



Fig. 11 Per Findahl with Lord Flash 3

World Champs in 2001. Lord Flash 2 has also been presented in Free Flight Quarterly before, so I don't show it again in this article. The next model, Lord Flash 3 was made just two years ago, and this is my latest design. I used this model to win the fly-off at the World Champs in Odessa this year. The novelty in Lord Flash 3 is the six-panel wing, and also a second servo for the rudder. I'm not sure how much extra flying time this six-panel wing gives, but the model is gliding nicely. The second servo for the rudder is also important to give the opportunity to change rudder settings during the glide.

...and in the future?

So, what will come next in the evolution? It is difficult to predict, of course. I think that a flapper could be a good way to go to increase the performance of our FIA models. I will try this kind of model soon, but I can already sense I'd have to climb some big mountains to get this design to fly. I think it is important to remember what my good friend John Cuthbert says: "It is better to be with a 2-minute model in 4-minute air, than with a 4-minute model in 2-minute air". It is on the field when, flying, the champion is selected, and it is quite often that the air is much more important than the performance of the model. But, of course, the combination great performance/great air is always the best. This is, I guess, what keeps us developing better and better models all the time♦.

(Simons on Airfoils, from pg 14)

When Schmitz' results became better known in the nineteen fifties, explanatory articles appeared in model magazines such as the English *Aeromodeller* and brought about something of a revolution in model design. Those interested in the popular A1 and A2 'Nordic' model sailplane and the 'Wakefield' rubber driven World Championships of the times, now looked for airfoils with fully turbulent boundary layers. These needs were satisfied by airfoil designers. Two were particularly successful, Sigurd Isacson, a champion modeller from Sweden, and Dr Georges Benedek of Hungary (Figure 6).

Many of Benedek's airfoils remain in use for free-flight contest models. Models in any case often had unintended turbulators, because of a sharp bump in the wing near the

leading edge, or multiple stringers. The type of covering material used also has quite important effects. A textured fabric is sometimes better than a glossy plastic film, for example. The fabric has a turbulating effect which may be just enough to prevent flow separation at some flight speeds, especially near the wingtips and close to the stall. Wind tunnel tests at the University of Illinois, Urbana, have cast further light on the problem of hysteresis. This kind of research continues, being applicable not only to models now but also to the blades of small wind turbines. The purpose of a turbulator always is to prevent flow separation, either general over the whole surface as with a small model, or in local spots on a blade where otherwise there would be separation bubbles.

The problem for full-scale sailplanes remained. There seemed to be no wind tunnels that worked reliably in the range of speeds and sizes appropriate for gliders♦.

(to be continued in the April 2008 issue of FFQ)

(Cottage industries Woodhouse, from page 16)

- He orders things that you haven't got and asks if you can just help get them for him as he is too lazy to shop around other outlets himself.
- The inquisitor – Keeps niggling at you in trying to persuade you to part with the stock of rubber that you are saving for your own flying, that is when you are free to do so. Yes I have Tan II May '99 and I'm keeping it! So there!
- The oblivious – You are concentrating during the 10 minute fly off window praying for that good bit of air just for you alone! The voice from somewhere breaks into your concentration with "I need xy&z and I need it now". You can guess the response!
- The returner – Unused and abused goods returned for credit. Some items you never even stocked! And wouldn't 'cause you knew they are rubbish.
- The collector – Takes all your lists for his club, the promised mega orders that never appear. Also rings on a regular basis for the new list.
- The late night caller – He is just in the area (we were just going to bed) so he thought that he would just call in. Several hours and a meal later. Most callers are encouraged in my establishment; I just need a little warning. Often leaves without making a purchase!
- Urgent! – What do you mean it will take a couple of more days to arrive, I ordered it yesterday. If I wanted tomorrow I would have ordered it today. Can't you just nip to the Post Office, etc, etc.
- Twenty questions. – I need 20 yards of rubber and I need a full detailed explanation of how to use it! Or a, simple, potted explanation of how construct a carbon "D" box wing!

From a personal point of view I have seen lots of changes of what is required by the free flight modeller. You are a discerning bunch and one has to be alive in not getting caught with an inventory of out of date stuff. Some products that were of interest a few years ago are now no longer relevant. So it evolves in more ways than one. Please keep the orders coming. Remember I have a box full of models to support and keep in the air and without you we would be grounded!

A personal bit

Aged 65. Retired a few years or so ago from salaried employment as an accountant, worked for a myriad of organizations doing mainly project work. Now full time "employed" by "Free Flight Supplies".

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