Free Flight news FFn

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DIARY

January 13 Church Fenton	New Year Flyer. O/R, O/G, O/P+O/E+SLOP, MV. Start 9.30. CD C Westerman. Names must be on security list, contact J Northrop 0113 2581292.
January 27 Church Fenton	Timperley Club event. Comb Power, Comb Glider, Comb CDH+MV. Start 9.30. Contact: D Clarkson 0161 477 7647. Names must be on security list, contact J Northrop 0113 2581292.
February 2-3 St Petersburg, USA	Miami Tropicana record trials. Entry fee $50. See FFn 0201. Contact D Linstrum, davidlinstrum@cs.com
February 3 Middle Wallop	Crookham Gala. Comb R, Comb G, Comb P (see FFn 0201). Start 10.00. Contacts: M Parker, 0118 9481392, michael@cavgrove.freeserve.co.uk or John Thompson tel 01252 842471 Johnd.Thompson@btinternet.com See www.cavgrove.freeserve.co.uk
February 10 Church Fenton	Vintage Pannett & Kay. Vintage R/G/P, combined O/P+SLOP, O/G, special combined Mini to Ian Davitt's aggregate rule. Start 9.30. CD: J Northrop. Names must be on security list, contact J Northrop 0113 2581292.
February 10 Altopascio, Italy	Pistoia Coppa Italia 2. See FFn 0201 page 11. Entry by Jan 31.
February 15-17 Lost Hills, CA, USA	Maxmen International. World Cup event. F1A, F1B, F1C, F1G, F1H, F1J. Contact: George Batiuk, 1759 Southwood Drive, San Luis Obispo, CA 93401 4031, USA, tel +1 805 574 8231, fax +1 805 543 1135
February 17 North Luffenham	BMFA Winter Open. O/P (Frog Senior), O/R, O/G, SLOP, EOP, Vintage
February 24 Near Sheffield	BMFA F1E Team Selection for 2002 Team
March 2 Pori, Finland	Bear Cup World Cup F1A, F1B, F1C. Entry fee FIN 150. Contact: Kari Lindgren, Muenamiehentie 5, 28610 Pori, Finland, tel: +358 2 63 77 860, e: pipo.lindgren@kolumbus.fi
March 3 Area venues	BMFA First Area event. O/R (Gamage), F1C (Halifax / Plugge), F1H, Tailless
March 10 Crivelle, TO, Italy	Trofeo AGO. F1K. Contact: Sandro Schirru, Via C.B. Cavour no 5, 10095 Grugliasco, Italy, tel: +39 011 78 017 88, fax: +39 011 95 90 519
March 10 Near Sheffield	BMFA F1E Team Selection for 2002 Team
March 16-17 Gjovik, Norway	Holiday on Ice World Cup. F1A, F1B, F1C. Entry fee NOK 200. Contact: Tor Bortne, Jernbanev. 28, 2840 Reinsvoll, Norway, tel: +47 611 96 736, fax: +47 611 52 606, e: margit.bortne@c2i.net

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Compiled and produced by Ian Kaynes, Paul Masterman and Michael Warren

FFn

Thank you to everybody for renewing subscription to FFn. A note to those who ordered NFFS Symposium Reports 2001 during the last 5 weeks: the initial FFn stock were sold quickly and I have not been able to meet these latest orders. More are expected to be delivered later in January and your copy will be sent as soon as available. I apologise for the delay, which resulted from my decision to order fewer Sympo than usual this year. This was to allow for people expected to buy their own copies direct from NFFS at the World Champs, but in fact FFn has received almost as many orders as in other years.

New orders for the Sympo 2001 are welcome. The price is £20.10 including mail in UK and Europe. Send cheques payable to FFn to the usual FFn address.

F1A WORLD CHAMPION

Per Findahl writes about the models used for the World Championships in USA, and also some thoughts about preparations:

For the normal rounds, and for the five and seven minute flyoffs, I used the latest version of Baldrick. It is a development of the Baldrick you have on drawing. It is very much the same as the old Baldrick, but with some new things. It is the third Baldrick, so the name is Baldrick 3. The differences are: A new stiffer spar from Makarov/Kochkarev. It makes the wing much stiffer then the original wing. I think the starts are a little higher with this wing, and also more consistant. The spar is a little bit thicker then the original spar at the root because it has got a 6.8 mm wingjoiner, so the airfoil is a little bit thicker at the root then the original. But at the beginning of the tip it is the same as the original Baldrick. I use a Stamov D-box. And I use Makarov/Kochkarev electronic system to control the tailplane. It comes new versions of the timer quite often, and I use the one that came early this year. I managed to put a bigger battery in Baldrik 3, 150 mAh instead of 50. This is good, because I can fly a full contest without changing the battery.

The program I fly with is like this:

On the line I fly with the tailplane a little "high", after the launch I take down the tailplane a little after 0.25 seconds, after 0.85 seconds I take it down some more and after 1.25 seconds the real bunt comes in and it goes out after 2.3 seconds. I also fly with the tailplane a little down the first ten seconds to avoid stalling. The new thing for me here is the extra tail down after 0.85 seconds. It helps me to take away some loop that I had in the start before. I think this new program helps me to gain some extra height in the start.

In the last flyoff I used "Lord Flash 2". You have this model on drawing (FFn April 2000). I have worked some on this model this year to make it fly better. The last change I made was to put new cowering on the wings three weeks before the WC. I changed from micafilm to "Salzer paper". I have a feeling that the rough surface that the doped Salzer paper gives is better then the more smooth surface that micafilm gives. But I didn't make any big test about this, it is just a feeling I have.....I might be wrong! I fly this model with a similar program that I have on Baldrick 3. The difference is that I fly a little shorter times on this model. I think it is because this more undercambered airfoil makes more resistance in the air at high speeds. I used a thin steel wire as line in the last flyoff. It gives good speed at the launch because it is very stiff, just flexing 2 cm at 5 kg, and it is also thin and gives very little drag in the air.

I am very happy about my preparations, practice and training this year. We have a very long contest season in our sport, from February to November, and it is impossible to make top results all year. I plan my contest-year every year to try to be at my best at the right time. This is difficult and it is not always going as I think because of different things, it is a complex problem. But this year my preparations, practise and contests was going very much as I planed and hoped. I tried to make tops in the end of March, beginning of the summer and in the beginning of October. These tops would give me a chance to get good points at our selections, and also good opportunities to fly well at the World Championships. The tops in the end of March and in the beginning of the summer came as planed, but the top in the autumn came earlier then I thought. I was a little worried first that it might have come too early, but it was still good over the World Championships. I think it is important to plan the contest-year to be able to make good results at the right time. To make your best I think you have to consider four different things. First, model preparations, your models must work and fly well. Second, you must be able to fly and know the models well. Both things are practised when flying and of course when building and preparing your models. You also have to be good prepared both physically and mentally. Both those things can be practised in many different ways. If you can get all four things at it's best at the same time, the chances to make good results are big! But if only one of the four things fails, you have to struggle a lot to make top results! I think all flyers should have a personal trainer to help them with the training and planing of the contest-year! Of course there are much more to be said about preparations and practise, but this was a little short about my thoughts.

AEROFOIL SECTIONS

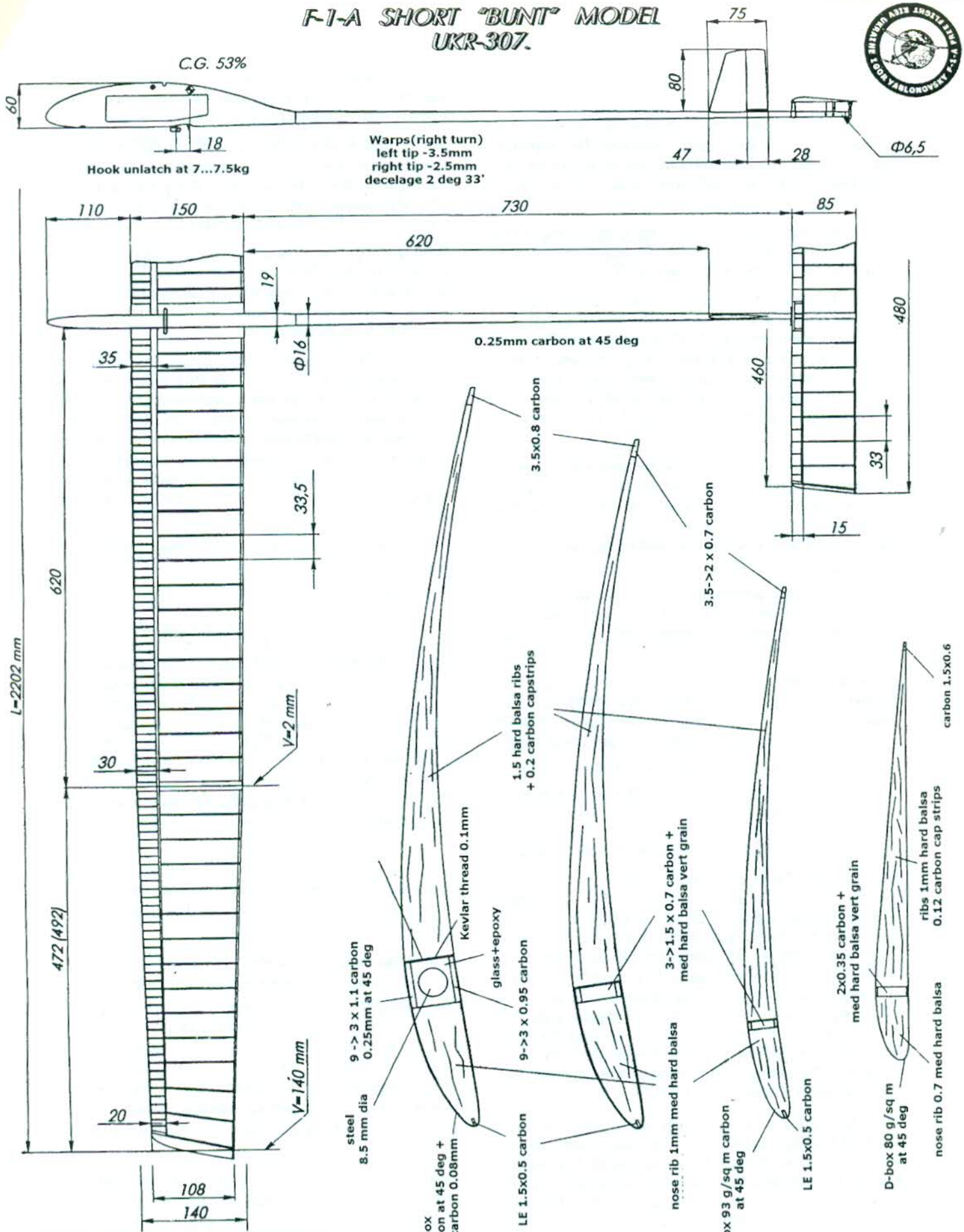
Two sets of F1A sections are tabulated later in this issue. One of these is from Anthony Koerbin's model published in the August 2001 FFn, quoted to use Stamov sections. The other set is from two sources: the plans of Stewart Cox's model (also FFn August 2001) quoted to use Yablnovsky's section and the Igor Yablonovsky plan presented as the page 3 model in this issue. Both drawings gave coordinates which were very close and the values presented here are combined from both sources.

FAI INDOOR RECORD

A provisional record claim has been lodged for:

Class F1N (Indoor HLG) record no. 118-a duration (ceiling less than 8 m) 39.6 seconds by Len Surtees at Tamworth Airport, NSW, Australia on November 24th.

F-1-A SHORT "BUNT" MODEL
UKR-307.



from Thermiksense

F-1-A Free Flight

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THE 30 GM WAKEFIELD - SOME FIRST THOUGHTS

We've had relatively few responses to our request for initial thoughts on the 30 gm Wakefield. This is perhaps not surprising (it's early day) but our thanks to all those who have contributed and whose ideas and queries we summarise below.

First, some suggestions from Peter King's paper in the 2001 NFFS Symposium (Some Thoughts on Computer Simulation and on the 30 g Wakefield):

Although some flyers may opt for a shorter motor, I think we should keep to 26 strands. Under the 40 gram rule, many were using up to 32 strand motors when Alex A. was only using 28 and was getting a 50 second motor run. The change to 35 grams has reduced this to 26 strands in Alex's case, and 28 or 30 for others… I foresee a general move to getting the most out of 26 grams.

(Also) I would expect to see, in the near future, a move towards electronic programmable timers for F1B to provide, amongst other things, flexible and accurate timing for all the various functions, increased control of the climb, and the important ability to vary the trim according to the conditions.

The aerodynamic layout of the models will not, in my opinion, change much as we are already close to the optimum and 5 grams less rubber will not make much difference.

On the question of prop diameter and pitch… When I get around to building a 30 gram Wakefield, I would seriously consider a 650 mm diameter prop, with 28 strands, or even 26 strands with a narrower blade width.

(Full details on Peter's thoughts are of course available from the Symposium paper, see the not ein this issue for availability through FFn)

Tapio Linkosalo from Finland has been experimenting:

I'm currently flying my models with 26 or 28 strand motors (30-35cm in length, taking 420 to 460 turns). The climb times are about 50 seconds for VP hubs, and even more for fixed pitch. It seems that the fixed pitch props give a longer but much less efficient end to the climb. I have not wanted to reduce the pitch on these however, as it would make the initial burst too fast for my liking. It's already rather "hot" compared to the VP. At the moment I'm planning on only reducing the motor length, but keeping the prop and strands the same. Thus I expect to be getting climbs around 40+ seconds, with about the same pattern as before.

When the rubber weight dropped to 35 grams, I reduced the front fuselage length (from the front to the rear peg) from 55 to 50cm, but used the old models unmodified. For the new models that are under construction I'll be reducing the length another 5cm, plan on retiring the models built for 40 grams, but keep the 35 gram models unmodified.

We've also received a contribution from Jean Wantzenriether:

Albert Koppitz, a regular member of the French team, has been testing the 30 g motor for over a year and has come to some simple conclusions:

Model design should be the same as before, with the span to be reduced slightly, not increased. The length of motor tube should be 520 mm. Wind harder than for 35g! Be cautious with the 'nodes' which pile up in the wound motor. Use 26 or 28 strands of 3.17 x 1 rubber.

With the 2001 Tan II (the known bad batch), a 50 meter height is reached. With the 1997 rubber, on 28 strands, we can reach approximately 80 m. New props are under test, to provide more efficiency at lower torque. Wider tip chords seem advantageous.

Serge Tedeschi took 16th place at the World Championships. His expertise in 30 g motors is limited so far. He has tested his old models with 30 g and notes that the last third of the climb is rather flat, as soon as the rubber is a bit old. Still air height is reduced by 15 m or so. He feels that a solution would be to reduce the blade wide by 5 mm. Also, serious work is needed to improve the climb trim with less torque now being available.

F1B seems to be getting even more difficult for beginners...

Jim Brooks from Canada raises some queries:

I haven't even made up a 30 gm motor yet so I'm starting at less than zero, but I thought I'd at least try to clean up the prop. I've made up two very thin and very stiff props of balsa/CF composite to my current design, one with a bit of undercamber and the other with quite a bit more. It's my impression that the highly undercambered one gets higher on 35 g but maybe I'm losing something because it isn't very stiff, so I'll clean it up and see what happens with a shorter motor run. I plan to stick to 28 strands, same VP settings but shorter VIT/wiggler settings. So tell me where I'm going wrong…

At last year's Free Flight Forum, Mike Woodhouse outlined his current thoughts. The full text will be published in the Forum report in due course, but, in summary…

The rubber weight reduction will cut down the height that the models can climb to, and thus reduce overall flight duration. A simple equation suggests that a six minute model will, with 30 grams, be able to do about five minutes. However, this assumes a straight up and straight down flight. In fact, the 30 gram models will be more marginal in their performance, flying with less power and not able to get up into the cleaner air. Thus the effect, the detrimental effect, may be greater than we think.

Martyn Pressnell informs me that our props are only 40% efficient and on that basis we must be able get more performance. However, if it was that easy we wouldn't still be at the 40% level, would we?

We can either cut down the motor length or cut down the number of strands. With the current number of strands the motors are already quite short. Cutting the length is not the best use of the rubber available, since the already

short and steep torque curve will be proportionally that much worse, making trimming and flying yet more difficult.

- My current preferred 35 gram motor is 28 strands, 360mm long which yields 450 turns;
- for 30 grams we could shorten to 28 strands 310mm long, which would yield 380 turns, or
- reduce to strands to 26, 330mm long which would give 450 turns.

Our aim is to get the model to do, with 26 strands, what it did on 28 strands – easier said than done.

The 26 strand route is the one that I intend to try. (This is what Alex already uses and his models seem to go OK!) The alternative of staying with 28 strands will present too short a run with a rapidly changing torque curve, and coping with this cannot be efficient.

The existing props or something new? I'm going to continue with what I have but I'll look at other things as well. I currently know of two new approaches:

- The Astro 30 from Henke van Hoorn. Observation suggests just a narrowing of the chord.
- Jim Brooks (Canada) is trying thinner blades with more camber.

A VP prop has to be de rigueur. We will have to use the best prop units possible and ensure that everything is working to perfection, with blades balanced and in track, etc.

Lose the fear of breaking motors. Even at the new prices of £1.00 per motor, don't worry. The rubber has to be made to work harder, so we need more turns per inch of rubber. But how? We need more testing of our rubber to understand better how each individual motor performs.

- Better winding gear. The stooges and winders used by some people should be in a museum. A good system enables the rubber to be wound closer to its potential.
- New lubricants? Alex is experimenting with a mixture of silicone and Teflon.
- Watch how our heroes wind. These guys push it very, very hard. Stretch as far as possible and allow the motor to drag you in.

The opposition fly and fly and fly their models. We in the UK trim them, then put them in the box. Somehow we must do more flying and testing. The "That's good enough" approach ain't good enough.

There is no need to scrap the existing fleet. However, improvements have to be made.

- Models must now be built down to weight. There is less rubber to pull the weight up, so don't waste it.
- Tidy up models. Get rid of all the scruffy stuff and put the systems in as good a working order as possible. Repair to a 'good as new' standard. Patch holes.
- Improve the systems. Get rid of the crude levers and latches. Everything must work precisely.

F1A has shown the advantages of using electronics. The F1B has less weight available for electronic systems but the increase in airframe weight and improvements in technology will move this forward. The advantage is a more precise control of the timing of functions. It's not an absolute requirement but it might just add that little extra.

Single-blade props or mutli-blade props? This is another area for someone to try. One person is already trying a single-bladed model – Jean Wantzenreither. The prop is of larger than usual diameter and out-rigged, and folds flat on the top of the fuselage and wing – or rather, it folds back on an outrigger that affords a neat fold at just above pylon height. And what about a variable diameter prop? These already exist – Andrey Khrebtov of Russia has been experimenting for several years. It was first seen at the 1998 European Championships. It looks bulky and cumbersome, but who knows!

And finally, some (as ever) splendidly positive suggestions from Andy Crisp:

I know I'm hardly a force to be reckoned with in the world of twisted rubber, but here are some thoughts.

All things being equal – the air, model design etc – performance *must* go down. We must now wind our (tested) rubber even harder and trim our models even better. This is something that is clear in America, particularly in Wakefield and A/2. The difference between the run-of-the-mill, albeit state-of-the-art model, and the very top performers, is the quality of the adjustment. In the UK the lack of sites where you can fly a model to the ground, plus foot and mouth disease last year, have hit us hard.

So…better a perfectly adjusted model on 30 gm than an average model on 35 gm.

I can't see airframe design changing radically, but possibilities are that aspect ratios could get even higher and tails smaller to maximise the glide. However, wing chords are now getting so small that efficiency could actually drop if the A/R is pushed too far. Conversely, there might be a return to squatter models with larger tails which will ride turbulence better. Models won't get so high but must be able to make full use of less stable air nearer the ground.

Here are some possibilities for the power phase:

(i) Keep everything the same and just shorten the motor, retaining the same number of strands. If your current motor is 350 mm long, it will now be 30/35 x 350 = 299.9 mm. Presumably the motor run will be reduced accordingly, so if the run is now 40 secs, it will be 34.3 secs on 30 gm. This seems acceptable – indeed, 30 secs was about the norm when people used 16 strands of 6 mm Pirelli at 40 gm.

However, a 300 mm motor is a very stiff 'dog's bone' to wind, and may not be the most efficient way to use this limited amount of rubber.

(ii) Use the same propeller but drop the number of strands to restore the run to whatever it was on 35 gm. Altitude will be lower, of course, but if we accept that there must be a drop in performance, things won't be too bad, bearing in mind that the best current models are, we're told, doing over six minutes! Even on 24 strands of 3 mm Tan II you should be able to get away reasonably smartly. Zilberg does not do badly on 18 strands!

(iii) Drop the number of strands to, say, 24 and use a smaller prop to retain the climb rate as before. We could reduce the diameter to 550 mm. We could keep the now-standard 600-610 diameter but reduce the blade area by slimming the profile.

We could reduce the pitch, but keeping to the standard diameter. With a fixed pitch prop the high angle at the burst could be retained but the pitch adjusted to drop away quicker to keep up the revs.

There are so many possibilities and variables that the mind boggles, though the computer literate, of course, could come up with an answer in no time. Whatever the solution, and I don't think there a definite one at this stage, models will need to be sorted out pretty quickly. Our first competitions are only a few weeks away.

From now on our fine tuning will have to be much finer, but you can bet that the Kulokovskys of this world will get it optimised very quickly! MCW

HEAT-RELATED ILLNESSES

By Bob Perkins, from NFFS Digest October 2001. Not entirely appropriate to the conditions in UK at the moment, but think of the future summer…

Too much exposure to a hot sun and high humidity, combined with excessive physical exertion, can give modelers big trouble. But heat-related illnesses, ranging from muscle cramps to fatal heat stroke, can be guarded against with a little awareness of the causes and use of preventive measures. There are four distinct heat-related illnesses that may seem to overlap as you read the descriptions below. But despite having many factors in common, the clinical pictures differ.

Heat cramps. These painful contractions of muscles follow exercise, such as after repeated long retrieval chases on foot. Most sufferers of cramps are in good physical condition but have noted excessive sweating and usually have normal body temperatures. Excessive sun exposure may not be involved and the environmental temperature may even be cold and lower than body temperature.

Loss of body water and salt in the sweat leads to dehydration and lowered sodium levels in the blood, with similar abnormalities probably occurring within muscle cells. Oral replacement of water and sodium chloride usually results in cessation of the cramps.

Heat exhaustion or heat collapse. This condition is all too common, especially in non-acclimatized older persons who take diuretics. It is important to note that heat exhaustion may occur in inactive persons exposed to adverse environmental conditions as well as those who are physically active.

The illness represents a failure of the cardiovascular system to respond adequately to high external temperatures. It is most often - but not invariably - precipitated by unrecognized lack of fluid intake and depletion of water and salt in sweat. Onset is often sudden and unexpected, but may be preceded by weakness, nausea and faintness followed by a worrisome collapse. Blood pressure may be low and the pulse increased. Sweating may be absent and the skin cool. Body temperature may be normal or even subnormal since the individual's exposure to heat has usually not been severe or prolonged.

Most instances of mild heat exhaustion resolve with rest in a recumbent position and oral fluid replacement in a cool environment. Usually only severe prostration requires intravenous fluid replacement.

Exertional heat injury. This occurs most commonly in runners and involves injury to muscles and other organ systems. Excessive exercise in high temperatures and humidity with inadequate conditioning and acclimatization may lead to exertional heat injury.

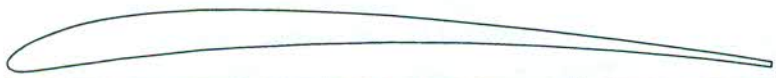
Maximal sustained use of muscles may cause energy consumption of muscle to increase as much as 20 times basal levels. Because the metabolic efficiency is only about 25%, the released excess energy quickly transfers from muscles to blood as heat. This raises the body core temperature dramatically. Profuse sweating results and persists as long as hydration remains adequate.

If extreme body temperatures develop, a host of gastrointestinal, cardiovascular or neurological symptoms and signs may result, including low blood pressure and loss of consciousness. Severe elevation of muscle and liver enzymes may be observed in laboratory tests. Multiple organ failure may occur in severe cases. Prompt body cooling and appropriate intravenous fluid replacement are vital to survival and recovery.

Exertional heat injury can be prevented by avoidance of exercise in extreme heat and humidity, and by drinking large volumes of water before, during and after exertion.

Heat stroke or sun stroke. This condition may follow excessive and prolonged exertion at any age, but actually occurs more commonly as a non-exertional entity in elderly persons with underlying chronic diseases and who receive diuretics. Other drugs incriminated as precipitating or contributing to heat stroke by affecting heat transfer or re-setting the body thermostat to an abnormally high level include antihistamines, anti-Parkinson and psychotropic medications.

Yablonovsky / Cox F1A wing root section Nose radius=0.8 Upper surface max= 9.78 at 33 Camber max= 6.98 at 45 Max thickness= 7.06 at 20 Area= 387									
X	0	1.25	2.5	5	7.5	10	15	20	25
YU	0.000	1.762	2.751	4.392	5.736	6.764	8.149	9.090	9.571
YL	0.000	-.794	-.747	-.392	0.024	0.391	1.238	2.032	2.818
X	30	40	50	60	70	80	90	95	100
YU	9.763	9.587	8.938	7.928	6.531	4.794	2.676	1.560	0.358
YL	3.446	4.314	4.881	4.884	4.379	3.254	1.609	0.650	-.358



Yablonovsky / Cox F1A wing tip section Nose radius=0.84 Upper surface max= 7.12 at 30 Camber max= 4.75 at 40 Max thickness= 5.56 at 17 Area= 324									
X	0	1.25	2.5	5	7.5	10	15	20	25
YU	0.000	1.586	2.454	3.588	4.495	5.233	6.182	6.729	7.056
YL	0.000	-1.023	-1.046	-.761	-.396	-.048	0.663	1.213	1.788
X	30	40	50	60	70	80	90	95	100
YU	7.120	6.881	6.358	5.421	4.393	3.218	1.866	1.163	0.339
YL	2.131	2.617	2.865	2.798	2.396	1.752	0.864	0.288	-.338

Yablonovsky / Cox F1A tail section Nose radius=1.2 Upper surface max= 7.90 at 17 Camber max= 3.95 at 17 Max thickness= 7.90 at 17 Area= 469									
X	0	1.5	2.5	5	7.5	10	15	20	25
YU	2.223	4.400	5.038	6.221	6.909	7.361	7.862	7.846	7.559
YL	2.223	0.541	0.265	0.000	0.000	0.000	0.000	0.000	0.000
X	30	40	50	60	70	80	90	95	100
YU	7.101	6.113	5.125	4.156	3.222	2.284	1.311	0.830	0.349
YL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The onset may be preceded with nausea, headache or faintness, but the individual may suddenly become stuporous or comatose. Shock usually intervenes. Severe laboratory abnormalities appear. Death may occur in hours associated with cardiac and multi-organ failure.

Heat stroke is an extreme emergency and was responsible for 6,615 recorded deaths in the U.S. during 1979-1995. In heat stroke, the heat regulating body mechanisms have failed, with no means to dissipate core heat. Immediate treatment is necessary, regardless of the setting. The patient's clothes should be removed and the individual immersed in an ice-water bath or packed in ice, a treatment of proved merit.

For example, the U. S. Marine Corps has achieved highly successful outcomes for ice-water bath treatment of heat stroke in new recruits. Massage to increase skin circulation and heat dissipation, vigorous re-hydration and other life support measures may also be required.

Rare and unusual forms of hyperthermia, resembling heat stroke, may be associated with use of amphetamines, monoamine oxidase inhibitors, cocaine, tri-cyclic anti-depressants and LSD. These illnesses may require specialized forms of drug treatment and support.

Acclimatization allows adaptation to adverse environmental conditions and protects against heat-related illnesses. It is a poorly understood but important means by which we tolerate high temperatures. Integral to the process is our ability to transfer body heat to the environment through evaporation of sweat. But the water and salt expended in sweat must be regularly replaced to maintain the cooling process. Otherwise, the body temperature may eventually rise precipitously.

The pituitary gland and kidneys are stimulated to produce hormones that help retain body water and sodium, but potassium may be lost in the process. After full acclimatization, cardiac output plus pulse and respiratory rates may all be somewhat increased. The process takes four to seven days. Does this remind you of feeling stronger the final days of the AMA Nationals?

Hydration is normally maintained by homeostasis mechanisms that balance fluid intake and output (urine, sweat and exhaled moisture). Maintaining hydration is important in prevention of heat-related illnesses. But that water-conserving mechanism may be bypassed by the need to dissipate body heat through sweating, resulting in depletion of body water and electrolytes.

In those circumstances, the first warning sign of impending dehydration is prolonged excessive sweating, which may be followed quickly by reduced urine flow and lowered body weight. The total blood volume may also contract as water is extracted from intra-vascular compartments.

The approach of attempting over-hydration before exposure to hot, humid conditions as a means of preventing heat-related illnesses has theoretical merit but is limited by the homeostasis mechanisms that automatically adjusts body fluid balance. Nonetheless, an early start on hydration is strongly recommended since once you fall behind on fluid intake, catch-up is very difficult if not impossible during competition. Electrolyte replacement is ordinarily not critical in treatment of mild dehydration and less severe heat-related illnesses. Several commercially available "sports fluids" do contain measured amounts of sodium and potassium (plus carbohydrates) that normal body mechanisms can sort out after ingestion and retain or excrete as needed. In severe and life-threatening heat-illnesses, major abnormalities of blood electrolytes require expert monitoring and replacement because of the potential for affecting heart function and rhythm, especially with impaired kidney function or other organ failure. Caution flags. These should be obvious. Be aware of and alert to the following factors that can predispose to heat-related problems on the flying field:

Koerbin wing root section (Stamov)
Nose radius=0.8 Upper surface max= 9.28 at 33
Camber max= 6.46 at 43 Max thickness= 6.88 at 20 Area= 378

X	0	1.25	2.5	5	7.5	10	15	20	25
YU	0.000	1.758	2.744	4.245	5.365	6.262	7.610	8.503	9.009
YL	0.000	-1.270	-1.190	-.784	-.390	0.055	0.878	1.618	2.267
X	30	40	50	60	70	80	90	95	100
YU	9.259	9.012	8.302	7.277	6.135	4.628	2.668	1.531	0.329
YL	2.965	3.883	4.432	4.406	4.037	3.186	1.719	0.785	-.329

Koerbin wing tip section (Stamov)
Nose radius=0.846 Upper surface max= 6.37 at 30
Camber max= 4.45 at 40 Max thickness= 5.19 at 13 Area= 288

X	0	1.25	2.5	5	7.5	10	15	20	25
YU	0.000	1.570	2.390	3.471	4.331	4.963	5.752	6.104	6.291
YL	0.000	-.977	-1.075	-.826	-.479	-.126	0.598	1.256	1.744
X	30	40	50	60	70	80	90	95	100
YU	6.373	6.211	5.818	5.125	4.224	3.108	1.828	1.159	0.431
YL	2.159	2.683	2.847	2.783	2.475	1.861	0.973	0.359	-.431

Koerbin tail section
Nose radius=1.2 Upper surface max= 7.00 at 20
Camber max= 3.50 at 20 Max thickness= 7.00 at 20 Area= 455

X	0	1.5	2.5	5	7.5	10	15	20	25
YU	1.583	4.138	4.803	5.761	6.198	6.513	6.875	7.002	6.863
YL	1.583	0.113	0.040	0.000	0.000	0.000	0.000	0.000	0.000
X	30	40	50	60	70	80	90	95	100
YU	6.631	5.819	5.014	4.211	3.401	2.578	1.764	1.364	0.978
YL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

- Environmental temperatures near to or higher than body temperatures (>90°F) - inhibits normal transfer of excess body heat to the environment.
- High humidity (>60%) - impedes evaporation of sweat and the related cooling effect.
- Poor conditioning and acclimatisation - a setup for illness.
- Occlusive clothing - insulates the body and impedes evaporation of sweat.
- Pre-existing dehydration - due to low fluid intake, illness or medications.
- Prior use of diuretics leading to intended reduction of free body water (this does not imply that diuretics should be discontinued).
- Using other drugs known to be associated with heat-related illnesses.
- Overly strenuous physical activity - most persons are aware of this but push on.
- Known low urine output despite fluid intake - indicating possible early dehydration.

Summary. Use of common sense and good judgement are keys to preventing heat-related illnesses. Remember to consider the following on and off the flying field:

- Heat-related illnesses usually occur on the first day or two of a heat wave or an extended outing - before acclimatization has occurred.
- Know your physical limits - function within those limits.
- Drink adequate fluids regularly throughout the day - enough to result in voiding significant volumes of urine at least every 2-3 hours.
- Long retrieval chases should always be motorized, if possible, don't go on foot or alone.
- Ingest fluids freely on chases - go to the trouble to do this.
- Maintain two-way communications - on a chase, others should know your location.
- Stay out of the sun and in the shade - whenever possible.
- If you become aware of possible heat-related symptoms - always seek fluids and assistance.

Reference. (1) Harrison's Principles of Internal Medicine. Fauci, Anthony S., et al, editors; 14th Edition, pp. 88-90. McGraw-Hill Companies, Inc., Pub., N.Y 1998.

Bob Perkins, a member of the NFFS Planning & Operations Committee, is Emeritus Professor of Internal Medicine and former Director, Division of Infectious Diseases, The Ohio State University, Columbus OH.

MIDDLE WALLOP, DEC 2

General report by Dave Hipperson followed by specific event reports from the CDs.

Determined to fill the gap left by the move of the Coupe International to a northern location after Xmas David Beales and company organised their own event on the usual date at Middle Wallop and came up with the imaginative title! They got immediate support from John Thompson who added a Combined Power event and Rod Audley likewise with Combined Glider. The weather played along but more importantly the forecast the night before was accurate promising calm to dead calm. Attendance was colossal; possibly to be expected with so few proper events this year but no wind ensured participation was also high.

With sensible maxes - even though modern CDH models could have probably coped with 2:30 in such thick, calm and generally helpful conditions - it was a contest where the performance models dominated. Particularly exciting to see some thin winged low drag 80g CDH's in their element. The top three models here were most impressive with consistently high climbs and as a result

all made superb flyoff filights late in the afternoon as light and lift faded.

Possibly even more surprising was the standard in Glider and the times put up by the top man in particular although like power the 'Combined' elements in their rules still need fine tuning to get a more level playing field. Certainly in Power the popular diesel Slow Open model was at an enormous disadvantage with a second paired off it's run whilst the higher performance glow equivalent was given *extra* ! Power world wide has been saved by the Slow Open concept and the new lease of life it gave diesels was much of the attraction. Pity to discourage them like this. There were few on the field but the winner used one and not only a Diesel Slow Open model but a British Diesel (AM 15) 1.5cc class model at that! Possibly the exception proving the rule.

A surprise 'super seniority' award was made at the end to Jack Allen who had maxed out and made a respectab1e flyoff with his Dixy to place 6th in power. Incredibly Jack is now 80 – he certainly didn't look nor behave like it!

Combined Glider (2:30 x 3)

1	V Driscol 7.30	+4.52	4	J Taylor	7.25
2	J Oulds	+ 2.12	5	K Burt	7.15
3	R Audley	+1.20	6	A Cameron	6.53

Combined Power reported by John Thompson:

An excellent day, wind NE 1 to 3mph. Combined power had motor runs of 7 sec for models with functions, 15 sec for Vintage, 30 sec for open electric and 11 sec for the others. A 2.30 max was used. The combined event had 22 entries, which was 7 more than if it had been just SLOP (2 electric, 3 vintage, 2 with functions). The good weather plus lack of previous contests this year probably encouraged the high entry. 9 reached the flyoff (8 SLOP and 1 with functions). We will continue to try out and evaluate combined events. If they encourage more people to take part it would be a big plus.

1	D Hipperson	+5.15	4	M Parker	+4.18
2	A Crisp	+4.41	5	B Perks	+3.02
3	T Hopgood	+4.22	6	J Allen	+2.50

King Harold Cup Coupe d'Hiver, David Beales report:

This new Coupe d'Hiver event attracted a good entry with 52 flyers in two classes. There was no strong lift but patches of helpful air were apparent, models floating at climb height and descending very reluctantly on the glide.

Twelve made the flyoff in F1G but only two managed the rather more difficult feat in vintage, where a good model has a potential aorund only 1.45.

Colin Williamson and Ralf Sparrow both caught a helpful patch in the cooling air and made great flyoffs, Colin's FUIT 3 just seeming to outglide Ralf's JUMP BIS.

In the F1G flyoff Ted Challis got away early with his high aspect ratio model, clocking a fine 4.31. Roy Vaughan with 3.56 and Trevor Grey with 3.50 were both impressive. Finding lift in the cool still evening air is certainly a 'black art' and much credit is due to all who flew off as no one dropped below the 2.30 mark.

A strange fluke occurred in the results as in both classes there was a draw for 7th place. What do the superstitious make of that?

Vintage CdH 10 flew

1	C Williamson 6	+2.58	4	C Chapman	5.25
2	R Sparrow	+2.39	5	E Tyson	5.17
3	R Alban	5.27	6	L Ore	5.12

F1G

1	E Challis 10	+4.31	7	M Evatt	+2.57
2	R Vaughan	+3.56	7	D Neil	+2.57
3	T Grey	+3.50	9	J Bailey	+2.42
4	S Willis	+3.31	10	J Knight	+2.39
5	R Sparrow	+3.27	11	P Jellis	+2.35
6	G Sharp	+3.02	12	M Stagg	+2.33

CHRISTMAS FLYER, Church Fenton, Dec 9

Dennis Davitt reports:

This was the first meeting of 2001 at Church Fenton to 'normal' rules and with no restrictions. It seemed to satisfy a pent-up demand, with over 50 cars present.

An initial problem was caused by fog - maxing flights would not be seen. However the fog cleared enough by about 11am so that all but the highest flights remained visible. The windspeed was close to zero throughout the day.

Flyoffs were required in all classes, during which the OR flyers used longer thinner motors, and some of the power flyers used slightly shorter engine runs, all with the aim of not disappearing upwards. These tactics paid off, with Gerry Ferer's OR model being seen for over 8 minutes.

A couple of days later I was back at Fenton distributing Christmas cheer, and also hoping to recover Brian Lavis's glider. This turned out to be stuck in the very top of a tall tree, well beyond the reach of my poles. However the station fire brigade were persuaded to help.

They turned out in two incredibly noisy fire engines with 5 staff. Keeping up an almost continuous banter, they used their ladders, my pole (and my largely ignored advice) to recover the model almost undamaged. A star team.

Results - note that P30 and combined E30/CO2 were flown to 3x2.00 and other classes to 3x2.30.

Open Rubber 11 entries

1	G Ferer	+8.24
2	B Martin	+7.31
3	W Hodginkson	+4.53

Open Glider 7entries

1	J Carter	+4.25
2	A Ball	+3.30
3	B Lavis	7.20

Power (OP,SOP,EOP) 16ent

1	E Jones	+5.44
2	P Ball	+5.24
3	J Cuthbert	+5.02

Vintage 12 entries

1	R Pollard	+4.43
2	C.Strachan	+4.41
3	D.Davitt	+4.14

Comb E30/CO2 9 entries

1	A Whitehead	+3.33
2	J Godden	+3.11
3	R Brigginshaw	+2.57

P30 8 entries

1	P Ball	+3.42
2	R Sparrow	+3.17
3	T Rushby	+2.59

COUPE D'HIVER INTERNATIONAL, CHURCH FENTON, DECEMBER 29

Report by Dave Hipperson.

Under new management this year and with it a move of venue. Never before had the Coupe International been run so far north - quite a gamble. Sixty mile per hour gales ravaged the countryside and turned vehicles over on the motorways the day before and by evening, in the centre of the country at least, the wind gave way to snow blizzards with as much as 3 inches falling in some places. Those driving up on the morning had interesting if not a little hazardous journeys. Indeed many turned back and entry numbers fell way below pre-registration levels as a consequence. The weather probably halved the numbers and even Phil and Anthony Ball thought about aborting their journey as the snow got thicker!

Out at York however hardly a flake had fallen, the traditional weather miracle had remembered to come along once again. The morning dawned overcast and breezy quickly giving way to clear sky and light drift by the start of the contest. The only real hazard being the patches of ice on the runways and these persisted all day. More than one person took a nasty tumble. The organisation were then quick in moving their vehicles to deliberately cover the worst patches around control - very thoughtful!

The air proved vary stable for the first hour or so growing more choppy as the day progressed. Thus early flying tended to fair best as is so often the case at this contest although there were some exceptions. John O'Donnell was possibly the first person to contact a really nasty patch on his fourth 80 gram flight to drop a whole chunk of time. Then later in the day made amends with three stunning maxes in 100 gram. On the other had Ian Davitt played it tactically safer by starting with 100 gram but still got unlucky once. He too suffered again on his last 80 gram flight once again with turbulence despite the light drift - never more than 10 mph usually 5.

Anthony Ball was first to max out after a very prompt start and Hipperson was lucky on his first flight after DTing far too long and ever so nearly hanging up in Fenton's famous poplars. He plopped the model down, the same one that had been dunked in the Thames at the Oxford Rally in September, in a pond or rather on it! The extremely thin ice which covered it was just strong enough for support until it could be hooked off by roach pole before the sun melted it.

The rules unique to this contest made it possible for Gerry Ferer to proxy fly one of Ralph Sparrow enormous models - none too successfully in this instance and brought out the motor heaters again which although fiddly were very welcoming to cold fingers as well as improving climbs. A departure from the norm came with the news that the organisers were making spot checks on models and processing motors. This can do no harm as it stops people becoming sloppy with their motor making. Indeed the eventual winner was so impressed that he voluntarily checked three more motors before the flyoff after already having been processed during the day!

Ripmax had had no hesitation is sponsoring to the usual degree and fortunately the Northern Area too made a very large contribution. Fortunate because apart from a number of individuals - mostly contestants themselves - the usual degree of support from the larger cottage industries was absent. This was a pity as the team that ran this contest, namely Dennis Davitt, Joe Northrop and John Godden did a professional job much in the tradition of the last few run on Middle Wallop and before than North Luffenham. If anything Church Fenton is a better site - far tidier and easier to move around than Luffenham and completely free of the niggling clashes with the full size activities that can so beset Wallop. On the contrary such is the relationship built up here with the authorities that all day there was an official RAF liaison man on hand to re-assure us and allow us to continue even in the event of an Amber Alert!

Towards the end Edna Flynn who had dropped but a few seconds was looking forward to a place in the top six. She confided that although she was always very pleased to be top lady it meant so much more if she could place amongst the fellas in here own right and she did. By the close at 3pm there was a small flyoff to resolve the 80 gram event. With daylight still good - most unusual for this winter fixture - an unlimited flight was chosen as the decider. The ambient temperature was hovering around zero, motor heaters were advantageous and the top two used them. Hipperson launched first after quite a wait and climbed very well but lost some height half way through the glide with a couple of stalls whilst negotiating what seemed to be a turbulent boundary at the edge of the drome. Ball's flight that followed soon after just missed the best air on the climb and dropped quickly on the early part of the glide but improved low down to much extend his time. The other two seemed to suffer some trim problems and were never in contention. Hipperson had used his largest but not newest model it having been built in '96. It has the same very thin section that he had developed for F1B but works even better on CDH. The model is 230 sq ins, carbon and Kevlar D box two piece wing the port side of which is held at 3 degrees washout for the first five or six seconds. There are no other moving surfaces nor DPR. Anthony Balls is even better known, DPR, VIT similar span but slightly more chord and hence wing area. Both models were comfortably over weight!

As is traditional the day was rounded off with an indoor presentation. This took place in the very cosy atmosphere of the Fenton Flyer - a pub practically on the edge of the drome and popular with the local modellers. It appeared that almost everyone who had been on the field, even those not flying at all let alone well enough to win, had come to this. Very worthwhile prizes were awarded well down the list - indeed few people went away empty handed. The Northern Alliance had made a fine job and even went to the trouble of presenting a carnage clock to Dave & Sue Hipperson who had run the event for the past nine years. Nice touch - and thanks.

80 gram 5x2 18 flew			**100 gram 3x2 6 flew**		
1	D Hipperson10	+3.42	1	J O'Donnell	6.00
2	A Ball	+3.02	2	I Davitt	5.32

3	G Beal	+1.40	3	G Sharp	5.29
4	J Barker	+1.35	4	M Dixon	5.11
5	E Flynn	9.54	5	G Ferer	3.22
6	G Sharp	9.42	6	J Carter	2.46

Vintage

1 D.Davitt	5:23	(Lo Zigolo)
2 M.Marshall	3:07	(Lo Zigolo)

LEAGUES 2002, DAVE HIPPERSON

Dave is directing the following 2002 leagues.

Timperley League Rules

Qualifying contests including details of all classes to be flown must be advertised in advance in either Free Flight News or Flying Model Design and Constructor and must be open to all. The season shall be from 16th December to 15th December inclusive.

Qualifying contests shall be all those outdoor Free Hight duration events run in the UK which are not under the direct control of the BMFA Council - i.e. not what is known as BMFA contests. Neither shall they be experimental BMFA contests nor any contest run by or on behalf of the BMFA Free Flight Tech. Committee. Contest shall be run as advertised. Failing full rule details these shall be assumed to be as per current BMFA procedure except for exclusions stated later or where advertised as different in advance. All events shall be run with the Builder of the Model rule (as per BMFA rule book 1998) in place. (Non-BoM events either deliberate or accidental will not be considered in the Timperley League. In addition no FlA, B or C events of *any sort* shall be considered as experience has shown that when these are run they are now invariably run without BoM).

All events shall be run to the conventional duration format. That is termination or interruption of flights shall always be at the contestants discretion whether qualifying contest flights or flyoff flights. Contest which involve contestants having to make official flights, during which any part of the timed portion of the flight involves models being flown in something other than conventional climb or glide trim shall be void as far as League points are concerned. Furthermore events so much as advertised as possibly including such rules shall also be void even if those rules are not actually applied on the day.

Events advertised as Champagne or Progressive flyoffs will be eligible but otherwise the number of flights will be expected to be as accepted BMFA procedure unless such differences are advertised in advance. If events are to be flown in rounds this too must be published in advance. Contests must start within one hour of the advertised time or 11am if no time has been stated in advance. Deviations from the above will void the contest's League points and may positively excluded it from the Leagues the next year.

Contestants may count only their best eight results thus the maximum possible score is 8 x 9 = 72 points. (Point scoring will be as per BMFA Senior Champs 1998. 9 for 1st, reducing to 1 for 6th and cutting off the top points in the event of less than six recorded scores). Scoring can be only from one event per day and in that event, only one score, the contestants best, will count. This *day* is understood to be the day on which the complete event including flyoffs concludes Ties for overall classification in the League will be resolved by awarding to the contestant with the most first places. If that is not decisive then second places will be taken into consideration and so on until the tie is resolved.

Most SAM events have in the past not been eligible because so many of them are arranged on an ad-hoc basis. However the three Wakefield classes at the SAM Euro Champs *will* count.

Aeromodeller Overall League

The Aeromodeller Overall League accepts scores from all Timperley League qualifying events plus the BMFA events that maintain the BoM. Points scoring as per 1998 Senior Champs - all contest placings to count including those on the same day but not multiple placings in the same event.

This award will NOT BE MADE unless a substantial calendar of conventional BMFA events takes place. *('Substantial'* will be defined by the CD in good time if necessary.)

Open Rubber Trophy League

The Open Rubber Trophy League has restrictions as per the Timperley League and scoring as per BMEA Senior Champs 1998. All qualifying events must retain BoM as per BMFA rule book 1998. No Champagne flyoffs or contests with less than 3 qualifying flights will be eligible. Contestants for 2002 will be able to count their five best placings from:- BMFA Winter Open, The Ashdown Gala, BMFA Easter Meeting, Woodbury Weekend, BMFA Nationals. Scottish Nationals, Timperley Gala, BMFA Southern and Northern Galas, BrumFly, Falcons Gala and the Rubber Day. There will be a 'windy weather bonus'- points awarded at the windiest contest of the season will be doubled.

This award will NOT BE MADE unless a substantial calendar of Open Rubber BMFA events takes place. However if the trophy cannot be awarded as a League prize the organiser will attempt to arrange a special contest for it later in the season - much like when it was introduced in the late 70s - as an Open Rubber Trophy Day.

NEWS FROM BMFA FF TECH COMMITTEE

The new committee met on December 1st and the various posts were decided:

Chairman - Mike Woodhouse, 12 Marston Lane, Eaton, Norwich NR4 6LZ
tel 01603 457754

e-mail mike@freeflightsupplies.co.uk

Secretary - Chris Strachan, 56 Way Lane, Waterbeach, Cambridge CBS 9NQ
tel 01223 860498
e-mail chris.strachan@btinternetcom

Treasurer - Geoff Stringer, 130 Downton Avenue, London SW2 3TT
tel 0208 674 8183
e-mail stringeruk@hotmail.com

Council Delegate Alan Gibbs, 115 Rochester Road, Coventry CV5 6AF
tel 02476 676507
e-mail alan@gibbs115.fsnet.co.uk

PRO - Dave Clarkson, 108 Lincoln Towers, Middle Hillgate, Stockport SK1 3PQ
tel 0161 477 7647

Safety - Peter Tribe, 46 Southleigh, Bradford-on-Avon, Wilts. BAl5 2EQ
tel (weekends) 01225 862748
e-mail peter.tribe@virgin.net

We are well distributed around the country so one of us will be near you. Remember that we are all active fliers so button-holing us at contests whilst trying to fly may not get a positive response. Much better to write a letter or send an e-mail especially if you want it remembered and considered. Of course the telephone is available for something minor. If you want information on what is going on then there is a FFTC Website and a regular e-mail Bulletin:

Website www.vengi.demon.co.uk

E-mail Bulletin register your e-mail address with peter.tribe@virgin.net

The first things to hit us were that, due to re-surfacing work, Barkston is unavailable until the end of July so no FF Nats there. Strenuous efforts are underway to secure an alternative site however it might have to be Salisbury Plain. A Contest Calendar is available but bear in mind that this is provisional because as I write this (early December) no efforts have yet been made to book venues. You can bet that we are working hard on this. Our priority right now is to get us all back flying now that the F&M disaster appears to be behind us. Attention to detail will come later.

Team Manager and Assistant Team Manager F1A, F1B, F1C 2002. Applications are invited for the positions of Team Manager and Assistant Team Manager for the 2002 Free Flight European Championships to be held at Kunszentmiklos, Hungary from 29th July to 4th August. The Team Manager will organise travel, accommodation, entries, documentation, etc, whilst the Assistant will provide on-site flying organisation. Applications should be sent to Chris Strachan, FFTC Secretary to arrive no later than 1st March 2002. This Notice supersedes all previous ones.

BMFA Contest calendar.

The Northern Gala at Church Fenton has been changed to 24th March and the F1E meeting scheduled for that day has been moved to 7th April.

4TH VFFS WORLD POSTAL COUPE COMP

Darien Cassidy sent results of the 2001 postal.

With foot and mouth disease and the September 11th disaster the two major supporting countries were badly affected and I expect these have been the main causes of the drop in support.

1	S O'Connor	AUS	591	600+184	600+441	2416
2	I Davitt	UK	561			561

The following are the revised entry conditions for the 5th comp, for 2002. The only major change is the foreshadowed one of making it a year long event.

1 The total air time of the entrant's three best results in competitions held from 1st January to 31st December 2002 shall be the entrant's score. The scores shall be ranked accordingly to arrive at the placings.

2 If a competitor gets all five 120 sec maxes in one contest, one unlimited fly-off time will count towards the competitor's total air time. This may be taken outside the official Competition, or if the competition prescribes a progressive fly-off, the competitor may elect to use his highest fly-off time.

3 If a competition is cancelled, an entrant may be timed by another person at an alternative time. Such a person must sign the scorecard.

4 The competitor must provide copies of the published results or copies of the scorecards of the events entered, including the name and address of the entrant, the date, place and name of the event.

5 Entries and published results or scorecards must be received by the organizer by the 22nd January 2003.

6 The entry fee is Aus$2.00; UK£1.00, US$2.00. Money orders, notes (not coins), or cheques drawn on UK or Australian banks only and international reply coupons, shall be accepted.

7 Engraved wine glass is given to the first three place getters.

8 The organizer is the VFFS. Send entries to Darien Cassidy, 29 Russell Street, Surrey Hills, Victoria 3127, Australia. Enquiries to Fax/phone (03)98990322 or E-mail: joybdes@bigpond.

INTERNATIONAL COMPETITION NEWS

MIAMI TROPICANA INDOOR is to be held on February 2nd and 3rd at St Petersburg, Florida, USA. It is described as a record trials, not with specific competitions but trophies awarded based on a combined classes performance index. At 231 feet the Tropicana Dome is the highest indoor site in the USA, but of course lower than the Cargolifter hangar. Entry fee for the two days flying is $50. Contact David Linstrum at davidlinstrum@cs.com.

COPPA ITALIA 2 is an Italian Coupe d'Hiver competition run by the Pistoia group (GAP) at Orentano, Altopascio, Tuscany (Altopascio exit from the A11 autostrada from Pisa to Firenze). Special rules are that

each contestant can enter a maximum of two models, for each entry one spare model is allowed. There will be up to 5 rounds and for each round a maximum will be set up according to conditions (up to 4 minutes). First round starts at 8.30. Entry fee is € 25 per model or € 40 for two models (foreign entrants may pay on the field). Entry registration to arrive by January 31 at CGruppo Aeromodellisti Pistoiesi, Casella Postale 229, 51100 Pistoia Centro, Italy.

UK COMPETITION NEWS

CHURCH FENTON. Dennis Davitt reports that he has applied for the some Sundays at Church Fenton to be used for the following events:

Jan 13 New Year Flyer. O/R; O/G; O/P+O/E+SLOP; MV. CD: C Westerman.

Jan 27 Event run by Timperley Club. Comb Power, Comb Glider, Comb CDH+MV. Contact: D Clarkson.

Feb 10 Vintage Pannett & Kay + special combined Mini to Ian Davitt's aggregate rule. CD: J Northrop.

Mar 3 & 17 lst & 2nd Area events plus local MV. CD: C Westerman.

Mar 24 Northern Gala. CD: T.Hargreaves.

Just to be clear -all these events will be to normal maxes, not '50/50' rules. As always, check each event nearer the time.

CROOKHAM GALA will be held at Middle Wallop on February 3rd for three events.

Combined Rubber (experimental).

Max and K-factor according to model size (max * K gives 180):

Projected wingspan	max	K
up to 36 in	120	1.5
Over 36 in - 41 in	150	1.2
Over 41 in	180	1.0

Note:

1. The above is based on a 3 minute maximum which will be reduced if weather conditions dictate.

2. All flight times (including fly off times) will be multiplied by the 'K' factor at control.

Combined Power. Engine run according to:

Models with functions	7 sec
SLOP and Nostalgia models	11 sec
Vintage models	15 sec
Open electric	30 sec

Combined Glider. Towline length according to:

Circle tow models	30 m
Straight tow models	50 m
Vintage models	100 m

Contest start at 10.00. For all classes the fly off models must be the same classification as that used in the contest. All classes to have 3 flights and maximum to be decided on the day.

Contacts: Mike Parker, tel 0118 9481392 or email michael@cavgrove.freeserve.co.uk
John Thompson tel 01252 842471 or email Johnd.Thompson@btinternet.com

Any last minute changes will be posted on www.cavgrove.freeserve.co.uk

WOODBURY WEEKEND GALA will be on May 4th to 6th. Events on Saturday 4th start at 11.00 after a briefing at 10.50, finish at 17.00. Nostalgia event for designs published between 1/1/51 and 31/12/60 (all events 3 flights): open rubber (no motor heaters) for Open Rubber Cup, open glider (50m towline) for Woodbury Cup, open power (any engine 12 sec run, no folding props, no brakes) for Needham Duration Cup. Vintage precision to South Bristol rules.

Champagne flyoff will be on Saturday evening. On entering competitors must nominate a timekeeper:

18.00-18.15 vintage rubber, vintage glider (250ft line)
18.30-18.45 combined open/slow open power
19.00-19.15 open rubber, vintage power
19.30-19.45 open glider, mini-vintage rubber

Sunday events start at 10.00 and finish at 17.45, flyoffs from 18.00. All classes 3 flights, max to be announced to suit conditions. Open rubber for Freshman Cup, open glider for Ray Inker Cup, combined open/SLOP for Challenge Cup, vintage duration rubber for Duration Cup, vintage glider (250ft line) for Mini Vintage Cup, vintage power for W J Harris Cup, all-in mini vintage for Delta Models Cup.

Alan Parker Gala Championship Cup - points awarded from all events 9-6-4-3-2-1.

For all events the max will be announced at 10.00 on the day to suit conditions. Entry fee will be £3 each, except £2 for Champagne flyoffs. One entry per person, i.e. no re-entry. Open competitions flown to BMFA rules. All prizes to be awarded at the Sunday evening prize-giving at 21.00 followed by raffle, supper will be available if pre-paid.

Caravan and camping facilities are recommended at the Castle Brake Holiday Park adjacent to the flying site tel 01395 232431 or (a short drive away at the beach) Sandy Bay Holiday Park (Terry Cole) Exmouth tel 01305 776504. Accommodation may be booked at special rates using a form available from the contest organiser George Fuller, tel 01404 841 609, address Homelea, Payhembury. Honiton, Devon EX14 0H.