

Free Flight news



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DIARY

July 10-11 Salisbury Plain	FF Trimming. Send SAE to Bernard Aslett, 25, Honeyhill, Wooton Bassett, Swindon, SN4 7DX to get on Army security list and obtain site map; essential to phone Peter Tribe 01225862748 on Friday before.	July 25 North Luffenham <i>Note re-arranged for this new date</i>	Brumfly Gala. OIP, OIR, O/G, F1J/ ½ A, Cdh, A1, SLOP, Mini-vintage, HLG and Catapult Glider. Start time 9am. Open and mini-vintage will be 3 flts; Cdh, A1 and F1J/½A 5 flights. No rounds, no flight line. Field charge. Competitors must carry BMFA card at all times. Contact: Stuart Darmon 024 76 678520 after 6pm.
July 11 Church Fenton	Morley Classic Power Day. Nostalgia/Classic power. In rounds and with runs and maxes to suit the conditions. Different models may be separate entries. Also supporting Northern Area Mini League event. SPECIAL NOTE Start time afternoon. 3pm expected and hence finish time will be late evening. CD and contact: S Fielding, 01274 493080	July 25 - Aug 1 Buzau, Romania	European Championships F1A, F1B, F1C plus Buzau Cup World Cup F1A F1B F1C on July 31-Aug 1
July 11 Near Sheffield	BMFA F1E. Contact & CD Steve Philpott, 0121354448	July 30 - Aug 1 Beauvoir-sur-Niort, France	Azay Le Brule Inter. F1A, F1B, F1C, F1G, F1H, F1I, F1K. Contact: A Trachez, 20 rue du Grand Port, 79000 Niort, France, tel +33 6 0857 3550, e: andre.tracheZ@laposte.net
July 16-18 Odesa, Ukraine	Odesa Black Sea Cup / Moldova. World Cup event F1A, F1B, F1C, F1G, F1H, F1J. Contact: O Stoev, Str. Marazliyevs'ka 34-a, Odesa 65014, Ukraine, tel: +380 482 210545, email: odessa_cup@farlep.net	July 31-Aug 1 Salisbury Plain	FF Trimming. See July 10-11 entry.
July 17-18 Borden, Canada	Huron Cup. World Cup event F1A, F1B, F1C. Contact: Jerry McGlashan, RRI 372 6th Cone Rd, Clear Creek, ON NOE 1 CO, Canada, tel: +1 519 875 2734, email: rggmcg@sympatico.ca	August 1 Newcastle Town Moor	Tynemouth Mini Rally. 11am to 5pm. Comb BMFA ½A + British Power, Comb F1G + Mini Vint Rubber; F1H (3x2 mins), Combined HLG + Cat Glider (5xl min). Reduced maxes, D/T fly offs depending on weather. No thermal detection devices. Contact: B Martin 0191 4161096, email brian_martin_uk@hotmail.com
July 18 N.Luffenham	BMFA Summer Mini + Walsall. F1H, F1G, F1J/ BMFA ½ A, P.30, E30 HLG, Mini-vintage, Catapult Glider, SLOP C02,	August 5-7 Noize, Thouars, France	Poitou. World Cup event F1A, F1B, F1C, F1G, F1H, F1J, F1K. Contact: A Roux, t:+33 549666107, contact@poitouaero.com
July 24-25 Salisbury Plain	FF Trimming. See July 10-11 entry	August 6-8 Stalowa Wola, Poland	Summer Cup. World Cup event F1A, F1B, F1C. Contact: R Radwanski, tel: +48 15

PETER HARRIS

By Graham Walker, Birmingham MAC

On Sunday, May 30th, whilst competing at the British National Championships, Peter Harris was fatally struck by lightning. Pete was a member, for many years, of Birmingham Model Aero Club, and one of a group of predominantly free-flight power flyers from the Midlands. Birmingham MAC is less a formal club, more a group of friends, who have known each other and their families for many years, making his loss deeply felt by his clubmates. Pete was keenly competitive, but in a quiet and sporting way, and had achieved success in his sport over many years. Indeed, he was due to represent Great Britain, as he had in the past, later this year at the European Championships.

Pete was taken from us whilst competing in the sport he had loved for most of his life, in the company of his clubmates and fellow competitors alike. He will be sadly missed by free-flyers at home and abroad, but deeply mourned by his clubmates, who will miss his slow, easy smile, his dry sense of humour, and his willingness to 'go that extra mile' to help his fellow flyers. Pete was a gentle man.

Our sincere sympathies go to his wife, Doris, and to Jill and Steven, his children.

And a note from Doris Harris.

I would like to take this opportunity to thank everyone for their support since the tragic accident of my husband Peter. It is impossible for me to thank in person the many people who have sent lovely letters and cards of condolences at this sad time.

Thank you also to the people who accepted my invitation to attend Peter's funeral and those who came long distances from around the UK. I would have liked to have invited more as the number of flyers who knew and respected him as a person and for his flying prowess was numerous beyond belief.

When I first met Peter in my teens I shared the love of model flying with him and in those days there were more competitions and the venues were shared with Combat and Radio control competitors so it made a good day out. Sadly over the years flying sites were lost including my favourites, Wellesbourne, Cranfield, Chetwynd (this was my favourite for picking blackberries with the children). As the children grew older and Sundays for me was spent making sure homework was done and everything prepared for school and the fact that I was now back at work myself I took a back seat in Peter's hobby and at this time he had become friends with Stafford Screen and Roger Baggott and the three of them started travelling together to competitions and of course on many occasions jostled for first, second, and third places.

At this point I would like to thank both of them for being there for me and my family especially that dreadful evening when they informed me of Peter's death, I should think that their journey from Barkston to Kidderminster to tell me the bad news must have been horrendous for them and without their help and kindness we wouldn't have coped at this time.

I wish everyone in the team to Romania in July lots of luck and couldn't have wished for anyone better to take Peter's place in the team than John Cuthbert. Peter and John had travelled abroad together to competitions on many occasions.

FAI ELECTRIC FREE FLIGHT

By Ian Kaynes

Back in December we reported on the existence of a USA proposal to CIAM for an electric free flight class, but failed to publish it in FFn as had been promised. The proposal, with suggested FAI class name F1Q, had not been formally submitted for CIAM voting at the March Plenary meeting, but it has been used as a starting point for discussions in the CIAM FF Subcommittee. This has not lead to a clear view of the way ahead and it is appropriate to positively request views from the FF population in general.

First, here is the proposal and the supporting comments from USA. The reasons for consideration in putting forward electric were stated as:

- 1) the immediate access to enabling technology,
- 2) an accessible, identifiable and attractive model class for 'new' flyers,
- 3) an alternative to the haphazard availability of elastomeric propulsion used in other FF classes,
- 4) an alternative to the high cost and attendant hazards of reciprocating engine propulsion FF events,
- 5) a strata of latent interest already within the extended modelling community world wide
- 6) a smooth avenue of relative moderate financial cost for the uninitiated to be introduced to the entire spectrum of the aeromodeling sport with subsequent access to more advanced FF events or the engagement of RC classes, and
- 7) a world wide dearth of traditionally huge flying fields required for the more ambitious FF classes (F1Q is a 'silent' event).

The intention is the class to be complimentary to the internal combustion and rubber powered FF variations that have been around since the inception of the CIAM.

It is understood that the world wide model airplane 'cottage industry' will be amplified by introduction of such an event. The estimated cost of an average model of the F1Q type would be ~\$400 scratch built or maybe ~\$700 prebuilt in, say, Eastern Europe. Current electric Free Flight models are crude and the class will undergo a great deal of development over the next few years.

USA Proposal for Electric-Powered Free Flight

The model is powered by an electric motor(s).

The motor(s) are powered by a set of batteries weighting not to exceed 120g.

Folding propeller(s) are required.

Minimum loading: 12 g/dm²

Engine run: not to exceed 20 seconds, timed from the instant of launch to the folding of the propeller(s).

Max: 2:30 minutes.

Number of rounds: 5

Flyoffs: reduce the engine run by 5 second increments down to 5 seconds while retaining the max.

External batteries are required to have a safety tether to the fuselage.

Implicit:

- No restriction on the type and number of batteries.
- No limitations on motor(s) types, gearing down, auto surfaces, timers or control units.
- No builder of the model requirement.

USA supporting comments:

The power supply and engine run are based on AMA A-class requirements. AMA restricts the batteries to NiCad cells as well as their weight and count. Although NiCad cells are at the present the best choice due to their low internal resistance and high rate of discharge, the optimal technology might change in the future. It was also felt that Lithium-Polymer batteries might be optimal for smaller models in this event.

It has been illustrated that a 6 pack of NiCad cells, each weighing 18 grams, stores sufficient energy for a spirited 20-second climb. Shorter motor runs can extract more current. Models climb faster than a typical F1B during cruise, and can reach an altitude of 60-70 meters. Auto surfaces would not seem to offer a decisive advantage.

The minimum loading of 12g/dm² is a FAI standard. One fine flying US model has a total area of 615" (39.67 dm²), a 55" wing span and weighs 504g (18 oz), with a loading of 12.7 g/dm². The batteries and motor weigh about 9 oz. This particular model has a very light balsa frame with touches of carbon.

Electric power free flight models can be flown on noise-sensitive sites. A unique facet here is the motor is to be timed visually, cued at the instant the propeller(s) fold. The motor is timed from the moment of launch, so not to create an incentive for delayed motor starts that will be difficult to time. Propeller diameters would be ranging 15-20 inches and their fold is visible from 60 m.

Setting the max at 2:30 minutes and 5-round format allows the event to be flown on small fields. Curtailing the motor run in flyoffs, while holding the max fixed, is similar to the F1K flyoff format.

This class stands the best chance of development if it complements the major FAI events and is flown in conjunction with the mini events, which is why the 5 by 2:30 contest format was selected.

International activity

As well as the USA proposal, several countries have or are developing electric classes. The UK rules for open electric and E30 have been discussed in this pages – see comments by Dennis Davitt in this issue.

France has instigated an electric class which uses F1A flying surface area with the following rules:

Projected area 32 to 34 dm²

Maximum loading 50 g/dm²

Motor maximum type 480, brushless motors not allowed

Maximum battery 7 cells 1.2v Nicad or NmH

A standard auto 15A fuse must be included

Prop directly driven from the motor, no gears allowed

Maximum motor run 25 sec, duration maximum 3 min

One reason given for the F1A specification size of flying surfaces was to be able to use F1A wing and tail to save time in the building the first model. It was decided to limit the power of the engine (Type 480 without gear) for keeping a "reasonable" price. It is estimated that this model should climb to 70 - 80 metres with a maximum engine run of 25 second. The event is planned for the nationals at the end of August. A second step plan is to create a "2 minutes max model".

In Finland Ossi Kilpelainen reports that last autumn he fitted electric equipment from a popular park RC-model Pico Stick (engine with plastic gears, NiCd cells 7.2 V / 250 mAh,

mechanical timer, total 80g) to a Wakefield collected from old parts, when we used 40g motors. The model weighed 233 g. It could be close to a "2 minutes max model". It makes suitable height for 2 minutes max in about 40 s. But it would be more attractive with a little more power.

Discussion

There are some basic questions as to the type of model we need:

- equivalent to full FAI models, i.e. F1B/F1C, flown on large fields to 3 min max?
- equivalent to mini classes and flown to 2 min max on smaller fields?
- models for both categories?
- a class pitched at intermediate level not related to existing distinctions (e.g. the USA proposal for a 2.30 max mini) ?

There are obviously arguments for and against each approach. With the small support for F1C it would be good to have a full class model (ultimately a replacement???) - but setting lower performance nearer to the 3 min max than the excess performance of F1B and F1C models. This would make it more practical for typical fields to encourage more people to try it, but on the other hand a mini model designed for 2-min max can be flown on smaller sites. A smaller model is not very impressive compared to larger models and this might limit the attraction to power flyers.

I asked UK expert Trevor Grey for his views on the USA proposal and he supplied a good review and alternative suggestions, from which I will quote during the following discussion of specific aspects of the rules.

Motor limit

The fundamental consideration is whether to limit motors to brushed type or to allow brushless motors. The latter are more expensive, need control units, and provide more power. In the radio control application there is no doubt that these give a very satisfying model - more power, more like IC performance, longer flights, etc. Some people comment that FF should go the same way because that is the best technology available. However, we are not wanting to establish the greatest possible performance, we want the most satisfying free flight competition class. A brushless motor could allow spectacular performance to equal or exceed current F1C models - with all the problems that implies, and achieving those problems with a different form of motive power seems rather pointless. Limiting to brushed motors provides one limit on performance while also allowing cheaper motors and simpler systems.

Trevor Grey notes that an additional safety requirement is to have a safety lock so that the motor cannot be restarted unintentionally after shutoff, to avoid accidents during retrieving or to members of the public.

Battery limit

It is a good idea to have a battery weight limit for easy processing compared to quoted battery types and capacities. One consequence of this could be that it forces a move to more advanced or expensive batteries. With the technology changing very rapidly it would seem better to have a weight limit rather than freeze the model to specific battery types - for example NiCd cells represent old technology and low cost and performance but are likely to be banned in future on account of the environmental aspects of their component materials. No restriction on battery type would push towards modern batteries such as Lithium Polymer. There have been some comments about the potential danger of these batteries but it

seems that there is no problem as long as they are handled and charged in the correct way for that type of battery.

Trevor Grey noted that: "At the moment the maximum allowable size pack in the UK (7 x 500mAh cells) weighs approx 135 grams including its own wiring and connectors — i.e. not the model's wiring and connectors. We are trying to 'increase' our power levels at the moment so I would suggest 140 grams would be better. Second, defined weights should specifically 'include' all the attached wiring/connectors, again to prevent processing arguments. If you want to save weight then you can do so at the risk of power loss." In Trevor's rule suggestions he proposes 100g battery limit for a 2-minute model.

The fuse used in the French rules, in addition to battery capacity limit, provides a cap on the possible climb rate, but there have been some discussions on how accurate a common fuse is for providing such a performance limit

Motor run

A motor run is required as a limit on performance, which can be easily reduced as performance develops (sounds familiar). The major question is how to time it. The USA propose timing until the prop folds and says that this would be visible at 60m. However, many countries have to fly in wind and the model is a lot further away than just its altitude, making prop fold difficult to see. Other options, also subject to some doubts, are to watch model attitude or time demonstration runs on the ground.

Minimum loading and model size

The low minimum loading requirement in the USA rules would seem unnecessary - it is reminiscent of the minimum weight in F1J which is now lower than the weight of any practical models. The related question is whether to specify area like the French rules and like F1A and F1B, or to allow designers more freedom like F1G by not imposing limits. The latter freedom allows the competitor the choice of going for a fast climbing small model or a slower climbing large model with a better glide.

Max and number of flights

The USA proposal calls for unusual maximum and number of flights compared to regular FAI classes. There is no reason not to go a different route with a new class, but some of the considerations relate to the first question raised of whether the target is a full or mini FAI class.

Flyoffs

The USA proposal calls for flyoffs with the motor run reducing 5 sec each round while retaining the standard max. This obviously avoids the long distance and difficult visibility commonly associated with the conventional increased max in the flyoff. It does provide a different challenge to the flyer, but experiences with the F1C reducing run flyoffs during the 1970s were rather mixed.

Conclusion

There is the possibility to introduce a new class which avoids some of the problems with current models, such as excessive performance for the fields restricting performance by high weight handled, and could attract widespread interest as a clean, exciting, interesting and relatively cheap. Please let me have your comments and suggestions on the various options discussed. A target is the submission of provisional rule proposals for the CIAM 2005 Plenary meeting.

THE BRITISH TEAMS FOR ROMANIA

This year, unfortunately, we have a less-than-complete picture of Britain's teams for the forthcoming European Championships. Initial delays in the FFn system, for which we apologise, plus (we assume) some long holidays and/or very full diaries, have resulted in us receiving thoughts from only six of this year's team.

Martin Dilly is in his first team after years, indeed decades, of team managing:

I currently have six bunters. Four have the B6356 airfoil and the most recent two use the M&K airfoil. Five are my basic 2.1 metre Billy Bunter design, with the two different airfoils, and there is a 2.3 metre model with the Benedek airfoil. Mike Fantham pointed out that the front 25% or so of both airfoils is almost identical, and suggested that the less than inspiring performance of the 2.3 metre model could be improved by removing the existing rear ribs and replacing them with the M&K section onto the same D-box. Meanwhile I have built a new and lighter fuselage for the long wing, though still hope to have time to upgrade the wing as well.

All the models were built by me, as was most of the metalwork, including the timer in one case, though I did draw the line at cutting the gears and used a normal Soviet grenade fuse/camera timer mechanism instead. Some towhooks are Denkin-built, some the M&K type and one is my own, based on the M&K. All the models use my own carbon moulded front end, and all taco shells except that of the long-winged model are my own, vacuum-bagged onto a male mould. The first bunter used a Kevlar D-box, the next a carbon one, and I then standardised on one layer of Kevlar with a layer of 93gM2 carbon on the outside. The latest D-box uses carbon/Kevlar hybrid on the inside and carbon outside.

The wing ribs on recent models have been diamond-sawn from a laminated carbon-clad block, as described in the 2003 BMFA Free-Flight Forum Report (price £9.00 from M. Dilly...) and this certainly simplifies wing assembly.

Covering on the original Billy Bunter, built in 1994, was Salzer tissue, but a line cross at this year's Nats with a competitor whose determination to accelerate for a launch rather than consider helping to save the other model hanging from his line caused some pretty major damage, and a week or so was needed to repair it. The rebuilt wing will probably use Micafilm, with which most of my gliders are now covered. However, the most recent M&K airfoil model uses Ikarex, which I found very user-friendly and will certainly use again.

All my models use Biotrack, though instead of the small fishing float lithium cell, I use a 2032 cell in a coin cell holder, with the contact interrupted during transport by a plastic strip attached to a Remove Before Flight flag.

Sprint speed is not my strong point and I look forward to light breezes at Buzau. It will be interesting to work on a team at the other end, so to speak, after having managed the UK one for 20 years or so, and I wish Jim Andrews the best of luck as this year's manager. We look like having a bit of a retrieval problem, though, with only a single supporter booked for the trip. I've always enjoyed Romania (well, maybe not that first time at Pitesti, downwind of the oil refinery), and it does rather surprise me that some nations are not keen to compete there.

Mike Fantham is back in the team for, surprisingly, the first time in ten years. He qualified for the 1994 Euros in Ukraine and flew in the '95 World Champs in Hungary as defending champion:

My current four models are as follows –

No. 15 This is the '93 winner. No longer 'the white model' I recovered it in Micafilm with my 'red with black and white tips' scheme and it's going as well as ever. It has a new lighter tail and weighs 6 grams less than it did in 1993. Outline details are as follows: 447 grams; 2157 mm span; 4.5 sq dm tail; Kevlar/carbon bunter, no wing wiggler. Estimated dead-air time 220 secs.

No. 16 The '95 model, with 2135mm span and the same section as 15. 4.0 sq dm tail; 434 grams; carbon bunter; two position wiggler. Estimated dead-air time 250 secs.

No. 17 Finished February 2003. New '93 style wing and tail on 1989 zoom fuselage first flown at the 2003 Max Men. Zoom model, no wiggler; 433 grams. Estimated dead-air time 205 secs.

No. 18 - My first 'bought' model. I covered the wings in my own scheme, added a beacon and ballasted for CG and total weight at 413 grams. This is a Victor Stamov 'long' model, with one servo electronic bunter. Carbon/carbon; 2130mm span; 3.5 sq dm tail. Estimated dead-air time 275 secs. (I actually got to fly it to the ground seven times on the same morning in early April this year!)

In trying to make a comeback over the last couple of years, I have had to face the fact that my weakness for ages has been my dead-air time. My 1965 Wichita section is a bit past it now – it's fine in lift but not for dead-air – and a four minute max is, at best, only just possible for me. A different section (Stamov 'long' was selected) would have meant new jigs for the undercamber board and new 'D' boxes moulds and, without Joe Maxwell, I didn't feel I had time to build the jigs AND a new dead-air model. It was a big decision to start buying after all these years. I started thinking hard on January 1st this year and just a week later ordered the new Stamov 'long' model.

My weak point now became a 'wind' model. I decided to make a three-position wiggler bunt fuselage for No 17's wing and tail but I ran out of energy/time to do all that myself as well. I saw Russell Peers at the Nats to consider buying an M&K tow-hook and three- position wiggler to save time. I ended up buying an M&K front end but still planned to use a Carter boom, with my own back end bits. Russ let me take away an M&K boom and their back end ironmongery. ('In case you need them - pay me for what you use...') I've used nearly all of it, so my thanks to Russ. The fuselage has a clockwork timer and a three-position wiggler. This will make No 17 weigh 413 grams and have a dead-air performance in the 230 secs range. It will also be more manoeuvrable for use in the wind. It's nearly ready and its first flight will be [Or now, hopefully, was... Eds] in late June. A bonus is that the wing and tail set up will go straight back on the zoom fuselage at any time if needed.

I refurbished No 15, the '93 model, in January/February in time for the 'Max Men' where it got its second 'first flight' at Lost Hills, 10 years and 4 months after 'that' fly-off. I flew 23 flights with this model in California, including using it in the contest. I also had 20 flights with the others, my first flying since October 2003. Since then, for me, I have done a lot of flying, 138 flights in total over 14 days. The electronic bunter is going well and has had 31 flights, including its first contest flight, a 4 minute max at the first Trials. It gave me a lot of confidence in that situation. It flew 'straight off the board' and I didn't change anything for the first six flights. I've had a fiddle with it now but the glide is back where it started and I have yet to change any rudder or wiggler settings.

Everything is going well apart from my fitness. I've had a minor health problem for a few months but it always seems to abate when I get a towline in my hand and, in any case, it now seems to be passing.

Keith Chamberlain will be taking five Wakefields to Romania:

I've got two of Russell Peers' Head Beagle designs – they're the one I used at the Trials – plus three models bought from Andruikov earlier this year. I decided on those partly because, obviously, they're extremely good but also because with Russell and Mike Woolner flying them, there's some accumulated knowledge that I can draw on. All five models have DPR.

The only thing I had to do with the Andruikov models was replace the lines, which were so tight, maybe due to temperature changes, that they were bending the boom. What's more, the ends were no more than loops of nylon and were fiddly to use, so I've replaced them with something a bit more substantial and practical.

I've got four boxes of Tan II, two from October 1999, one from August 2000 and one from May '02. They'll all be made up into motors and will all be going to Romania.

A few thoughts from **Russell Peers**, who is in his twelfth team, though he missed out in both 2002 and 2003:

I had a good World Cup run in 2003 so with my wife's encouragement I decided to use the 2004 World Cup to get match fit. I've done seven international contests to date and so far it's going pretty well. I'll be taking several variation on the Head Beagle design to Romania of course, and rubber preparation is OK despite the fact that this year I've already used more than 60 Tan II motors. Talking of 60, this will be the first international championships that I'll fly as a 60-year-old! I hope to have a few more competitive years to come...

From **Peter Watson**:

I will be taking five F1C models to Romania, but am not sure which ones they will be. The final decision will be based on the results of any trimming that may be done before departure.

I have three geared engine models, one with a Verbitsky engine, and two with Nelson Hummers. I still don't feel truly confident with these models, and really need to do more trimming/testing with them. I have suffered the full range of engine and vibration-related problems with them, but these are gradually getting resolved.

I have several conventional drive models, varying between 2.2 metre and 2.6 metre span. The 2.6 is the best of them, but I am much more comfortable launching the 2.2 if it is windy, so they will probably both go on the trip.

Finally, a few thoughts from **John Cuthbert**, who has joined the team at the last minute to replace Peter Harris following the appalling fatal accident at Barkston:

The circumstances that have resulted in me going to Romania to fly F1C are very sad and painful for me. I feel compelled to go and replace my dear friend Peter Harris after his tragic death, to try and compete to the best of my ability in remembrance of him and the great times we spent together. And also to support the other two members of the F1C team who are equally affected by Peter's death,

I had only one F1C model left after giving up the class after last year's World Champs in Hungary, this being my usual Verbitsky equipped model with Hummer geared engine. But due to the generosity of my good friends Frank Rushby and John Carter, who are lending me back some of my previous models, I hope to be equipped with four geared F1Cs for the Champs. I know I will have Peter's spirit with me on the flying field and this will spur me on to do my very best for him, the rest of the team and of course my country.

TROPIK F1A

Ron Borg writes:

Tropik is an F1A model for people who cannot afford expensive ready made models and like to build things with their own hands. Main designer is Lars Larsson of Sweden several times Swedish national freeflight championship winner and member of Swedish F1A team member in world championships. It is aimed at people with some building experience or beginners under guidance by an experienced builder. It can be equipped with straight tow hook or circle tow hook and has been test flown with these.

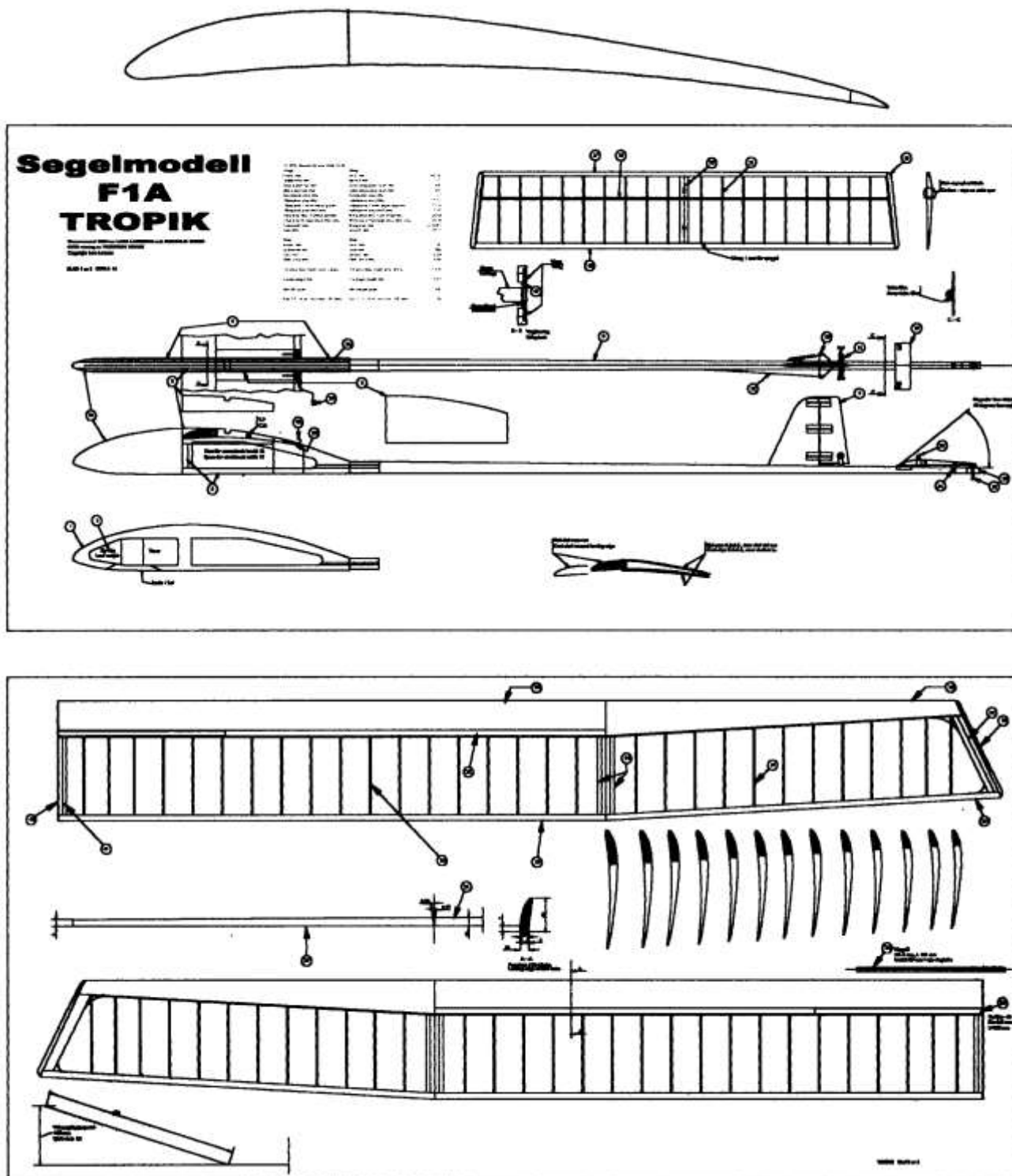
A limited number of kits have been produced. The kits are very complete, with carbon glove, capstrips and wing jig except for

glue and dope. Circle towhook is not included but a straight hook can be included if wanted.

For further information contact Ronald Borg at: Bergkullevägen 41, SE-461 55 Trollhättan, Sweden, tel: +46 520 705 30, email: ronald.borg@swipnet.se English, French or German can be used for communication.

Alternatively contact Lars Larsson at ffservice@swipnet.se

Ed: The print of the plan of this model is included as an indication of the kit design, not the usual amount of detail we would like to present in FFn for full model definition.



TACA VON HAFE, BEJA, Portugal, June 5-6

F1A 4 flew

1	J Carter	GBR	1250
2	B Pereira	POR	1243

F1A-Junior 0 flew

F1B 4 flew

1	R Peers	GBR	1260	+126e
2	M Woodhouse	GBR	1244	

F1C 0 flew

NOVOHRAD CUP OF SLOVAKIA, TASS, HUNGARY, JUNE 5-6

F1A 42 flew

1	C Bachmann	SUI	1260	+60e	+267
2	R Holzleitner	AUT	1260	+60e	+258
3	A Szekelyhidi	HUN	1260	+60e	+233
4	P Boer	NED	1260	+60e	+225
5	H Fuss	AUT	1260	+60e	+210
6	F Kerner	HUN	1260	+60e	+206
7	R Ceresnik	SVK	1260	+60e	+197
8	Z Lenartowicz	CAN	1260	+60e	+148
9	F Wutzi	AUT	1260	+48e	
10	A Sulisz	POL	1260	+1e	
11	P Kuikka	FIN	1259		
12	D Krasznai (J)	HUN	1256		
13	M Grueneis	AUT	1246		
14	J Bodo	HUN	1240		
15	M Bucko	SVK	1237		
16	P Nosko-Jr	SVK	1236		

F1A-Junior 10 flew

1	D Krasznai	HUN	1256
2	M Eros	HUN	1233
3	I Szentpeteri	HUN	1208
4	K Maczko	HUN	1161

F1B 11 flew

1	I Kolic	SCG	1260	+120e
2	A Bukin	UKR	1260	+72e
3	M Varadi	HUN	1260	+63e
4	I Kocsis	HUN	1260	+15e
5	J Krasnai	HUN	1254	
6	Y Waltonen	FIN	1247	

F1C 10 flew

1	J Szecsenyi	HUN	1260	+101e
2	M Roman	POL	1260	+83e
3	C Gretter	GER	1216	
4	R Szabo	HUN	1210	
5	R Truppe	AUT	1132	

37TH MEMORIJAL DJ ZIGIC, ZRENJANIN, SERBIA AND MONTENEGRO, JUNE 19

F1A 13 flew

1	Z Zivkovic	SCG	1260	+60e	+233
2	R Bohuslav	CZE	1260	+60e	+147
3	M Bordjoski	SCG	1260	+6e	
4	R Koglot	SLO	1232		
5	M Omrcen	CRO	1208		
6	S Mutic	SCG	1198		

F1A-Junior 0 flew

F1B 6 flew

1	B Lacimic	SCG	1260	+75e
2	I Kolic	SCG	1053	
3	D Sokolic	CRO	812	

F1C 2 flew

1	G Zsengeller	HUN	900
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NAPOCA CUP, TURDA, Romania, June 17-18

F1E 38 flew

1	M Popescu	ROM	500.00	+251
2	F Draghici	ROM	500.00	+215
3	C Popa	ROM	500.00	+148
4	A Ciobanu (J)	ROM	500.00	+78
5	E Pop	ROM	494.00	
6	S Kubit	POL	490.00	
7	D Petcu	ROM	487.66	
8	J Orel	CZE	479.33	
9	R Corodea (J)	ROM	474.99	
10	D Bildea (J)	ROM	471.33	

F1E-Junior 13 flew

1	A Ciobanu	ROM	500.00
2	R Corodea	ROM	474.99
3	D Bildea	ROM	471.33

TURDA CUP, TURDA, Romania, June 18-19

F1E 42 flew

1	F Mang	AUT	500.00	+96
2	V Zima	CZE	500.00	+81
3	D Petcu	ROM	490.66	
4	D Bildea (J)	ROM	481.00	
5	J Chabot	FRA	477.66	
6	M Bebeselea (J)	ROM	477.33	
7	S Vintileanu	ROM	462.99	
8	M Popescu	ROM	461.00	
9	A Moisesescu (J)	ROM	452.65	
10	J Orel	CZE	446.66	

F1E-Junior 16 flew

1	D Bildea	ROM	481.00
2	M Bebeselea	ROM	477.33
3	A Moisesescu	ROM	452.65

SCOTTISH EVENTS, NEWBIGGING, MAY 8-9

Report from Jim Arnott.

Classic Power Event, May 8

There was a disappointing number of flyers for the Classic Power event on Saturday despite the very good weather conditions. The light breeze swung back and forth between Northeast and Northwest throughout the day, and there was pleasant weak sunshine intermittently. The max was set for 2.30 from a 10 sec run, mainly to minimise the risk of trees in the variable wind direction. Our rules require that the model be entered rather than the flier. A competitor can therefore to enter multiple models if he wishes, but cannot substitute a second model if the original cannot continue. Alan Brown and George Blair both took this option and thus feature twice in the results. The weather broke at flyoff time, and with a stiff east wind straight to the woods, the contenders were happy with a 5 sec motor run decider.

1	A Brown	7.30+1.56	Dream Weaver	Paw19
2	G Blair	7.30+1.10	Gloworm	OS19
3	J Arnott	7.12	San De Hogan	OS29
4	A Brown	7.08	Americano	Veco 19
5	G Blair	6.36	Dixielander	OS 15

Steel Cup - combined F1A / F1B event, May 9

The easterly breeze was seldom more than 10 mph and it was dry all day to give excellent conditions for the Steel Cup. There were 10 entries and a surprising balance of eight F1A against two F1B, the latter of which should have a clear performance advantage. There was plenty of lift around but also some pretty nasty downers, as Chris Edge and Jim Arnott

found when flights that looked well set for a comfortable max were dumped in 2.10 and 2.13 respectively to spoil their run of maxes. Ron Sabey and Brian Martin completed their full house of five maxes. In the fly-off Ron zoomed his Junior F1A perfectly into patch of light lift and the model climbed steadily away to d/t down from some 400 ft for an excellent 6.42 time. Unfortunately, Brian did not manage to get his model away in the slot.

1	R Sabey	12.30+6.42	F1A
2	B Martin	12.30	F1B
3	J Arnott	12.13	F1A
4	C Edge	12.10	F1A
5	P Martin	9.33	F1A

OXFORD RALLY PORT MEADOW JUNE 19-20

Report by Dave Hipperson

The now traditional mid-summer comp on Port Meadow was not quite as well attended as some previous years. Possibly too many people are being duped by the generally pessimistic nature of our weather forecasting. Rain was predicted and we got it but there is a great difference between a short isolated summer shower and all day precipitation. Port Meadow for most of the time had pleasant sunny conditions with breezy turbulence but always in a convenient direction.

This was especially so for the Saturday night's events. Rather cool and with a fresh Northerly taking models absolutely down the full length of the field and there was probably room enough for 5 minute flights. Not that anything as long would be necessary to weed out the field as the turbulence made lift picking all but impossible but thankfully was never severe enough to put models into the ground which on past occasions has been the case!

With the CD Andy Crisp still busy playing his drums at a posh wedding in Blenheim Palace the tricky job of getting the contest started fell to Sue his wife who managed it perfectly with Andy eventually arriving still in his fancy clothes - most impressive! The max looked easy on paper but those not experienced of Port Meadow should realise that turbulence caused by the close proximity of huge banks of trees upwind creates a very difficult flying arena in anything but a calm and this wasn't. The truncated maxes were perfectly sufficient to weed out the field although it has to be said Dave Greaves's last flight, perfect trim and flying quite stably found what could only be described as the ultimate hole. It compressed the climb and then seemed to swallow up the glide and have his model back on the ground in little over a minute! By the end of this evening the air was really very cold for the time of the year and we were looking forward to some sun to warm up the proceedings the next day.

We got it. Typical Oxford Gala weather. Sunny with a breeze from the West but never severe and both turbulence and lift quite benign. This considered then the 1.30 max was rather shorter than it need have been and guaranteed sizeable flyoffs in most classes. The exceptions were the close finishes in both the retro-glider events which had respectable performances right down the list. Rodney Kenward flying his Caprice - which dropped its few seconds in the middle flight - all done quite early on. Mention should also go to top lady Kathy Best who was really still trimming her blue and white Inchworm but managed a good score including a late final flight max which most watched as few would have chosen to fly in that piece of weather!

Bill College continued his form from the night before with his catapult model to deny Ball a win with his HLG. Some of the latter's flights were made with his large 'discus' launch model

before it was broken. Contrary to some of the doom mongers the launches looked entirely safe, controlled and consistent - indeed from a distance difficult to differentiate from a convention release apart from the use of a much larger airframe. Blink and you missed it.

The 10 mph drift had not slackened for the flyoffs but the shower that hit midday at least this year left the direction unaltered with no repeat of the annoying move that had to be made at this stage last time. The names in the finales were those that might have been expected apart from a number of missing regulars. It was very disappointing not to see Johns White, O'Donnell and Bailey, nor the excellent Peterborough HLG flyers who last year put on such a good show. Not really as many quality entries as this well run meeting deserves.

It was a 5 minute slot for the flyoffs. Such a short period is fine for launching but rubber models have to be wound up and a blown motor can take longer than that to fix so sensible people were winding long well before the signal. Your reporter had already wound a reserve model before he wound the one for the flight and that too was 5 minutes early! Dave Greaves on the other hand was caught out by this and didn't get away in CDH and others in this class and Vintage also cut it fine.

The AI flyoff didn't happen as the two tied men called it a draw! Coupe d'hiver on the other hand was exciting with George Sharp bravely risking an early launch into air that looked stable but unexceptional until half a minute into the climb when the model was ascending faster than it had been at the start. Even the glide gained height and he was away for a big one with the rest of the field scrapping over the remnants of more turbulent lift that followed. Challis hit the centre of something then mysteriously DTed after 2 minutes! Stringer's model fell on its back as the VIT came in and lost precious altitude in a huge stall. Vaughn and Hipperson were in the air at about the same time. The former with a good climb the later with a very wandery power trim that took him out of the good air for too long eventually gliding back in then stalling out again. Only Sharp went out of the field and a long way into the town. The model's signal could still be heard on the field such was the height of the Leylandii in which it chose to come to rest.

Trevor Grey continued his march across the Electric classes - hasn't lost one yet this year! His model as usual took its time to start a real climb but when it did was impressive. His flight in quite a breezy patch and even with a long leg downwind at one point was still only just out of the field and also in a tree. This day the P30s were no match for the electrics and Lang and Brigginsshaw (who also DTed early) brought up the rear.

Mini Vintage rubber was just as good. Strachan flying a Hep Cat to produce a flight not unreminiscent of his last year's win with a Scram. He too was still searching at about Sharp's distance late that night. Pete Michel was most unlucky. His Jack North lightweight climbed sensationally and was away when a stall broke out. It didn't get worse but came down - still a big time - when without it it would undoubtedly have gone up!. Sharp's third place effort was made under Michel's model and although the Senator climbed very well its descent on trim and in reasonable air was no slower than Michel's model stalling off to one side and in gentle lift! Indicative of the air he was in the model went no further than half way across the field in over 4 minutes.

Of course Andy and Sue presented the usual array of pottery of their own creation and this was augmented by wine for the top two placers. All entirely satisfactory - even the cows hadn't been as much of a nuisance as they can be. Excellent comp. Everyone should be there.

Saturday 19th (Short evening contest)

3 flights. 1.00, 1.30 and 1.30 maxes

HLG/Cat Glider combined

5x1.00 max	
1 W College	3.42
2 P Tolhurst	2.26
3 L Marks	2.05
4 S Willis	1.43
5 A Crisp	1.35

Coupe d'hiver 7 flew

1 D Hipperson	4.00
2 P Owens	3.33
3 D Greaves	3.32
4 S Willis	3.24
5 R Vaughn	2.41
6 S Darmon	1.57

A1 Glider

1 I Wilkinson	2.05
2 P Owens	1.13

Sunday 20th

All maxes 1.30 some events 3 flights others 5 flights

Coupe d'hiver 21 flew, 7 F/O A1 Glider 9 flew

1 G Sharp	7.30+6.48	1 G Oulds	7.30
2 R Vaughn	+4.29	1 B Lavis	7.30
3 D Hipperson	+3.16	3 M Cook	7.26
4 G Stringer	+2.54	4 J Oulds	6.50
5 S Darmon	+2.24	5 J Cooper	6.32
6 T Challis	+2.22	6 R Heap	6.03

HLG/Catapult Glider comb

11 flew, 9 x1.00

1 W Colledge	6.42
2 P Ball	6.26
3 S Willis	5.25
4 M Francis	4.19
5 L Marks	4.15
6 M Hadland	3.59

Mini Vintage Rubber

20 flew, 10 F/O

1 C Strachan	4.30+7.37
2 P Michell	+4.13
3 G Sharp	+3.39
4 S Willis	+2.57
5 M Kemp	+2.30
6 D Taylor	+2.11

Nostalgia Glider

1 R Kenward	4.24
2 T King	4.13
3 P Tomlinson	3.53
4 K Best	3.39
5 R Woodruffe	3.27
6 D Taylor	2.55

Vintage Glider

1 P Michel	4.12
2 G Smith	3.49
3 R Woodruffe	3.46
4 T King	3.23
5 C Strachan	3.14
6 D Tomlinson	1.31

E30/P30 Combined 7 flew

1 T Grey	7.30+4.36
2 P Lang	+2.23
3 R Briggshaw	+2.19
4 P Ball	+2.16
5 C Strachan	7.29
6 J Moore	7.05

Top Lady Kathy Best 3.39

Gala Champ. Andrew Longhurst 20.27

SCOTTISH NATIONALS NEWBIGGING JUNE 26-27

Report by Dave Hipperson

Given the vast area of moorland available trees should rarely figure at this contest. That they so often do is entirely down to the fact that practical access to this pretty Pentland Hills venue is severely limited and precludes flying over the vast open space except when the wind is in a favourable direction. Best is a South Westerly wind - suprisingly rare in these parts. For this reason flying often has to take place over adjacent farm fields and involves dodging the numerous pine plantations. The opening day of the Scottish Nats was blessed with a South South Easterly which did enable some of the vastness to be utilised. Despite the warm calm sunshine the evening before Scottish weather returned on the morning of the contest. Thick overcast, continual showers and some of them heavy!

Turbulence also played it's hand flying as we were from the Dunsyr to Newbigging Road and in the close proximity of a large copse of trees on an upwind hill - but it was the only place. At least the gliders had a respectable towing area and the top performances in F1A were good. The Vintage flyers seemed to soldier on for longer with most finishing their flights despite the enormous time involved in the mile or so retrievals by foot across the rain sodden moor. Beautifully safe for the models of course with springy vegetation everywhere and not a single member of the public in sight for miles, but very tiring!

The top FAI models seemed to handle the turbulence well and were launching in the slight lulls. At one point it looked that Mike Woodhouse might actually max out in Wakefield! Much of the Vintage entry was made up of power models most noticeable of these the massive flying Pencil of George Blair. A very well finished machine with enough dope on the wing to simply laugh at the rain and a streamlined planked fuselage with a polished black finish reminiscent of Mike Gaster's Gastoves. His maxes were all impressive too. The model, hardly over powered with its ETA 29, still got quite high on the long 20 second run and did it stably. The subsequent glide was superb. Ferer's flights with his Korda also rode the air well and he was only let down by a few seconds dropped off the first flight - his last was DTed short deliberately as he didn't need any more to secure third place. When Hipperson came out for his last flight it was to see Blair produce the flight of the day with his 'Pencil away in lift. The fuse DT had gone out and it wasn't down for at least five minutes but clear to see even without binoculars for much of this time. This unintentional long effort had its benefits as it allowed George to drive around to the road on the North West side of the site and collect it with the shortest of walks. Dave maxed too a few minute later but less spectacularly - in fact the Lanzo Stick was getting thrown all over the place for the first half minute on every flight.

The rain eased off for the one and only flyoff. Hipperson's Lanzo was away first to a steady climb for once and was followed by Blair's power model two minutes later but a short run (14 secs) lost the height advantage. An empty tank was suspected. Hipperson then made the outcome closer still by stalling on the glide from a considerable climb. Had Blair had the full run the contest would surely have been his.

Next morning was as forecast, much brighter, warm sunny but with a stiffening westerly wind which brought new hazards. A substantial line of pines with a dense plantation at one end was about 2 minutes downwind. To clear them the flight had to be in good air so a dropped max was likely to have the double injury of a treed model as well as a spoilt score. Upwind another pine plantation turbulated the 20 mph plus air stream - very difficult! Alan Brown was quick off the mark in power and it was the thing to be. Whilst a number of others made numerous test flights Allan had one and then got on with the contest only to hit horrid air on the first and plop it straight into the wood. By some miracle it missed the trees and landed on the ground! Others were not so lucky. Bruce Duncan lost his Open Rubber model in them on it's first, and Quinn couldn't find his 1/2A after contacting an enormous bump and then gliding straight downwind in it! Whilst searching in the trees Bruce discovered a baby buzzard in distress and thinking it was snagged in wire got hold of it! It was so overjoyed by this act of kindness that it nearly took his finger off with its claws but undaunted he carried it out into clear fields and put it down. Watching it's antics he reckoned it couldn't ROG properly with it's big wings in the grass so he picked it up again (!) and

just at the moment it's parents turned up. Bruce knew it was them because of the whistling noise their wings made in the dive towards him. He launched the baby bird - he thinks it flew off but wasn't sure as he had to hit the ground sharpish. Just at that very moment a slow Open Power model DTed down beside him just to give him another fright! If you ask him he will show you the scars on his fingers!

Phil Ball flew in a very turbulent patch to drop a flight in Open Rubber but just cleared the tree line. By this time people were opting for the 2 minute classes despite the five flights. Coupe was next to impossible in the turbulence. All performances on the other hand were more up to par. Hipperson's ½A produced the goods despite an annoying fault with a motor that didn't want to stop cleanly resulting in some very short runs and one over run and the necessary additional flight that meant more walking!

Early afternoon the rain came sudden and hard and after it a calmer period when a number of people made maxes. Jones, Blair and Brown in power all beautiful flights but it was Brown's last and only the other two's second! They were never to return in time for their third and then came more rain till the end! Ken Gibson had flown his second Open Rubber max many hours before and was slogging back upwind with the model in the downpour only 30 minutes before the end of the comp. It needed drying out – in fact some panels in the tail plane were half full of water! He did it, wound and got away just as the rain stopped and maxed to win the Waukermill Shield. During this excitement many others also tried to finish their flights with varying degrees of success. Ferer flew his fourth in CdH - no time for his fifth and Edge his last two in All to top it by some margin despite falling over at least once!

A frustrating day for many with some not back for the prizegiving and with seriously lost models, however to fly on terrain like this without trackers is extremely foolhardy.

Saturday 26th All maxes 2.30

F1A 7 flew			Open Vintage 7 flew		
1	D Oldfield	10.53	1	D Hipperson	7.30+4.07
2	C Edge	10.44	2	G Blair	7.30+3.24
3	P Ball	9.08	3	G Ferer	7.03
4	A Jack	6.04	4	A Brown	6.11
5	G Gilkes	4.18	5	K Harrison	5.54
6	P Martin	4.04	6	J Arnott	3.17

F1B

1	M Woodhouse	11.14
2	B Martin	9.21
3	T McLaughlin	2.06

Sunday 27th Mini Maxes 2.00 others 2.30

Open Rubber			Open Glider		
1	K Gibson	7.30	1	D Oldfield	3.13
2	P Ball	7.09	2	J Arnott	3.01
3	B Duncan	2.30			
3	B Martin	2.30			
Slow Open/Open Power			A1 Glider		
1	A Brown	6.46	1	C Edge	7.56
2	G Blair	5.00	2	R Sabey	6.39
3	E Jones	5.00	3	G Gilkes	4.31
4	K Harrison	2.30	4	B Shanks	1.53
			5	B Duncan	1.48

½A power			Coupe d'hiver		
1	D Hipperson	8.28	1	B Martin	6.08
2	M Quinn	2.00	2	G Ferer	6.01
3	T McLaughlin	1.02			

5TH FRENCH INDOOR INTERNATIONAL, BORDEAUX, MAY 29-30

Report by Bob Bailey

On receiving the entry forms for the contests a new addition became apparent - Peanut Scale. A 1 hour slot was allocated during what had been customarily practice time. However, on arrival, each table received a copy of the programme which appeared to be the same as the advance programme but wasn't! Most duration events were moved forward with 35 cm senior scheduled to start at 9 am. In fact the slot started 35 minutes later; this was followed by some uncertainty in terms of slot start and finish times which unfortunately persisted throughout the weekend. Flying more than one class became more difficult.

It was good to see more international participation with Gert Brendel from Holland, Lutz Schramm from Germany and a reappearance from Peter Keller from Switzerland in addition to the regular visitors from Spain and UK. This meant a higher standard in F1D compared with previous years.

The weather over the preceding days had been somewhat less settled than had been the norm and the air in the Velodrome was cooler and seemed somewhat more humid. Drift was unpredictable in the mornings but the air was much more settled in the afternoons. This meant, as usual, that the better slots for each class (except F1D) were in the afternoons. I was not happy to be told that I could not launch a flight for F1L in the afternoon slot because the round had finished, apparently without any announcement!

F1D produced the best contest with Lutz Schramm, model looking the most impressive with the smoothest operating VP prop assembly, similar to that he used at the Euro Champs at the Dome. The very wide chord prop blades contributed to very low rpm figures, so much so that most of the Brits are expected to have replica props at the Nats (pointed tips and all)! There were at least 4 midair collisions on the Sunday at high altitude where the space is small, both Geoff Lefever and Ron Green suffering in this respect. I had a setback with a second collapsed motor stick (one in 35 cm) which was an unwelcome shock and the second model never got high enough (too much VP movement) and escaped but with my best time of 31.31. Fabio and Peter gave Lutz a good run for his money and Lutz set a new hall record of 32.59 which used virtually all of the available altitude. Geoff Lefever was close behind in fourth. F1L was a clean sweep for the Brits with Jean Francis Frugoli just missing third overall.

As always, we were all made welcome and, of course, a l'annee prochaine, this time with a difference since next year's Euro Champs are scheduled to be held at Bordeaux in early October 2005.

F1D 15 flew

1	L Schramm	GER	32.17 + 32.59	65.16
2	F Manieri	ITA	31.47 + 32.20	64.07
3	P Keller	SUI	28.51 + 30.00	58.51

F1L 19 flew

1	R Bailey	GBR	21.57 + 18.56	40.53
2	G Lefever	GBR	18.09 + 18.19	36.28
3	L Barr	GBR	17.00 + 18.20	35.20

F1M 18 flew

1	P Keller	SUI	17.40 + 17.57	35.37
2	F Manieri	ITA	17.09 + 16.41	33.50
3	L Barr	GBR	16.20 + 16.37	32.57

35 cm 15 flew

1	R Bailey	GBR	26.02 + 31.10	57.12
2	E Roch	FRA	19.20 + 22.53	42.13
3	F Frugoli	FRA	16.32 + 21.57	38.29

BMFA INDOOR NATIONALS, MILLENIUM DOME, JUNE 28-30

All best 2 from 6, with LRS and F1D Trials flown over 2 days

F1D Euro team trials 6 flew

1	R Bailey	34:06	35:31	69:37
2	D Richards	33:36	33:49	67:25
3	N Aikman	32:38	32:26	65:04
4	R Green	32:13	31:25	63:38
5	G Lefever	31:24	30:10	61:34
6	J Tipper	29:28	30:50	60:18

F1D 10 flew

1	J Romblad (SWE)	35:46	36:02	71:48
2	R Bailey	34:06	35:31	69:37
3	D Richards	31:39	33:49	65:28
4	N Aikman	31:38	32:26	64:04
5	J Tipper	29:28	30:50	60:18
6	G Lefever	29:46	30:10	59:56

F1L (EZB) 14 flew

1	R Bailey	25:57	23:56	49:53
2	L Barr	23:18	22:27	45:45
3	G Lefever	22:19	23:14	45:33
4	R Wilson	21:12	21:27	42:39
5	P Watt	20:15	19:36	39:51
6	R O'Neill	20:03	19:47	39:50
7	B Stichbury	16:27	16:47	33:14
8	D Hooper	15:25	15:39	31:04
9	M Green	14:09	15:44	29:53
10	M Doyle	15:09	13:02	28:11

L.P.P. 7 flew

1	J Tipper	14:54	14:38	29:32
2	R Wilson	14:21	14:36	28:57
3	L Barr	11:19	13:45	25:04
4	T Chambers	11:12	12:31	23:43
5	J Shaw	9:58	9:29	19:27
6	R Sabey	7:24	7:58	15:22

LRS 6 flew

1	L Barr	12:05	11:49	23:54
2	C King	11:24	12:03	23:27
3	J Tipper	12:29	10:58	23:27
4	R Wilson	11:11	11:45	22:56
5	D Hooper	8:45	9:14	17:59
6	J Shaw	6:09	6:14	12:23

second and third places decided by highest third flight

35 cm 6 flew

1	B Shayler	23:38	22:15	45:53
2	L Barr	21:30	22:42	44:12
3	D Greaves	21:50	21:24	43:14
4	M Green	19:31	19:20	38:51
5	J Shaw	18:35	20:10	38:45
6	D Hooper	14:27	15:06	29:33

F1M 4 flew

1	L Barr	18:05	18:17	36:22
2	M Green	19:23	14:26	33:49
3	S Harvey	12:58	12:31	25:29

No-Cal 3 flew

1	L Barr	5:35	5:22	10:57
2	J Tipper	5:09	4:49	9:58

Overall National Champion

1	L Barr	32
2	J Tipper	15
3	R Bailey	12

Notes:

The team trials were held over 2 days and didn't count for the overall championship. As the results show the Euro champs team is R Bailey, D Richards, and N Aikman.

The scores for the overall champion were awarded thus, 6 points for 1st, 5 for 2nd, down to 6th place which got 1 point.

NEWS FROM BMFA FF TECH COMMITTEE

Free Flight Nationals 2004

The initial analysis reveals that we will have made a small but respectable profit on the weekend. It is not the intention of the FFTC to turn the event into a money-spinner, however there are some considerable expenses that need to be covered. A summary of the accounts will be published when all the numbers are in and agreed. The FFTC is intending to use some of this profit to upgrade the event in future years

FFTC 2005

Now is the time to start thinking about the FFTC for 2005. What about putting your name forward? Remember some of the views expressed at the conference? What can you do about making these ideas a reality? We need a person to deal with the publicity side of things as Peter Tribe is hanging up his hat after 5 years of loyal service. (Ed: thanks are due to Peter from FFN for his part in keeping us informed over this period)

Need a number?

Andrew Evans of the Walsall Club is offering to produce your BMFA number on a vinyl strip, easy to peel off and apply for a neat finish. These strips are available from Andrew on 01543 820871. The price for a professional look is a donation towards the team travel fund.

Rule changes

The FFTC would like to thank those who have taken time to comment on the various rule proposals that have been submitted. The FFTC will discuss and consolidate the proposals and other input on the 10th July. The consolidation will be re-circulated for a final input and discussion.

Summer Mini and Walsall Classic, July 18

After the successful event in 2003 the Walsall Club event is again combined with the mini and will be run at North Luffenham. This linkage between the FFTC and a club or Area is a positive way to improve the quality of what we are trying to do. In 2005 the Winter Open event will be held in combination with the East Anglian Area. The Spring event will be held in combination with the London Area.

CORRESPONDENCE

From Alan Jack:

You may like to note that I did not win Frog Junior as the Nats results state (Oh that I could be a junior again but at 54 I don't think I qualify!). It was of course Richard Jack who won.

Whilst in the same subject area I think Dave Hipperson's remark in his report suggesting that we drop Frog Junior because only Richard flew should be disregarded. We do not have many Junior fliers and to simply throw them into the pot with the seniors with no reward is a gratuitous slap in the face. Instead we should be thinking of how to stimulate entries. One way of doing this would be to run the Frog Junior on a points basis i.e. Juniors enter as many comps as they like along with the seniors and the Frog Junior is awarded to the competitor scoring the most points in a single event i.e. getting nearest to a senior win. This way those flying gliders (e.g. Brindley Taylor and Matthew Cuthbert) are not disadvantaged trying to fly against a true Open Rubber model as is currently the case in the all model Frog event as it is now.

RULE CHANGE PROPOSALS FOR E30 & EOP

Comments from Dennis Davitt.

I have seen the proposals in FFN from Trevor Grey. I think Trevor is trying hard to do a difficult job of balancing opposing requirements.

E30 On one hand Trevor wants to improve performance by reducing weight, and thus increase entries. On the other hand most E30 comps already result in nearly every entry maxing out – so is a reduction in weight necessary? Also, a reduction in weight may make it more difficult for new entrant “heavy” builders to have a go.

I agree there should be one weight only. And I agree to fixing on 3 cells, and let's worry about the expected demise of NiCads when it eventually happens.

EOP The current rules result in models which can do 3 to 5 minutes. Increasing the HP available will give a more dynamic performance – but is this necessary ?

I understand that Trevor has talked to several flyers, to find why they don't fly EOP. The reaction seems to be that more “va-va-voom”, and more vertical climb, is what is needed, over and above the current relatively modest climbs. I'm not sure – if I want more oomph I can try OP, or even F1C. But I don't, so I could become one less competitor.

It is a difficult question, and Trevor is trying to steer a middle line. It would be just as difficult, for example, to try to increase entries in CO2 by changing its rules.

A better answer may lie in allowing a bit more total energy in existing EOP, and combining it with the BMFA SOP class on a more even footing. This could be done by allowing an electric run of say 45 seconds (EOP power is falling rapidly after 30 secs, and another 15 secs will not give 50% more energy).

If EOP models then start to win or place in comps combined with SOP, people will be more inclined to take it up.

I have done some sums comparing EOP and SOP potential climb performance, which I believe show that 30 secs is not competitive. See below.

This proposal would also mean that models remain relatively cheap – and simple, and we would not have to start again with new models, new motors, new batteries, new gearboxes, etc etc. Until forced to by unavailability of NiCads if and when that happens.

Finally, I hope the motor price limit is not omitted – instead, raise it a bit for inflation to say £30.

Comparison of EOP and SOP potential climb performance

SOP Having asked around, it seems that the typical or average SOP weighs about 16 oz all up and has about 0.6 HP available at the engine shaft output.

1 HP is 550 ft.lb/sec, so 0.6HP is 330 ft.lb/sec. The engine run allowed is 10 or 12 sec, say 11 sec average. The power output over the run is nearly constant, so the total energy available at the prop shaft is $11 \times 330 = 3,630$ ft.lb over the run.

Taking the model weight of 16 oz, that is of course 1 lb. So if we could do the impossible and use all the energy available with 100% efficiency, the model would climb to 3,630 ft.

EOP Turning now to the electric model, it is not so easy to find an average or typical model, so I will use figures for my EOP. This weighs 10 oz, and the power input to the motor is about $6v \times 12 \text{ amps} = 72$ watts at the start of the run. At the

end of the 30 sec run the power is down to about 55 watts, giving an average power input of about 64 watts.

This 64 watts is the electrical power input to the motor. A typical motor under the £25 price limit has a maximum efficiency of about 75%, but only when fairly lightly loaded. To get sufficient power output the motor must be much more heavily loaded, the resulting motor efficiency dropping to about 40% or 50%.

Taking a motor efficiency of 50%, the average power input above of 64 watts gives a power at the motor output shaft of 32 watts.

1HP is 746 watts, so my motor is producing an average of $32/746 = 0.043$ HP, which is 24 ftlb/sec available at the prop shaft. Over the motor run of 30 secs, the total energy at the prop shaft is $30 \times 24 = 720$ ftlb.

My EOP model weighs 10 oz, that is 0.62 lb. So again, if we could do the impossible and use all the energy available with 100% efficiency, the model would climb to $720/0.62$ which is about 1,160 ft.

Comparison The above figures are approximate, and will vary with particular models compared. However one cannot escape from the very considerable mismatch in potential performance between the models – in the above examples, theoretical climb heights of 3,630ft and 1,160ft - roughly 3 to 1.

Some improvement through continuing development is likely with EOPs. But not enough to bridge that gap.

BIGGLES LEAGUES

F1H

	Total	North	Easter	Spring	Nats	Oxford
1 J.Cooper	17	6	9	0	0	2
2 B.Lavis	13.5	3	0	3	0	7.5
3 A.Gibbs	9	0	0	0	9	0
3 J.Oulds	9	0	0	6	0	3
3 K.Taylor	9	0	0	9	0	0
6 G.Oulds	7.5	0	0	0	0	7.5
7 R.Heap	7	0	0	0	6	1
7 P.Tribe	7	0	4	0	3	0
9 M.Cooke	6	0	0	2	0	4
9 A.Crisp	6	0	6	0	0	0
11 I.Davitt	5	2	3	0	0	0
11 M.Dilly	5	0	1	0	4	0
13 P.Cameron	4	0	0	4	0	0
13 C.Edge	4	4	0	0	0	0
15 I.Clark	2	0	0	0	2	0
15 P.Seeley	2	0	2	0	0	0
17 J.Bailey	1	0	0	1	0	0
17 N.Parry	1	0	0	0	1	0

F1J

	Total	North	Easter	Spring	Nats
1 D.Hipperson	18	6	3	0	9
2 P.Watson	15	9	6	0	0
3 J.Bailey	11	4	1	6	0
4 C.Foster	7	1	0	0	6
5 S.Barnes	4	0	0	0	4
5 P.Harris	4	0	4	0	0
5 C.Hickmott	4	2	0	0	2
8 A.Jack	3	0	0	0	3
8 P.Woodhouse	3	3	0	0	0
10 R.Baggott	2	0	2	0	0
11 F.Chilton	1	0	0	0	1

Competitions to come: Scottish, Brumfly, Summer, Southern

LEAGUE POSITIONS

From Dave Hipperson, as of 29.June 2004

Coupe d'HiverLeague

		NG	Spring	Nats	Oxford	Total
1	D.Greaves	6	9			15
1	R Vaughn		9		6	15
3	I Davitt	3	4	6		13
3	G Sharp	4			9	13
5	R Sparow	9		3		12
6	A Ball	6				6

Open Rubber Trophy League

		WO	NG	Spring	Nats	Scots	Total
1	P Ball	4	9	9	4	3	29
2	W Hodgkinson	6	3	4			13
3	D Hipperson			2	9		11
4	G Sharp	3	6				9
5	T Dobson	2		3	2		7

(WO = BMFA Winter Open, NG= Northern Gala)

Timperley League points

D Hipperson	9	9	9	6	4	3	49
P.Ball	9	6	6	3			24
C Strachan	9	9					18
S Willis	6	6	3	3			18
G Sharp	9	6					15
C Foster	6	4	3	1			14

ITEMS FOR SALE

Peter Harris modelling items

Roger Baggott is coordinating the sale of Peter Harris modelling items:

1. Pym Ruyter model tracking system, includes standard C150 transceiver + 2 transmitters (may sell separately)
2. F1C Power model (Nelson/Seelig)
3. Nelson 15 SE (new - unrun)
4. Nelson 15 SE (used)
5. Nelson 15 RE (used)
6. Rossi 15 Mk2 ABC
7. Rossi 15 Mk2 Steel
8. K&B40 Wart
9. K&B40 1970's
10. Cornell Dynamic 3.5 glow
11. OS20 FP glow
12. CS061 glow
13. Cyclon 061
14. Cox Tee Dee 051
15. PAW 2.49
16. PAW 1.49
17. PAW 80
18. Irvine 20
19. Seelig F1C timers
20. Seelig F1J timers
21. Monks/Russian timers
22. KSB engine timer (New)
23. KSB engine timer (Used)
24. Monks music box timers
25. Engine timer (Tatone?)
26. Chinese F1C timer
27. Polish F1C timer
28. F1C folding props
29. F1J folding props
30. Nelson glow plugs
31. Standard glow plugs
32. Tee Dee 049 glow heads
33. CS061 glow heads

34. Rossi 15 glow heads
35. Casio electronic stop watch
36. 2 Volt rechargeable battery (new)
37. 2 Volt rechargeable battery (used)
38. 9 metre glass fibre roach pole
39. Compass (marching type)
40. 0-1" Micrometer — Moore & Wright
41. 0-15 cms Vernier
42. Yagi aerial
43. Various model boxes
44. Starter box (starter + 12 volt rechargeable battery)
45. Nisshin tachometer
46. Towline winch
47. Engine pans
48. Boxes of rubber
49. Cyclon .061 Piston/liner (New)
50. Sealing/shrinking iron
51. Rossi 15 Mk3 Steel

If you would like to make an offer, which will be strictly confidential, or would like more details on any items, please contact Roger Baggott, telephone 01562 66219

Aeromodelling effects of the late Dave Rye

Roy Tiller provided a long list of the aeromodelling effects of the late Dave Rye. It is too long to print here, but as an indication it includes:

Magazines including Aeromodeller, Aeromodeller Annual, Model Aircraft, FMDC, and books

kits (most in original boxes)

a large collection of plans

fully built models in boxes including: Blackheath Baby, Senator, Cloud Tramp, 1938 Gordon Light 4oz Wakefield (no prop), Lulu, Hyperion, Marauder and Caprice and a wooden indoor model box comprising top and bottom sections both 3ft x 1ft x 1ft containing indoor models

various stock boxes

RC transmitters

tissue of various grades, rolled, mylar, and other covering materials

stock of balsa wood

For the fully detailed list please contact Roy at roy@41delisle.fsnet.co.uk or contact FFN for a copy. Note that it was received at the end of May so not all items will still be available. The effects are for viewing and collection at the house near Taunton.

FAI WORLD CUP

F1E

1	M Popescu	ROM	123
2	D Petcu	ROM	120
3	D Bildea (J)	ROM	104
4	F Mang	AUT	88
5	F Draghici	ROM	86
6	V Zima	CZE	77
7	S Kubit	POL	58
8	P Nosko ml.	SVK	54
9	J Uhrin	SVK	46
10	J Janata (J)	CZE	44

F1E-Junior

1	D Bildea	ROM	154
2	A Draghici	ROM	92
3	J Janata	CZE	53
4	C Faur	ROM	53
5	A Ciobanu	ROM	52
6	M Noskowa	SVK	43

Contests included are: Coppa Sisemol, Liptov Cup, Mayor Cup, Napoca Cup, and Turda Cup

FAI WORLD CUP

F1A

1	L Hines	USA	130
2	M Kochkarev	RUS	122
3	V Lazarevich	UKR	110
4	J Carter	GBR	104
5	P Findahl	SWE	101
6	A Szekelyhidi	HUN	98
7	P Kuikka	FIN	97
8	B van Nest	USA	95
9	B Ryz	CZE	86
10	R Wallace	NZL	86
11	A Koerbin	NZL	80
12	P Mitchell	AUS	80
13	A Persson	SWE	75
14	H Fuss	AUT	74

F1B

1	T Bond	AUS	147
2	R Mackus	LTU	145
3	R Peers	GBR	142
4	I Kolic	YUG	142
5	B Silz	GER	113
6	V Rosonoks	LAT	95
7	R Blagojevic	YUG	91
8	L Gircys	LTU	89
9	V Vivchar	UKR	89
10	L Horak	CAN	86
11	A Zeri	NED	83
12	K Salzer	AUT	79
13	M Woolner	GBR	73
14	M Woodhouse	GBR	73

F1A-Junior

1	I Szentpeteri	HUN	123
2	V Berzins	LAT	107
3	M Cuthbert	GBR	100
4	B Mitchell	AUS	100
5	B Bagari	SLO	91
6	G Domokova	SVK	82
7	E Ahmetov	EST	76
8	J Zarins	LAT	74

F1C

1	R Summersby	AUS	140
2	L Patocs	HUN	140
3	K Kuukka	FIN	123
4	T Niiranen	FIN	122
5	R Truppe	AUT	113
6	J Roots	EST	94
7	E Verbitsky	UKR	87
8	R Naaber	EST	87

Contests included: Maxmen International, Criterium Phillippe Lepage, Bear Cup, Holiday on Ice, Matfors VT International, Australian Free Flight Championships, Southern Cross Cup, City Cup of Lucenec, Kotuku Cup, Omara Cup, Kup Slavonije I Baranje, Baltic Cup, Estonian Free Flight Cup, Srem Cup, Sezimovo Usti, Pusztas cup, Novohrad Cup of Slovakia, Taça Von Hafe, Memorijal Dj. Zigic.

Contests still to count: Open International POL, Kazan cup RUS, Kharkiv Cup UKR, Scania cup SWE, Nordic Cup of Denmark DEN, Antonov Cup UKR, Vörös Jenő Memorial Contest HUN, Odesa Black Sea Cup / Moldova MLD, Huron Cup CAN, Buzau Cup ROM, Poitou FRA, Summer Cup POL, Memorijal Izet Kurtalic BIH, Salzland cup GER, 53rd Israel Free Flight Championship ISR, Una Cup BIH, 35th Internationaler Eifel Pokal GER, Canada Cup CAN, Siscia Cup CRO, Cup of Aviaprom RUS, Stonehenge Cup GBR, Krka Cup SLO, Sierra Cup USA,

BMFA FREE FLIGHT FORUM NOVEMBER 04

The Free Flight Forum to be held on Nov. 21st 2004 at the Holiday Inn, Coventry, will be the twenty-first in what has become a highly successful series of events on the model flying calendar.

It is the technical papers presented at the Forum that make the events successful, and the Forum Reports published afterwards are a major source of funding for our national indoor and outdoor free-flight teams at World and European Championships.

Now is the time for you to consider presenting a paper yourself at this landmark Forum, whether on a technical or theoretical aspect of free-flight, indoor or outdoor, from Open to FAI, scale to vintage, its history or its organisation and development. Even suggestions of topics that might be covered are welcome. Remember, the Forums are as good as you make them, so please contact one of the editors, Mike Evatt or Martin Dilly now with your ideas.

Mike is on 01327-842746 or e-mail mikeevatt@hotmail.com; Martin is on 020 8777 5533 or e-mail martindilly@compuserve.com.

MICA FILM WANTED

Anthony Ball needs some Mica Film to recover a wing ready for the Euro Champs. He has run out of film and discovered it is no longer available. Please call 01332665361 with any offers of help or email phil.ball@ntlworld.com

UK COMPETITION NEWS

MORLEY CLASSIC POWER DAY. Nostalgia/Classic power at Church Fenton on 11th July. In rounds and with runs and maxes to suit the conditions. Different models may be separate entries. Also supporting Northern Area Mini League event. **Note:** Start time afternoon - 3pm expected and hence finish time will be late evening. CD Steve Fielding. Further details from him on 01274 493080

BRUMFLY GALA Following the announcement in last month's FFN we have now arranged for the event to be on 25th July at North Luffenham. Events will be Open Power, Open Rubber, Open Glider, F1J/1/2A, Cdh, A1, SLOP, Mini-vintage, HLG and Catapult Glider. Start time 9am. The open classes and mini-vintage will be 3 flights and Cdh, A1 and F1J/1/2A to be 5 flights. No rounds and no flight line. Field charge. The Army have requested that competitors carry BMFA membership card at all times. Contact Stuart Darmon on 024 76 678520 after 6pm.

VINTAGE AT STONEHENGE CUP

SAM 35 in collaboration with the BMFA will hold a vintage meeting on the Sunday of the two-day World Cup event at Sculthorpe, near Fakenham, Norfolk

The vintage classes to be flown will be:

4oz Wakefield In accordance with the 1934 to 1936 rules

8oz Wakefield In accordance with the 1937 to 1950 ("Pre 1951") rules

Lightweight Rubber Maximum flat span (i.e. not projected) less than 864mm (34 inches)

Vintage Glider 100 metres (328 ft) towline.

Start time 10.00 am. 3 flights, maximum to be announced on the day.

Eligibility: All models must be built in accordance with a design that was published prior to 1st January 1951, or was kitted by that date. (January 1951 editions of magazines are accepted as published in 1950). Rule details and permitted modifications will be in accordance with the BMFA contest rules. For further details telephone 01223 860498, or email: chris.strachan@btinternet.com

This meeting offers an excellent opportunity to fly on the largest airfield model flying site in the UK and to see the ultimate in modern free flight competition. On Sunday the World Cup event will be for F1A gliders. Saturday will feature F1B rubber and F1C power. Anyone who would like to spectate and/or trim or sport fly on the Saturday will be welcome. If you require overnight accommodation, an evening meal and/or packed lunch, they are available using the same facilities as the World Cup event. For details and booking, contact Mick Howick by 27 August, at Knoll House, 69 The Street, Hindringham, Fakenham, Norfolk, NR21 0PR UK. Tel 01328 878635, email g.turnbull@tesco.net.