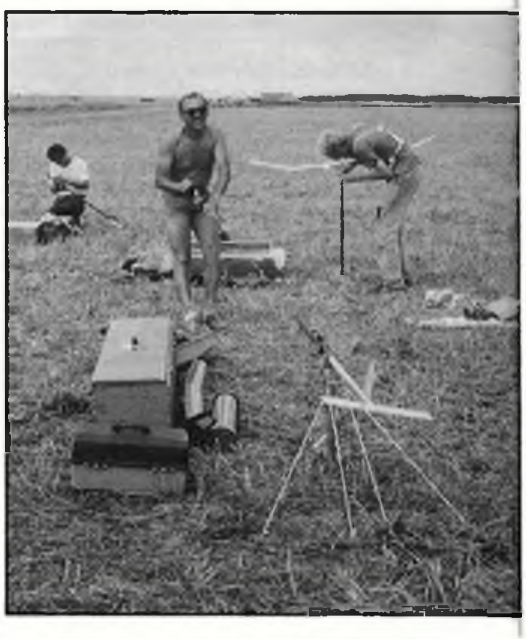
Germany to Luxembourg. It was along such a route that your reporter approached. A most attractive drive with forest and river valleys stretching away either side of the autobahn which would quite suddenly bridge deep gorges on viaducts many hundreds of feet high.

The Eifel - Pokal gave the impression of being a slightly more serious event that Poitou, but it was run with good humour and Teutonic efficiency. It was frowned upon to be untidy! The centre of activity was a scout-hut-sized building set alongside a short mowed football pitch sized area on which many of the contestants camped. We understood this area was usually set aside for activities of the local Radio Control club, although it reminded one more of a putting green than a flying site! This haven was surrounded by the now familar close-cut stubble fields, both of corn and rape, some completely empty apart from rocks and of course a liberal sprinkling of the dreaded maize fields.

Once again glider was scheduled first, on its own; and the early flights of the first round were in quite calm air under a muggy overcast. The wind soon picked up and before the organisation had a chance to move the line a copse of trees quite close by came into play. The less fortunate, like Dave Oldfield managed to lose time and fly back into the downwind edge. Right from the start both Czechs, Horejsi and Crha looked very impressive, the latters model being a masterpiece of finish and despite its lowish aspect ratio usually capable of outgliding any model launched into the same air.

By the third round the drift had increased to 15mph and the flight line has been adjusted to suit the more settled direction. There was certainly some turbulence which (again) seemed at its worst at about line height but on the ground the wind felt quite smooth. Lift which was plentiful under the occasional breaking overcast, was never frightening in strength and although retrievers were kept busy they had less difficult country over which to operate than in France.

During the day the local branch of the air-force gave us an unintentional flying display when some eighteen swing-wing Tornadoes flew low passes over the field accompanied by the sort of din one would expect to accompany the end of the world. Often they were at only two or three times towline



Mike Woodhouse winds in the breeze for ill-fated fourth flight that bunted in at Eifel Pokal...

height. Our organisation reassured us over the PA that *'The full size monouvres vill be no inconvenience to da competition.'* I suppose they weren't but one shudders to think of the effects of such mightly machinery sucking an A2 through its engine!

More natural accompaniment to some of the higher glider flights came from a couple of buzzards who would regularly join in soaring with a thermalling model - getting quite close on occasions but never seeming aggressive. However, they did appear confused when the models DTd and dropped away beneath them!

By late afternoon the wind turned back into drift and by the last round models were once again going nowhere. British interests had been dashed at the start where neither Oldfield, Brown nor Le Vey manged to max - but no models had been lost. Even Dave's tree'd model had been retrieved in most positive fashion by Bill Hartill who was to play a vital part the next day. We looked at the tree - tall and rather too thin to climb - and thought of bows and arrows and other

Superb collection of hardware at the Eifel Pokal prizegiving.

gentlemanly things. Bill axed it down and returned within a few minutes with the model only slightly damaged! Someone said his first plan had been to ram the three down with his VW van. By the finish the two excellent Cechs had indeed maxed out along with the reigning World Cup holder Stephen Rumpp and Ziegler, also of Germany.

Before the F1A flyoff the first round of F1B and C was flown. This has been planned; in fact, it was hoped that two rounds would have been possible but the earlier delay precluded that. Nevertheless one round was to be flown; and it was clearly announced that it would be to a four-minute max. What was not so clear was whether this flight would count in its entirety or come into play only for fliers who had completed a perfect score. The air was warm at around 75 degrees and the drift slight - 5mph at the most. Of course, the full 1 hour round was available so the conditions were likely to change. British interest consisted of Woodhouse and Hipperson in F1B; they were on a pole with various well-known foreigners. I had seen Stanislaw Zurad fleetingly, not to speak to, in France. Of course, I remembered him from the 50s when he was *the* Wakefield flyer; charismatic, capable and years ahead of his time. It was therefore a great moment for me when he came to speak just before this four-minute flight as he too was flying with us. I have never wished more that I could speak Polish. Stanlislaw is now domiciled happily in Germany and making his comeback after 10-15 years inactivity (mainly through difficultities in getting materials). I hope I made myself clear enough that he was my very first Wakefield inspiration.

The flight was no anti-climax. Mike Woodhouse produced an excellent pattern that didn't quite make the max - then Zeri flew a little way along the line and six others followed him into good air; all maxed. When Hipperson flew his delay-prop model it felt cooler and there was a slight breeze. This was the best air of all, although I defy a thermistor to have detected it. The flight maxed comfortably. Of the dozen power flyers surprisingly only four made it - one notable exception being Koster who made a comparatively poor 3:22.

Before the glider flyoff the organisation announced that the *total* time of the four-minute flight would count towards final totals no matter what contestants scored from this point. But this issue was not over.

As contestants prepared to leave the field we were treated to a handful of the best glider flyers in the world putting on a display of lengthy circle towing and match play. It was Crha who had the confidence to go first and, as has been said elsewhere, on these calm warm Continental flyoffs it's usually the first in the thermal who wins. So it was that despite Rumpp's and Ziegler's fine three-minute-plus efforts, Crha's 3:47 topped it. He trotted under this model, obviously very happy, right from the launch. It was the first time this Lee Van Cleef lookalike smiled. He carried on smiling right through to the prize-giving the following day. A popular winner.

The next morning started bright, warm and calm. The first F1B maxes were formalities for Woodhouse and Hipperson - the later still using a DPR model, although a different one from the previous evening. Quickly the wind freshened and almost immediately turbulence built up - not the low-level sort experienced over British sites when the airflow is broken up locally by small ridges and trees, but rather large-scale, less regular, and at higher altitude. At least you could launch in fairly steady air.

Woodhouse dropped a little time and Hipperson had a close one into a maize field. Next round Woodhouse's mis-set model bunted in hard. Bill Hartill had a double over-run around this time and elected to help out downwind. His motorized assistance proved invaluable; maybe decisive. Woodhouse had to switch to a reserve that failed to max as it was slightly out of trim. Hipperson dropped 14 seconds - not nearly as much as most of the entry who by now now were having distinct trouble with drift. It was no more than 20 mph on the ground, but probably considerably more at height; hence the turbulence occasionally encountered. As a consequence models were going a long way. Both Hofsass, Seja and Zeri had models equipped with minute and very expensive transmitters for model location in woods and maize. They were a great boon. Zeri had an awkard moment when his enthusiastic retrieval team broke his fuselage extricating a model from the trees and didn't notice they had dropped the beacon into the under-growth. Anselmo returned with *two* direction finders to search for the device which was no larger than half a cigarette - and a thin one at that! It speaks much for the system that he was able to reduce the area of manual search to a spot on the ground no more than 18 inches diameter. He found it!

The last two rounds proved decisive. Before they started a number had full scores both in Power and Rubber. Already the organisation had changed its mind regarding the first four-minute max we had done the previous evening. Now it would only count if there were full scores - it would not add to the totals of anyone dropping time. There was a rumour that Thomas Koster had been responsible for applying pressure on the organisation to get them to reserve their earlier decision. He was right in principle of course; that is the correct way to do it. However if, as was rumoured, he had applied pressure after he dropped the first max it would have been poor sportsmanship in the extreme - and even sillier of the Contest Director to listen.

The turbulence was proving too intimidating for many of the Continentals. Hofsass dropped time, Bror Eimar did likewise and Anselmo Zeri topped a day when he hadn't maxed once with a crash; another model then shedding a wing tip on the climb. Woodhouse suffered a terrible launch for less than a minute, and Hipperson's model got away and quite high on the sixth flight to be knocked into the 'vertically downward' position whilst still under power. The height loss also took it out of the good air and a disappointing 1:46 resulted - but many others had less than 90 secs!

In the last round the wind was worse and many who didn't launch exactly right crashed. Woodhouse made amends with a good 2:50 and Hipperson maxed - one of the very few on this last round when numbers actually flying were seriously reduced. It was indeed enough to lift him to 3rd with the Germans of Sauter (2nd in France) and Monninghoff (12th in France) above him; all others, including the tremendous model of Bror Eimar, having dropped away.

Koster had retained his run of maxes to come back to top again although there were very few flying power by the end of the day.

The organisation then laid on an excellent prize-giving on the mown area of the field with the minimum of lengthy speeches and with prizes down to 5th place. The whole affair took place in the warm, if breezy, afternoon in front of a large crowd of competitors. As well as prizes, mementos in the form of small digital clocks and thermometers were handed out to all competitors.

This contest comes highly recommended!

Eifel — Pokal: Zulpich, Germany.

F1A (70 flew)

1	I. Crha	CSSR	21:00 + 3:47
2	S. Rumpp	D	21:00 + 3:09
3	R. Ziegler	D	21:00 + 3:08
4	I. Horejsi	CSSR	21:00 + 0:54
5	U. Schmelter	D	20:43
6	C. Van de Van	NL	20:40

F1B (32 flew)

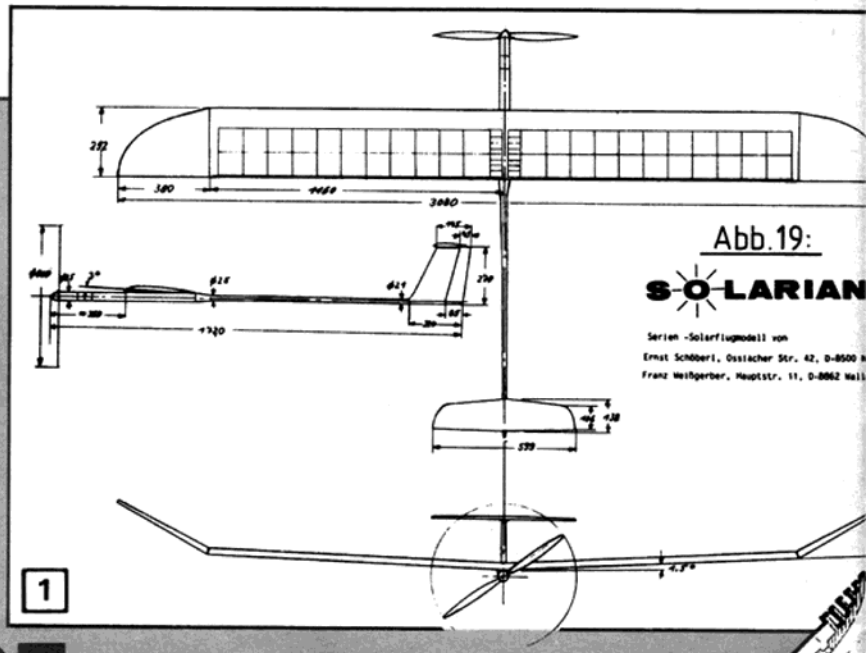
1	B. Sauter	D	20:14
2	P. Monninghoff	D	20:00
3	D. Hipperson	GB	19:27
4	J. Hacken	NL	19:26
5	R. Gaenslen	D	19:17
6	J. Kracznai	H	18:48

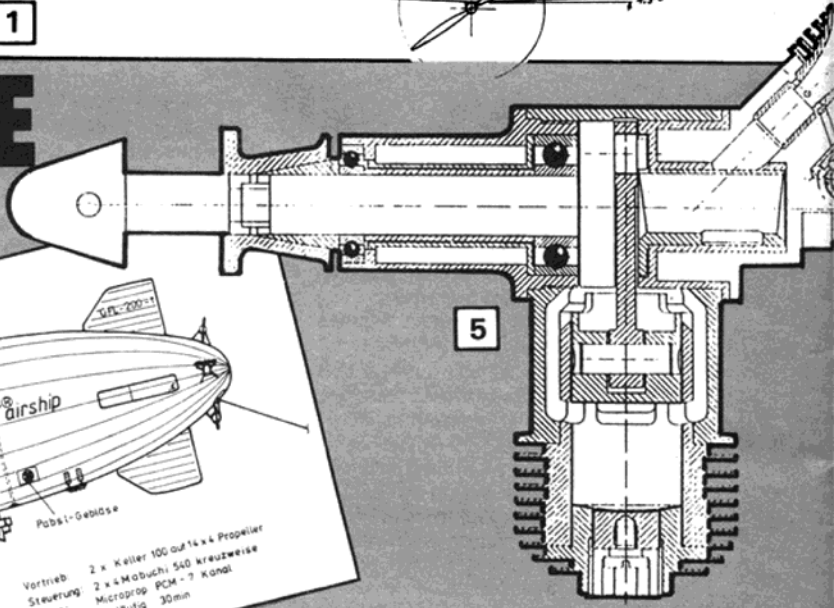
F1C (13 flew)

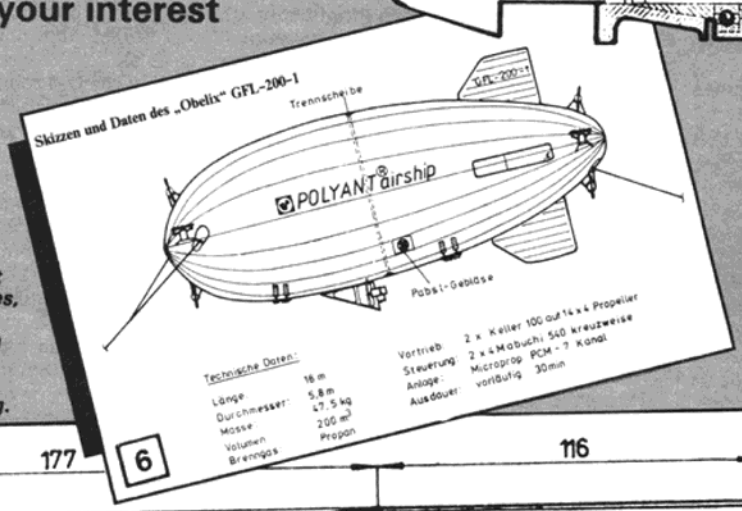
1	T. Koster	DK	21:00
2	G. Zsengeller	H	20:49
3	H. Hubler	D	20:46

WORLD SKETCH PAGE

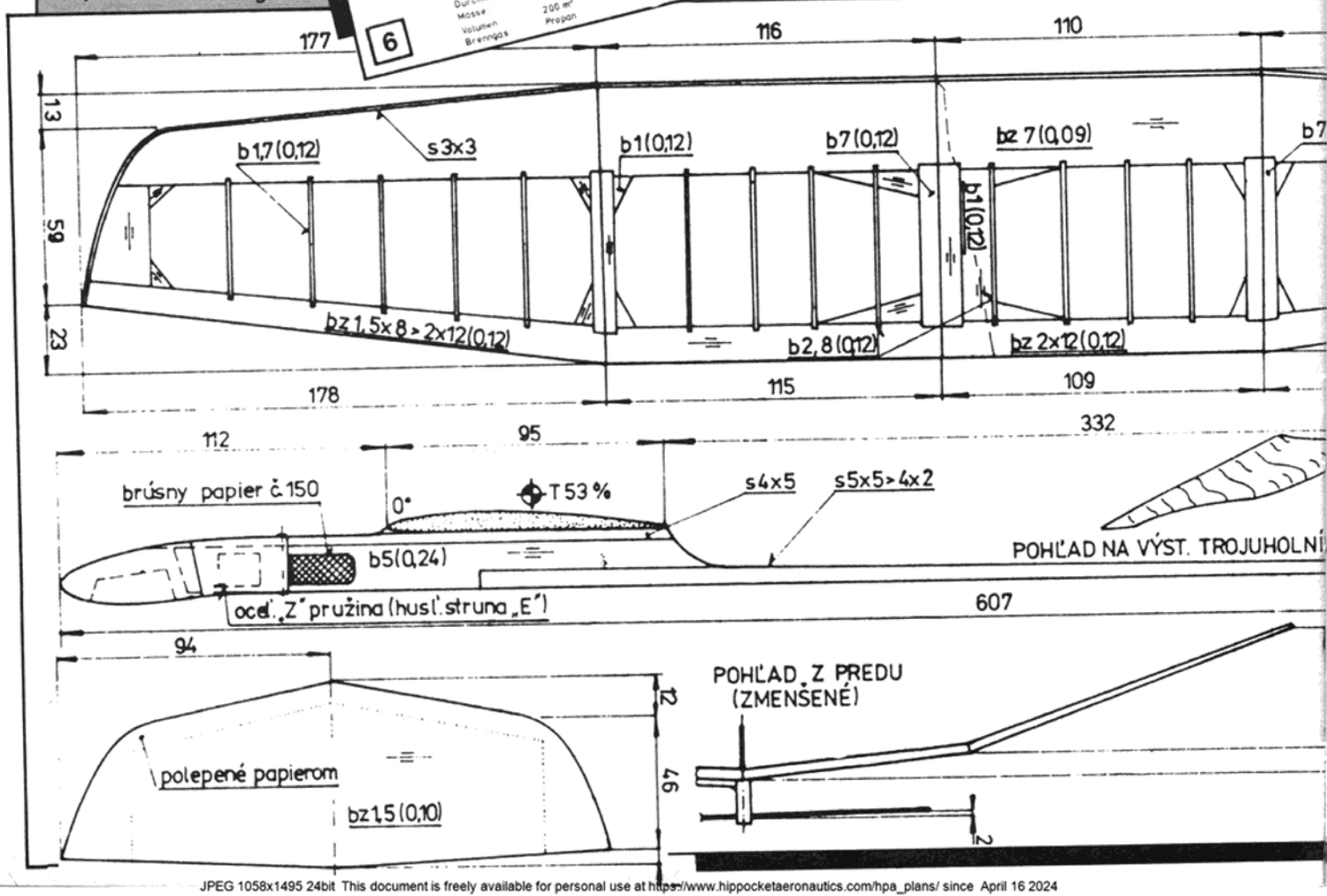
Fragments from overseas captured for your interest







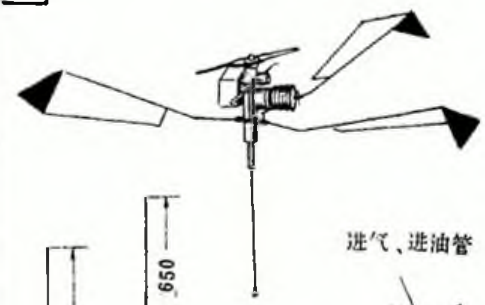
6: More German experimental aeromodelling. Polyant airship is 16 metres (yes, really!) in length. Main propulsion comes from two Keller 100 motors with Mabuchin 540s responsible for steering.

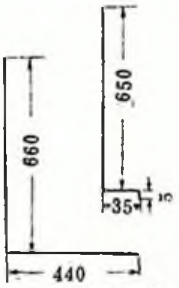


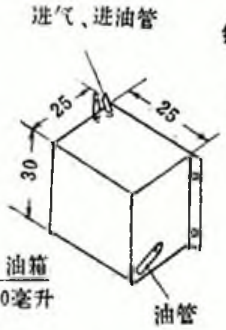
2

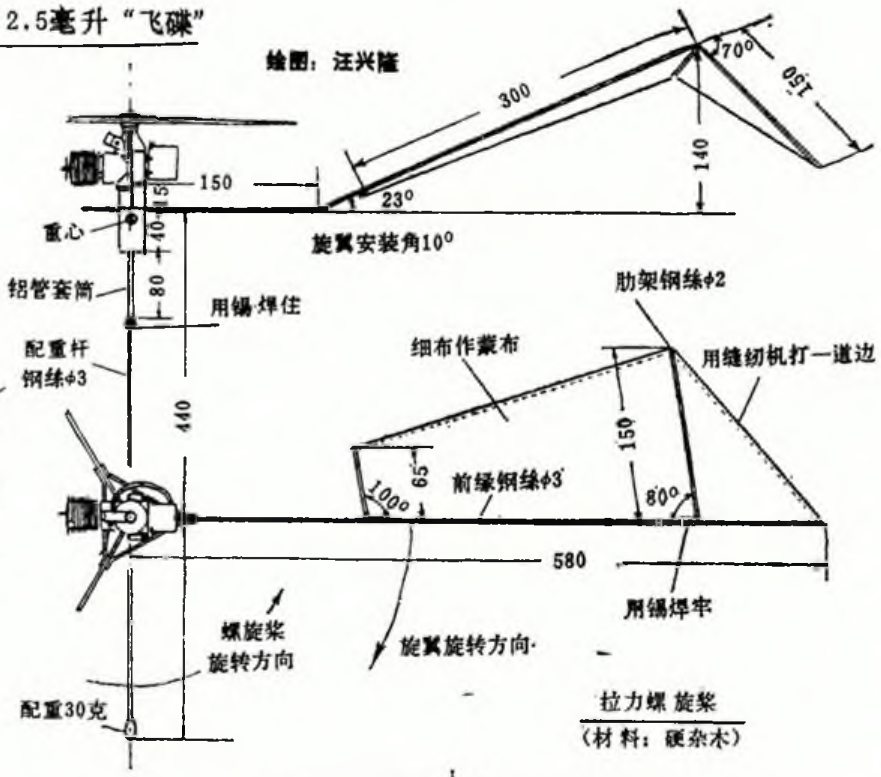
2.5毫升“飞碟”

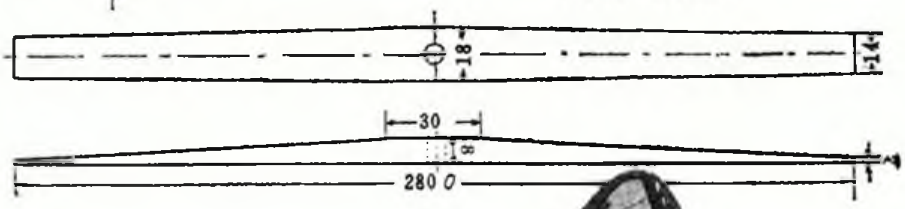
绘图：汪兴隆







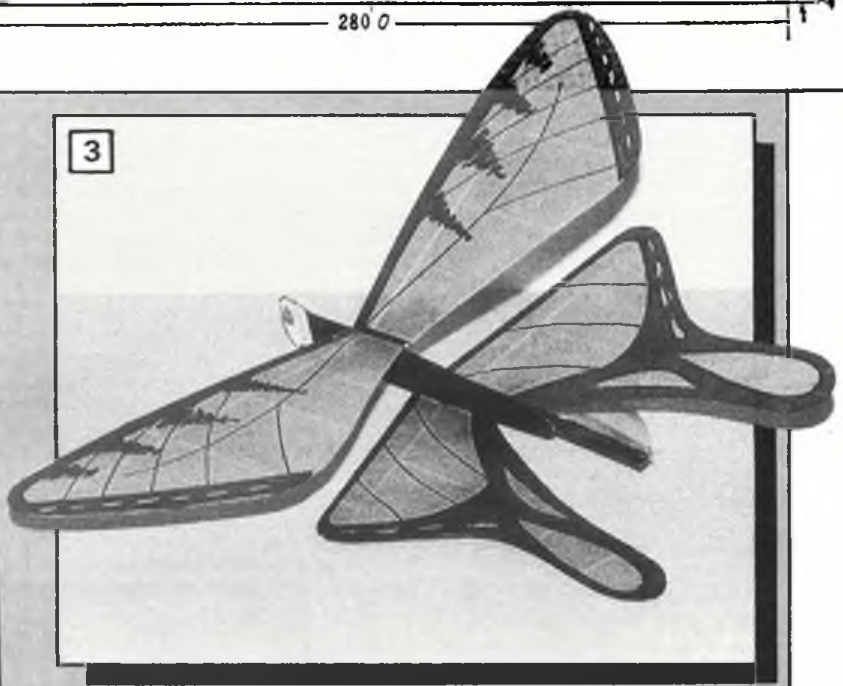


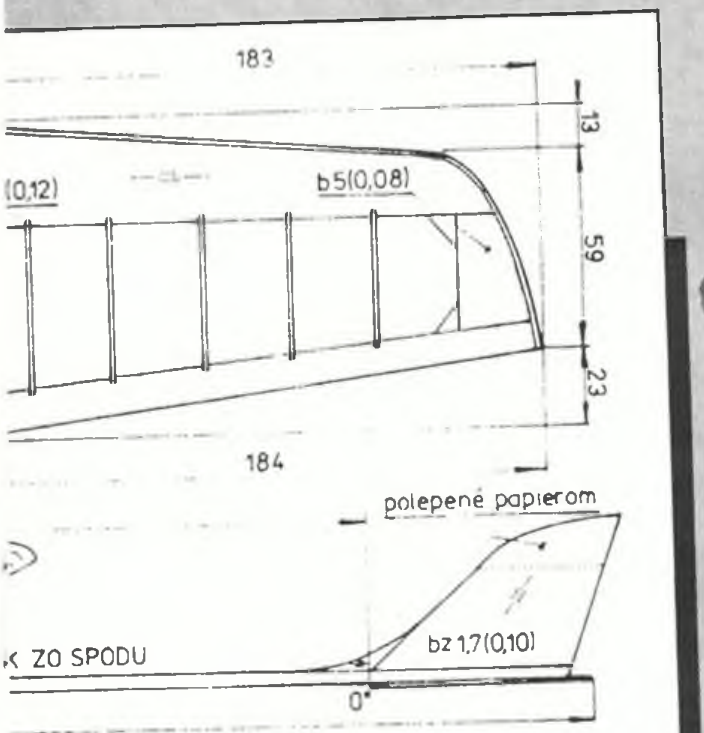


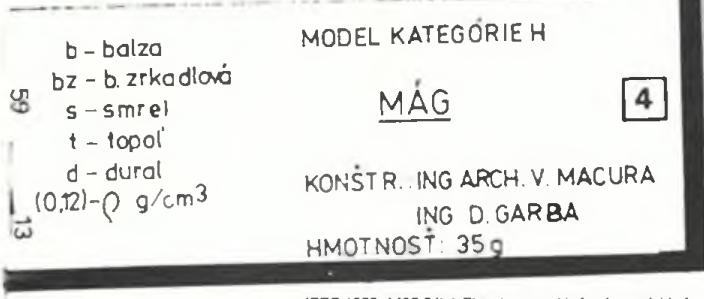
材料表

名称　规格	数量	用途
2.5毫升发动机	1台	动力
φ3毫米钢丝	2.6米	前缘、配重杆
φ2毫米钢丝	1.1米	肋架、加强钢丝
细布(细色布)	1.2尺	蒙布
马口铁皮	110×60	油箱
φ3毫米铜管	5厘米	油管
10×40×150硬杂木	1块	机架
8×18×280硬杂木	几块	螺旋桨
粗保险丝	40克	配重

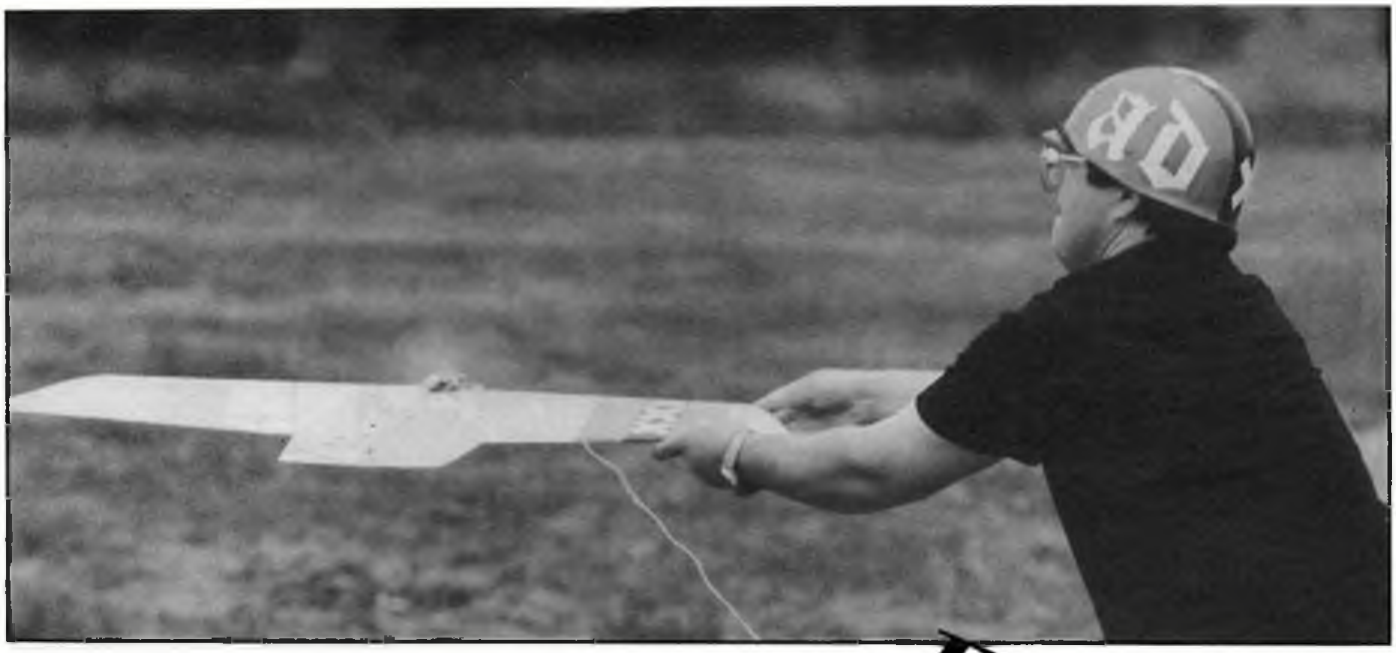
3







1: Experiments in solar power by Ernest Schobert and Franz Weissgerber have been featured at length in FMT magazine. Top surface of Solariane's wing is almost completely covered with solar panels. More news to follow... 2: Get the soldering iron out! Wire-framework helicopter for 2.5 engines hails from Hangkong Moxing magazine. 3: Neat butterfly by Al Backstrom (USA) awaits rubber motor and prop. Strange shape files well – plan on its way! 4: Interesting wing on Czechoslovakian chuckie features slightly skewed wing dihedral joints. Note differing L.E. and T.E. dimensions. Food for thought! 5: Limited edition of famous FMV team race engine will be available from de Ridder engines – we can supply details...



Fun! Fun!! Fun!!!

HERE'S a question. How would a group of modellers celebrate the 25th anniversary of their club? There was only one answer as far as we're concerned – hold a very special contest!

You will immediately deduce that we are control-line fanatics. R/C pilots would probably hold a dinner party. It had to be an International contest, for Daedalus members are particularly fond of flying abroad.

Daedalus? Who they?

Back in 1963 – 12th January, to be exact – this club was founded by a small group of enthusiastic Amsterdam C/L modellers. Within five years they were winning National Championships. These were the days when Team Race was flown with Super Tigre and Eta engines, Combat with a mixture, and the Fox 35 was supreme in Stunt. Even then, one thing distinguished the Daedalus club – its constant search for new events. All kinds of 'unofficial' contests have been tried during the past 25 years. Trying out the limits is the philosophy.

In the 1970s a large influx of Combat fliers caused renewed interest in this branch of C/L Combat which wasn't then a World Championship class; so to prove that it could be run as such – and for our own enjoyment – the club staged a series of Internationals, the legendary Spaarndam competition, where the Oliver-Tiger-equipped Brits showed the rest of Europe how to beat over 120 other contestants. Much was also accomplished in Team Race at European and World level.

Membership of the Daedalus club has always been around the 30 mark – but recently we have welcomed back modellers with renewed interest in C/L. So – what kind of contest should be flown to celebrate twenty-five years of this? It had to be different, it had to be right for the Daedalus club spirit – and it had to be done.

Weird and wonderful

From early days, a 'Mad Goose' competition became a club tradition, so the first competition to be organised had to be a 'Weird and Wonderful' category for Broomsticks, carpets, shoes and anything else that wouldn't normally fly. How about Combat? Non-CIAM classes were agreed upon, which meant 1/2A and – what? We considered a 'Class 70' event for models and engines from ten and more years ago, but what kind of engines should be eligible? The final decision was to run a Diesel 'A' contest to 'Peterborough' rules, specifying balsa-and-nylon models.

Team Race and Goodyear presented no problem. We had previously been the first in Holland to organise a Marathon event; most laps in an hour decides the winner. This was the solution for a non-CIAM Team Race.

Stunt needed deeper thinking. How to alter it into something different, but still Stunt? This is how we invented F2B(X), a three-round contest with each to count; no skipping the worst one! The first flight was the normal FAI programme, but in reverse (except start and landing!). Second was a nightmare pattern of horizontal hourglasses, music keys, hexagons, double-double wingovers and a host of other manoeuvres to give a normally trained stunt pilot the creeps. As a relief the last flight was a normal programme.

Next came speed. At first we thought about unlimited fuel. Burn whatever you want! But real speed pilots warned us that no one would sacrifice his engine to such a barbarous idea. Instead, we came up with Slow Speed. Within six minutes a competitor had to fly as fast as possible, then change prop, pipe and so on, and make a very slow flight. The difference went on the scoreboard.

Lastly, we are talking Duration, a class started by the Daedalus club, taken over by the guys at Nijmegen and flown yearly. A

Top of page: Max Vuttien, wearing Amsterdam Daedalus helmet so well known at the UK Nats, launches Nick Stowe's Combat 'A' model.

subject for real fanatics! Fit a very big tank and see how long you can fly. After five minutes the flight becomes 'official' and you can go for the Guinness Book of Records.

Where to go?

Many wondered where the event should be flown. How did an Amsterdam club end up in another country? The answer is simple. Nowhere in Holland can you fly over grass and asphalt at the same site. However, we were welcomed by the Belgian club Limburges Vleugels, who were nearest, and gave even more support than we requested. An excellent site, good camping facilities, a canteen with bar-crew; and the club members themselves guaranteed a great atmosphere. The only real problem was that the contest was the same weekend at the European Cup Final, with the Dutch team playing. This caused the occasional absence of marshals and timekeepers – and even one Dutch Combat flier was disqualified for not showing up on time.

Total entries were 54 from Great Britain, Netherlands, Germany, Belgium, Austria, France and Switzerland.

Combat!

The large British contingent made this event a struggle for the Continental pilots. Most of their models were Nelson-powered lightweights, unlike the home club's balsa/nylon Oliver Tiger entrants. A high percentage of the participants flew Combat for the time time in ten or fifteen years! They blew the dust from their engines and took part – we noted the French pilot Jean-Bernard Morelle, Dutchman Frank Kruff, Germans Micky Nagy and Reiner Jungherz: and of course, the UK's own Frank Smart, Orcrist-equipped. The eight bouts, flown in the two-life style, treated us to some new tricks, like lying on one's back with feet just in the circle, during a line tangle. We now wait for the Germans to organise a similar event!

One must ask why it is that Diesel 'A' is becoming more popular than FAI. The reasons: lower speed, one model per bout, and the relative simplicity of diesel engines running without pressure. Cost is secondary.

Top: Monique Wakkerman – only female competitor in 1/2A Combat – battles with Jean-Bernard Morelle from France. Above: Ian Horne (cheer up, Ian) and Simon Groome from the UK with their Vintage T/R Mercury Mac.

The winning motors are just as expensive as FAI Slow engines.

Team Race and Goodyear Marathon

Competition was a bit uneven. UK Vintage racers can't compete with modern ones. But as an old Dutch saying goes 'The more souls, the more joy' so we were happy enough.

No records were broken but the Metkemeijer brothers set 1534 laps in one hour – a handy target. Second came Simon Groom and Ian Horne with their very fast Nelson-powered Goodyear racer at 1417 laps. Only lack of time, they said, prevented them readying their even faster engine.

The Goodyear Marathon saw many drop-outs. Metkemeijer/Laros blew their engine after 372 laps and Roelofen/Roos went the same way after 233. The message for this event is that model and engine must be solid. Flying for 30 minutes or more makes nuts and bolts loosen thanks to vibration.

Slow Speed

Where, oh where were the fast guys? Didn't they like the rules? Are they just too conservative? Or don't they want to play kid's games? Only one entrant turned up. What a disappointment for Paul Reitbergen, who spent so much effort to organise this event...

Duration

Amazingly, this event became one of the most exciting of the meeting. And for a time we had debated whether to run it at all! The target was the current Dutch record of 2 hours 55 minutes, held by Aad Laros. First to break the barrier was Aad himself, whose Oliver Tiger powered model carried almost two litres of fuel. Total time: 3hr 04:47. Others tried but could not succeed – but the big shock was to come...

Rob Metkemeijer, the well-known Team Race pitman, brought along one of Eric Janssen's old stunt models fitted with a Team Race front-exhaust Rossi 15 and an 1800 cc balsa fuel tank over the cockpit. He flew easily for two, three hours (Aad Laros began to frown); then through the record to four hours, five hours (both celebrated with a loop!) to double the briefly-held previous record, consuming the last drops of fuel to land at 6 hr 10:32! The last three hours were flown in the dark – the circle surrounded by flares and the model tracked from the centre by a powerful handtorch. Every now and again the crowd, drinking beer in the canteen, would check progress outside, each time reporting more and more incredulously, 'he *still* flies!' For the last hour a large group sat around the circle. After the landing, everyone ran to the model, rather than Rob! Once again a Metkemeijer had set a high target in control line....

Just weird....

At last the secrets could be kept no more, and at the circle points were awarded for originality, technical expertise and aerodynamic ingenuity. John Dubell had built a most realistic axe, with the balsa 'handle' acting as the inboard wing, the blade becoming the elevator. There was no outer wing. Aad Laros chose a paper-plane design, but from balsa, and flew his Cox 049 creation on lines of just twenty feet or so. (Big deal! Even a brick would fly on those lines....) Michael Disler came up with an autogiro which flew very well until he tried a loop, which the thing

?

...!!!

The 25th anniversary Daedalus club meeting was total enjoyment. Ron Kaptijn reports

Left: Smart biplane by Erik Jansen, entered in Weird and Wonderful class...

could not manage. Instead, it flew higher and higher, and the rotor caught the lines.... Enough! Cor Koene's creation was the most weird thing on site. He finally agreed to call it a Turbo Tomato. It consisted of a round annular wing with rudimentary profile fuselage, elevator inside, and an Oliver Tiger in the middle. The engine emitted much noise and thrust, but the tomato did not know where to go. It rolled about all over the tarmac, but never flew....

The most entertaining show came from Arthur Eves. Readers should know that Arthur has two artificial legs. Here he mounted an engine and some wings on an old leg - and flew it... This scored very highly. You try and fly one of your legs! A deserving win.

Aerobatic acts

The first flight, the FAI pattern in reverse, meant that hourglass and overhead eights had to be flown with a full tank; but the second flight, the nightmare programme, was very interesting. Some figures, which had been thought easy, turned out very difficult to manage.

Indeed, sometimes the judges were doubtful about which sequence was being flown! In fairness, others made it look simple - and everyone had fun.

Celebrations

As a surprise for Daedalus, our hosts had arranged a parachute drop. Thanks to low cloud cover this was spectacular, and it was proved that even a landing on a car is possible...

We enjoyed the prizegiving, complete with inscribed glassware and Belgian beer. First prize in 1/2A Combat was a PAW 2.5, meant as encouragement to fly Diesel 'A', which went to Mike Whillance! He was told to give it to his nephew, just beginning to fly C/L...

No doubt we'll do it all again. As Arthur Eves said at the prizegiving. 'This showed that C/L flying can still be fun!'

Top left: Rob Metkemeijer's Duration winner. Note vast tank. Left: And still he flies! Rob during his marathon 6hr 10min 3sec stint at the handle. Top right: Weird and Wonderful winner Arthur Eves after trying manoeuvres with his airborne leg. Leg s don't loop! Below: Cor Koene's Turbo Tomato needed directional guidance.

Results

Duration

1	Rob Metkemeyer	6.10.32
2	Aad Laros	3.04.47
3	Pim Hopman	2.54.24
4	Harry Grandjean	2.43.08
5	Ben Roelofssen	2.38.55
6	Patric v Beneden	1.28.27
7	Paul Rietbergen	1.28.27
8	Jan Odeyn	03.32.40 (3.19.13 unofficially)

Weird and Wonderful

1	Arthur Eves	Leg	237.5 pts
2	Jonny Dubell	Axe	225
3	Erik Janssen	Biplane	210
4	Micael Disler	Autogiro	193
5	Cor Koene	Turbo-Tomato	177.5
6	Aad Laros	Fold-plane	173

Combat Class A

1 Vernon Hunt
2 Paul Stanley
3 Ron Kaptijn
4 Norbert Figus/ Mike Whillance

Combat 1/2 A

1 Mike Whillance
2 Marvin Jones
3 Rick Krooder
4 Loet Wakkerman

F2b(x)

1 Erik Janssen
2 Henk de Jong
3 Peter ve Mortel
5 Bert metkemeyer
6 Fritz Kuhnegger
7 Jan Odeyn

1/2 A Stunt

Joachim Feltman

Slow/speed

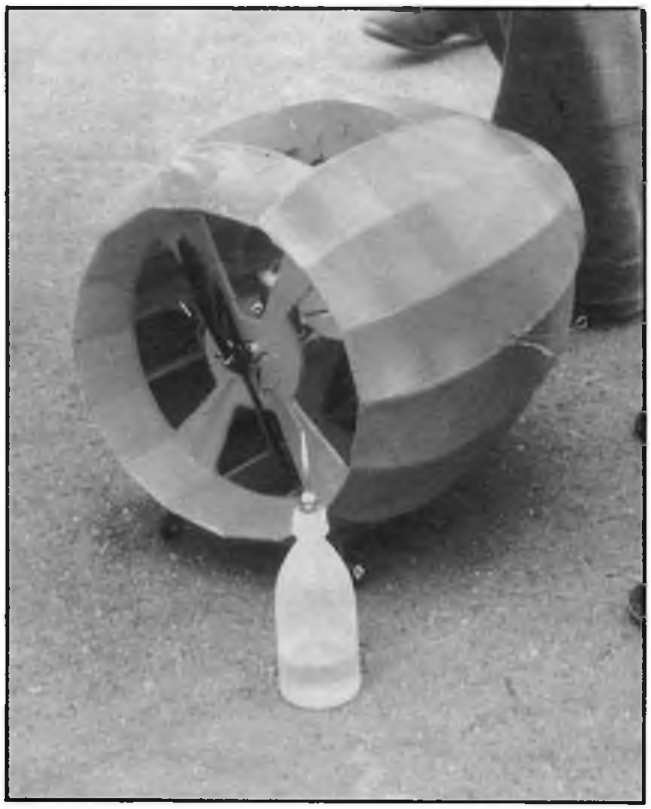
Frank Abstoss 8km/h

Marathon TR

1	Metkemeyer bros	1534
2	de Ridder/Schot	1248
3	Stanley/Hunt	727
4	Horne/Grom	654
5	Odeyn/Benoit	570

Marathon GY

1	Groom/Horne	1417
2	Rietbergen/Buys	1201
3	Grandjena/Schraven	1063
4	Laros/R Metkemeryer	372
5	Roeloffsen/Roos	223
6	Koene/Kaptijn	56



FROM THE HANDLE

Claus Maikis gets at linkages and we feature some overseas subjects

HAVE YOU ever built a stunter only to find that it wouldn't fly? Maybe the rate of turn was unequal clockwise and anti-clockwise, or you needed more (or less) flap or elevator deflection. This is when it would be nice to have some means of access to the control system. As it is, you have to cut into that beautifully finished fuselage – ARGHHH! There are people who can do this and stay completely cool. Indeed, one of Gerard Billon's old models looks as if a surgeon has worked on it. For me, it's like cutting my own skin. That's why I use access hatches. As is so often the case: once you adopt them you'll probably have no more control system problems. That's a soothing thought, at least!

With removeable wings you don't need an access hatch, since any change to the control system can be done at the flap horns – provided, of course, that they are made with this in mind. With one-piece airplanes, I usually choose two hatches: one to get to the flap horns, and one for access to the elevator horn. They are built right into the fuselage sides before the fuselage takes shape. That way it's easy to work on. Before you start to cut you should carefully think about:

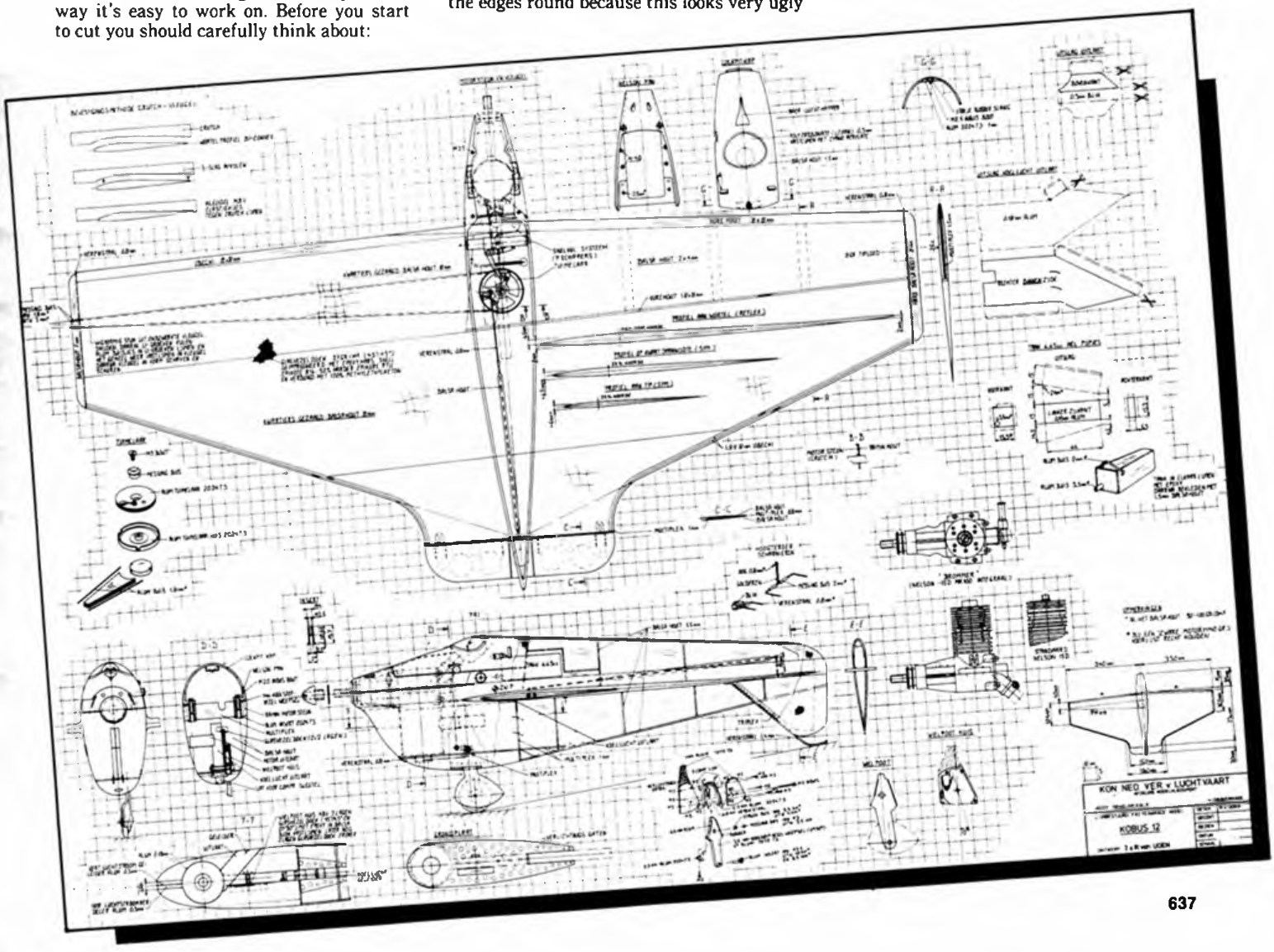
(a) what kind of linkage do you have, since that dictates the kind of modelling knife you'll have to use;
(b) what size and shape this tool will have; and
(c) from which side and direction will you use the tool.

One of my old models had the access hatch too near to the tailplane. I couldn't use the wire hook I had made for the flap horn, and had to bend another for the elevator horn. Two hooks for one airplane – ridiculous!

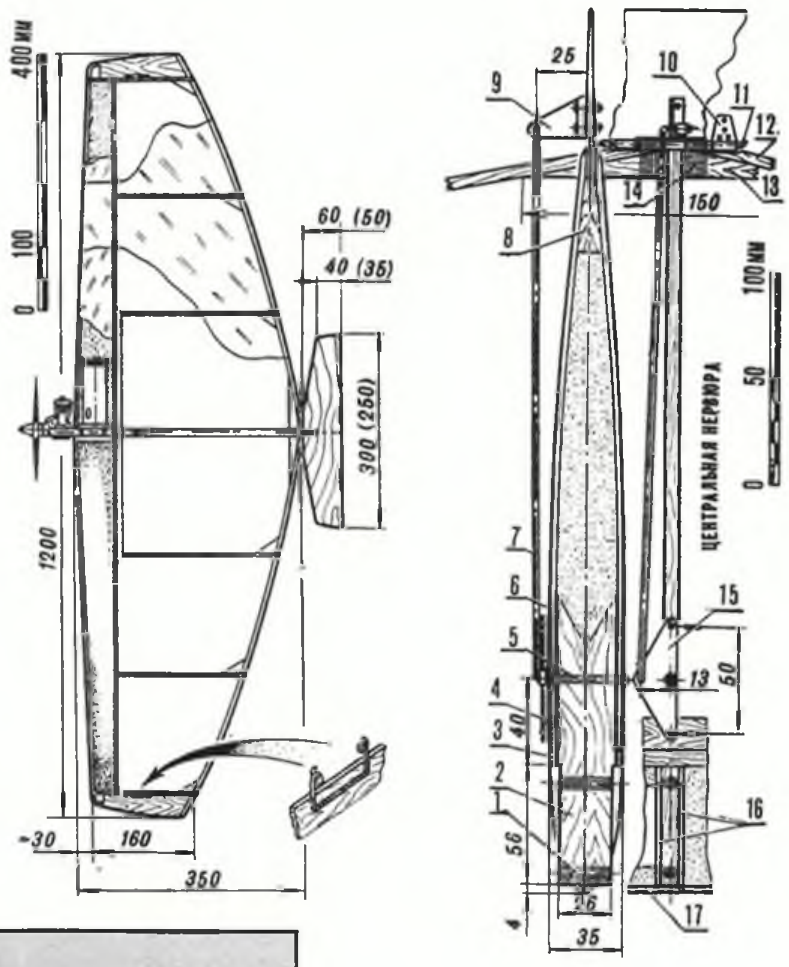
How it's done

Decide on the location and size of the hatch and cut it very carefully with a sharp knife (I fit a new blade for this work). The cutting edges are slightly sanded with 400 grade paper wrapped around a suitable dowel. I say dowel because I always cut my hatches with rounded corners or – preferably – totally oval in shape. I wouldn't cut the opening with square corners because stress cracks will start there. I take special care not to chamfer the edges round because this looks very ugly on the finished product. A few drops of cyano glue are applied to harden and protect the edges. Now a scrap piece of 1mm plywood is held behind the opening, and the shape of the hatch itself is marked by drawing along the edge. Before cutting the outline the holes for the fastening bolts are drilled. I prefer two bolts, but you can also use a single bolt at one end, and a some tongue at the other. After cutting to shape the plywood is carefully sanded until it is a comfortable, but exact fit in the fuselage opening. Next I lay this plywood on a balsa sheet of the same thickness as the fuselage. The centre of the holes is carefully marked on the balsa, and the holes are drilled to suit the bolt heads. I choose a slightly larger diameter, since after applying paint the holes get smaller anyway, and I want the bolts to come out easily. I use a really sharp drill at high speed for clean, sharp edges. Again, the edges get some drops of cyano. Now the ply sheet and balsa sheet are glued together, carefully maintaining exact alignment of the holes. Next, the outline

Well-known on the European Team Race circuit – Kobus 12 by the Van Uden brothers reveals its secrets. Wing sections interesting – note reflex.



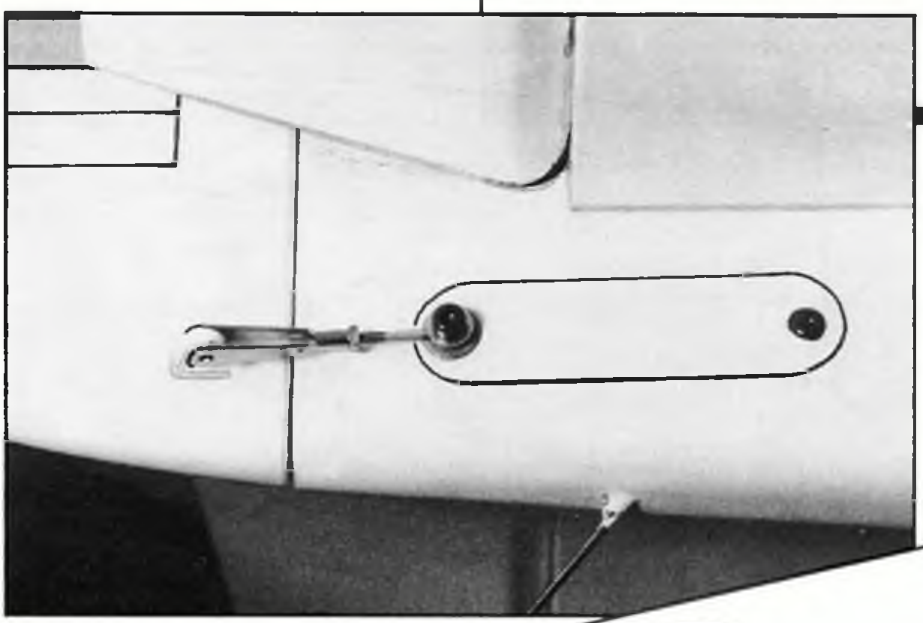
Right: More from overseas – a selection of Russian F2D wings worthy of close study.



of the balsa sheet is worked out – easy, because the plywood layer is already shaped. With some fine sandpaper wrapped over hardwood block the edges are sanded exactly square until the edge of the plywood sheet is reached. Exact shape can be checked now in the fuselage cutout. It should fit neatly.

Sand with care

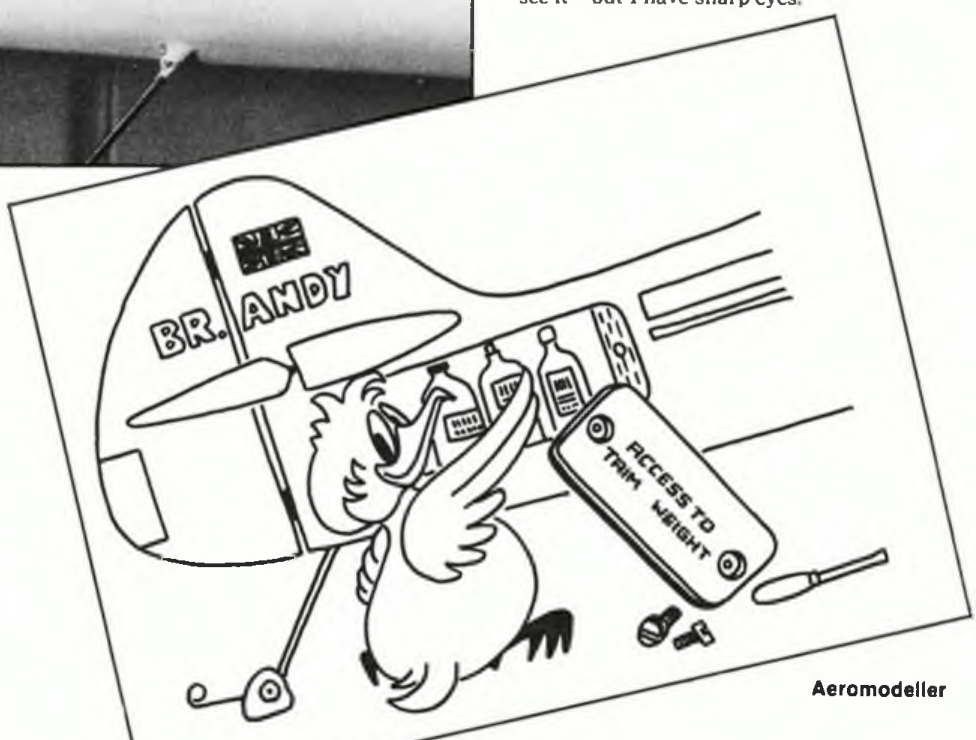
For attachment lugs I use two small pieces of 3 mm ply, because there's usually not much room at the rear of the fuselage. Make sure that neither the pushrod nor (even worse) the horn binds on these ply lugs. All inside edges are tapered or rounded. Once I used blind nuts for fastening. Now I simply cut the thread into the plywood. You have to be careful when tightening the bolts, but it works. Run a few drops of cyano into the thread you have cut; wait until it's dry, and cut again. Finally, the hatch is mounted to the fuselage side. The balsa cover will protrude so sand it down to conform to the fuselage contours. Even if the thickness of the fuselage side sheet is reduced towards the rear end it's very easy to achieve a perfect fit.

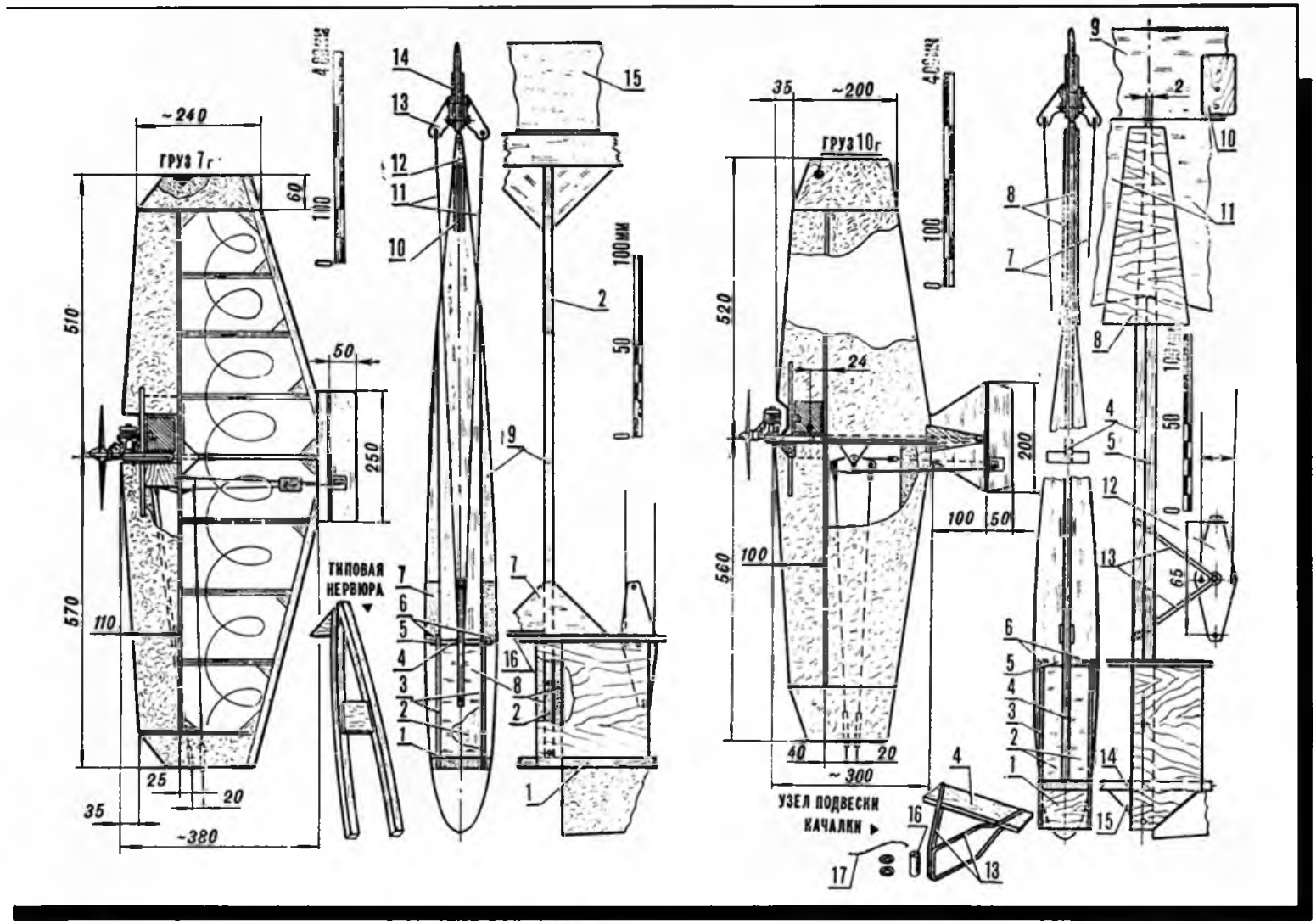


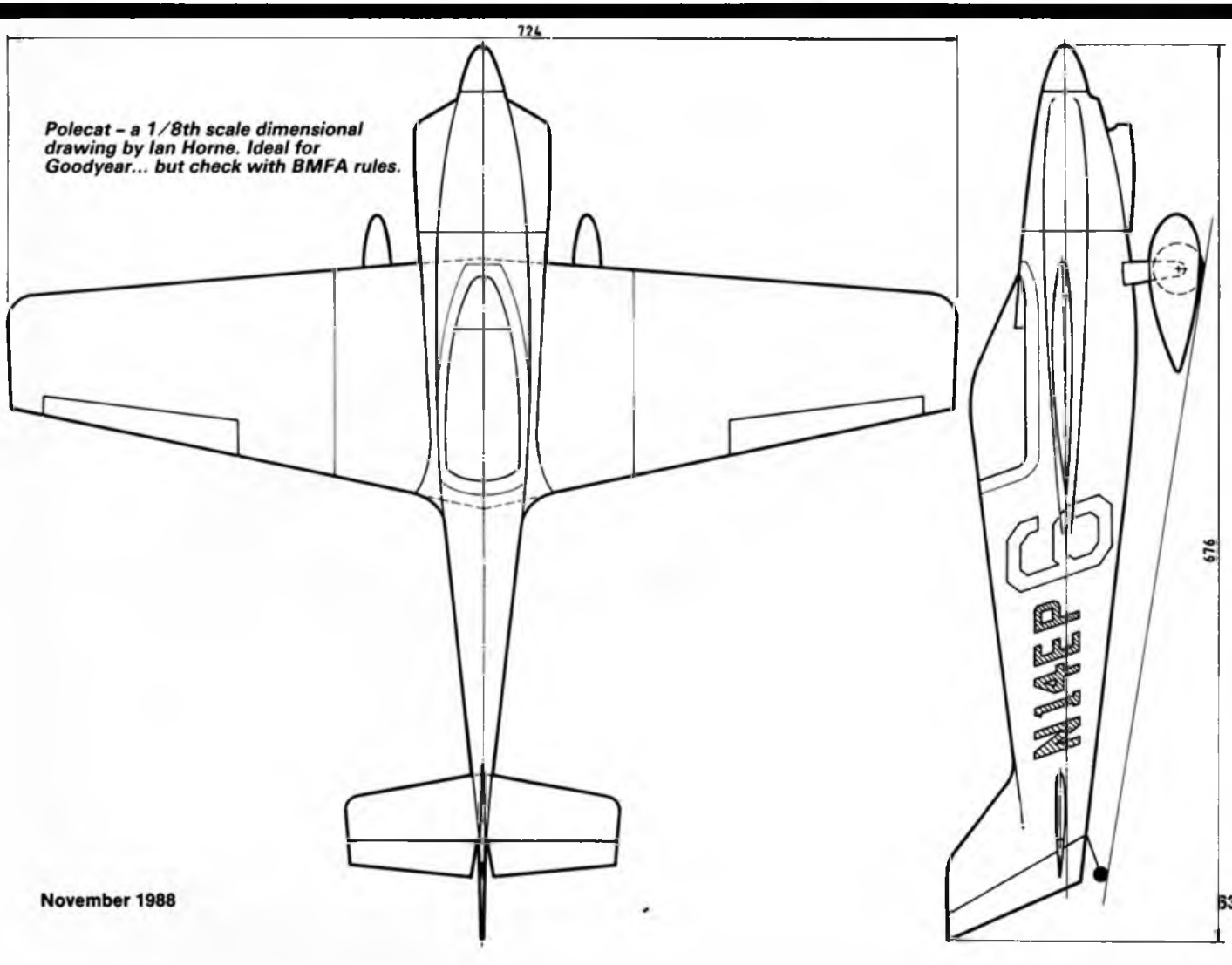
Above: Neat access hatch as described by Claus in text. Aft fixing bolt also locates adjustable rudder link. Note also tail-leg loop for solo 'stooge' operation.

I use an adjustable rudder on all my airplanes, and happily the hatch fastening bolt provides an easy method for fixing the rudder linkage. I just cut a larger rear hole in the balsa layer, bush it and use a long bolt, taking care that the bolts don't protrude on the inside of the fuselage.

I know I've used the words 'clean' and 'careful' very often here. This is no accident. It's very easy to spoil the appearance of an otherwise cleanly built airplane with some carelessly-made details. A layman might not see it – but I have sharp eyes!







Polecat – a 1/8th scale dimensional drawing by Ian Horne. Ideal for Goodyear... but check with BMFA rules.

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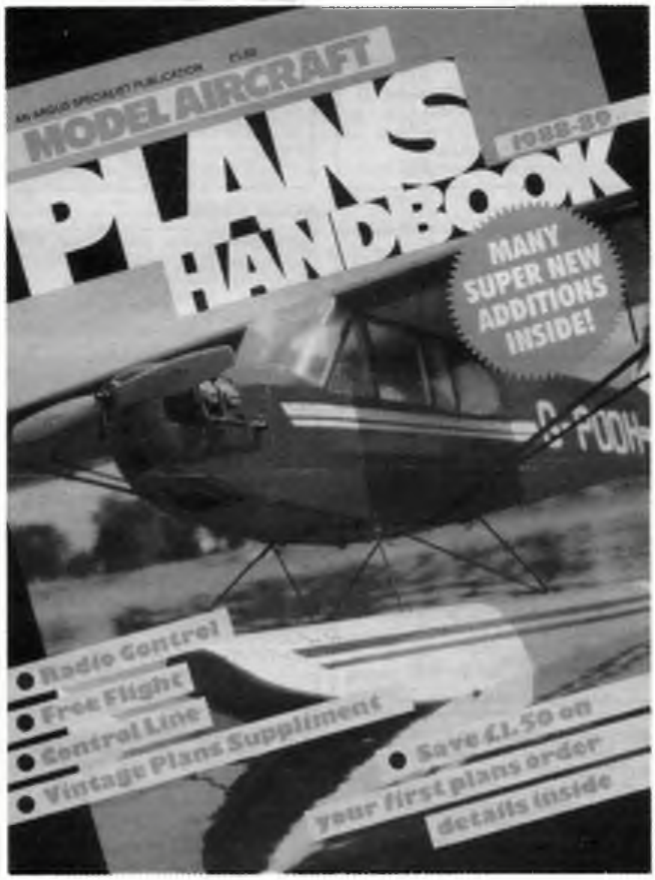

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Further information available from Argus Specialist Exhibitions, Wolsey House, Wolsey Road, Hemel Hempstead, Herts HP2 4SS. Tel: 0442 41221

Appendix - Links to the plans

The issue comes with two free plans (Little Kid, The Littlest Vagabond) printed front/back on a pull out banner of four sheets. The banner is not included in the document.

Little Kid Old Replica by Peter L. Spence
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https://outerzone.co.uk/plan_details.asp?ID=3211 ...
Document Page: 23

The Littlest Vagabond of All by Tony Brookes
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