



How to prepare for a World Championship and what happened in the WC 2003
 by Per Findhal, Norberg, Sweden

In a similar article written for FFQ#4, July 2003, Per Findhal (Pelle) described some aspects of the intense and wide-ranging preparation he undertook to confront successfully the stiff competition in the F1A category. That article touched aspects of Free Flight contest preparation that are very seldom seen in print, as many readers noted. In view of the success of the Swedish Team in the 2003 WC, I asked Per Findhal to enlarge on his previous account and include the joint preparations he undertook with his team-mate Robert Hellgren, later winner of the F1A category. Ed.

This is an account of my own and Robert Hellgren's preparations before the World Championships in Hungary and also about our flying in Hungary. Here follow some personal reflections about this.

After winning the World Championships 2001 I was determined to try to fly a good contest as a defending champion in Hungary 2003. The goal for me was to fly a contest that I could feel happy with, where I tried my very best, and made consequently the best preparations I could. To win a second time was, of course, also my goal, but I also realised that it would be a difficult task. Not many flyers won the title twice in F1A....

The preparations were easier in 2003 than in 2001, because I had acquired a good concept of training: the one that I had used in 2001. I could apply many of my thoughts I had had before the World Champs 2001 and also do some development in some areas. I was also lucky in the way that "my junior", Robert Hellgren, also was flying in the Swedish team. We live in the same small village, and consequently we made a lot of preparations and training together. Training together is often more stimulating, and gives more than training alone. Another flyer can always see different things during the practice and give more feedback than the person flying by himself. Also, practising together gives a possibility to try more advanced exercises. I also had the opportunity to test some of my thoughts about preparations on Robert. This was very good both for Robert and for me, because when I needed to discuss and tell Robert my thoughts about preparations, I had to be clear in what I wanted to talk about. In order to be clear, I had to re-think and organize my thoughts, and this helped me also to think a little further than I had done before. So, I'm quite sure, both Robert and I had some things to gain from practising and preparing for the World Championships together.

As I wrote in my article after the champs 2001

(FFQ#4, July 2002), I consider that my preparations consist of four different aspects:

- The models and other contest equipment
- Flying and tactics
- Physical preparations
- Mental preparations

I try to practise and prepare for these four aspects separately, and I set up goals for each and everyone of them. This has definitely helped me to achieve more and to get better results from my training. The goal is to be at my best with all these four aspects at an important contest. I know that for me it is realistic to be on top form on all counts about three times a year, not more. You need considerable experience to know how to get the best of all these four aspects simultaneously, and I'm sure it would be different for different individuals. This is a task that in all certainty a personal trainer, with experience from other sports, could greatly assist a Free Flyter.

It makes no difference if you are doing football, high jump or Free Flight. If you want to get good results in an important contest, you must plan the training and preparations to peak at the right time. Of course, these aspects are



Robert Hellgren after winning the F1A Championships at Kunzentmiklos, July 2003.

specific to the sport you are doing, but some, especially the mental preparation, are the same for most sports, including Free Flight.

From my experience, I think that in Free Flight, if you can get at contest time the four elements described above at their best, you stand a much better chance of getting good results. You can never be 100% sure of winning,

but the chances to make top results are good! Another consequence of training like this is that it is possible to fly with a high lowest level. That means that when you are not on peak, it is still possible to fly quite well. The drop in conditioning between peaks and the periods from peak to peak seem not to be so deep and long for me as they were when I prepared in other ways.

Models and other contest equipment

I checked-in the same four models in Hungary 2003 as I checked-in in USA 2001. I used Baldrick 3 for most of the rounds and the fly-offs. In a few rounds Baldrick 3 wasn't back in time for the next start, then I used Baldrick 2 instead. Some small changes were made on all my models after the WC 2001. All models now have new tailplanes with carbon D-box and are much stiffer than my old ones. I had some problems before with tailplanes warping, but that is gone now with the new tailplanes.

I changed the electronic timer on all my models to the latest version. The newest version of electronic timer from M&K is without power switch. It is perfect! Now it is just necessary to hook the line in the model and fly! As I wrote in my previous article I forgot to switch on my timer

in one round at the WC 2001! The new timer seems also to be more stable than the older type I changed from. Before I had some problems with some timers crashing, but the new version is, as I said, more stable.

Now I also have an altimeter in some of my models. The altimeter has helped me in the preparations a lot. I have done quite a lot of experiments with different Spectra lines and timer programs, and it has been interesting to see the height gain in the launches with different lines and timer programs in different weather types. It is also possible to calculate sinking speed of the model with the help of the altimeter. It can also be a good help when sorting out models. I haven't worked so much with this yet, but I will do it in the winter.

Both Robert and I used a 0.9 mm Spectra line for all the rounds at the WC 2003. Using the stiff Spectra line (the line is stiffer than the steel wire I used in the fly-off 2001!) also made us increase the opening tension of the hooks. We worked together with Jari Valo of Finland to get the Spectra lines and also to get new springs for the tow-hooks.

We now fly with 10.5 kg hook tension. But this is still not super safe! M&K is working on a new hook that will be safer in which more than one option has to be fulfilled before the hook will open. I tried the M&K impulse hook, but it didn't work so well for me, it didn't suit my way of flying. Some people here in Sweden and elsewhere fly with the impulse-hook and they are happy with it, so I think it works fine if you fly the models with a certain technique.

I changed back to the old type of hook, but with a higher hook-tension. For calm weather I use a 0.5 mm thick Spectra line. The use of the thicker line in wind prevents the problem of breaking the line. The thicker line gives more drag and "hangs" a little in the air when it is windy. This gives more safety with turbulence (prevents hook opening during gusts), and allows smoother circling with the model.

Robert buys all his models, he is not doing any serious building himself. Robert said that he wants to put most of his time in Free Flight flying the models and practise flying instead of building, as it takes a lot of time to do both building and all the practising that is needed to get top results. I think it is good that today it is possible to choose if you want to do both building and flying or just do the flying.

We talked and discussed at length which models

As Spectra lines may not be known to everyone, here is some additional information on them (Ed.)

Spectra is a relatively new high-resistance plastic. Braided fiber fishing and kite lines made from it have gained widespread acceptance over the last years. This is due to the fact that Spectra line has very low stretch. Spectra has a very high strength-to-diameter ratio, which means one can spool more line of greater breaking strength onto a reel than one can with standard monofilament. Spectra is less than 1/3 the diameter of monofilament of the same line test. It is extremely flexible and has a very long life, will not rot and is not damaged by UV sunlight, unlike monofilament line. Spectra has no memory, will not swell in water or lose strength when wet. Spectra lines is sometimes used in a combination of braided core and a smooth external sleeve. *SPECTRA is a Registered Trademark of Allied Signal, Inc.

would be best for Robert to get. In the end the choice became two short wing models and two long. Robert used a short wing Yablonovsky model in most rounds and in the fly-off at the World Championships. The only change we made on this model was to increase the hook tension, otherwise it is a model "straight from the factory".

As a spare model Robert used a model with a Stamov mechanical timer/fuselage and a pair of my old wings. This is also a short wing model. Robert also had two longer models checked in, but he didn't use them in the windy weather. Both have long Yablonovsky wings. One has got a M&K electronic timer/fuselage and one has a Stamov mechanical timer/fuselage. Robert used the long Yablonovsky model with an M&K fuselage at the World



Pelle executes a fast zoom-launch at a training session.

Cup contest, Jenő Vörös Memorial, after the championships. He got fifth place there, so also his flying in calm weather is really good and he has good models for that kind of weather as well.

Other equipment that Robert and I got recently is GPS and quite good binoculars on tripods. Both things are now essential at a test.

Flying and tactics:

Robert and I fly a lot together for practice. In the winter we fly on a frozen lake, and in the summer we fly on a small sport-airfield. We have to make most of our trimming and glide testing in winter, because the "summer-field" is not big enough for such tests. During the busiest periods I think we flew about four times a week, perhaps even more. A lot of flying is just for sorting out models, but we also flew some exercises to practise other things. We did a lot of piggy-backing. Some tests, running with the model still on line on the track were described in my previous article and were also included in this practice. We also flew quite a lot of imaginary fly-offs.

Robert needed some practice handling his model on the line close to other models still on the line. Robert was in the Swedish team for the first time last year (2002) in Hungary at the European Championships, and he dropped the first flight (four secs. short) because he wasn't feeling secure handling the model close to other models still on the line. He therefore launched his model too far from the centre of the thermal as he didn't want to fly too close to the crowd of models and lines that were there.

All the exercises discussed above here are good for learning how the model behaves and to improve the skill in flying close to other flyers without becoming nervous and making unnecessary line crossings and mistakes. Robert really improved in this area from the European Championships on and was flying more relaxed at the World Championships a year later. This more relaxed approach is necessary to make good decisions about the best air to fly in.

The tactics during the seven rounds at the World Championships 2003 were the same for both Robert and I:

fly on the best thermal indications available. Other models circling in a thermal are one of the best indications, and also, of course, can be supplemented by your own good indications (streamers, etc.).

The fly-off is always difficult to plan totally in advance. The tactics depends on how is the contest going during the seven rounds and also on the weather in the fly-off. For me, my self-confidence was very high after the seven rounds. I think I flew absolutely the best I could have done during all the seven rounds. No mistakes at all that I can remember now, and all maxes were super safe. Robert had a few flights when he had some problems, but still maxed. Therefore, I naturally decided to fly on my own during the fly-off. In the weather we had for the fly-off the contest could have ended after the first fly-off. Robert decided to fly relying on outside thermal indications in the fly-off, he wasn't feeling so sure that he could find good air by himself. Remember also that this was Robert's first World Championships, he had no experience at all in this situation! To fly like this was absolutely the best decision for Robert in the fly-off.

In the first fly-off everything went very well for me. After having my model on the line for some minutes I got a good thermal indication and flew a good five minute max. Robert followed in the same air and also maxed. In the next fly-off I wanted to use the same tactic as in the previous fly-off. I wanted to go upwind and find my own air. Robert had a discussion with the other flyers in the Swedish team, and together they decided that it was stupid for Robert to follow me again. With just four flyers left we could finish in positions three and four if the air was better elsewhere when we flew. It was a clever decision and it paid off well for Robert !

My thoughts were to run upwind, and perhaps to detect some better indications on my way up there, then decide on what thermal indication to launch in. I went upwind, but it was difficult to stay and feel the air on the way up there. When I reached the point I wanted to reach, I didn't feel anything that I liked during the rest of the round. I finally had to fly at the end of the round and release on a rather poor indication. Robert got on the best spot on the field at the right time and made a very good flight! It was so impressive to see this from a young man who is just 22 years old! He showed very good tactics and strong nerves in spite of not having the previous experience from big fly-offs! In fact, I think Robert had won previously less than five F1A-contests in all his life, one of them is the World Championships! It was good to see that all our hours on the practising-field led to such good result. It was a well-deserved win for Robert, he made absolutely the best flight in the last fly-off.

I must also say that the bad weather during the whole F1A-contest was in favour for us from the North. We had two of the four selection-contests to choose the team for the championships in exactly the same kind of weather that we had during the contest in Hungary, heavy rain and strong wind (together).

Physical preparations

For me the preparations in this area were very much the same as before the World Championships 2001. I did quite a lot of long-distance running . The goal for me was to participate in the same long distance race as I did in 2001 and 2002, which is a 51.4 km running race here in my village of Norberg. The race took place only one

month before the W/C, maybe a little close, but still OK. I also played quite a lot of volleyball during 2002 and 2003. Robert does orienteering, and he also plays hockey.

In the area of physical preparations each one has to find what suits one best. Just use the imagination and find something to improve the fitness! It is very important not being tired during the contest. Just look at the World Championships. The contest was quite tough with the weather we had. A lot of running was involved, both to find the thermal, and also to retrieve the models. If you got tired it was extremely easy to make mistakes! It is quite likely that some people made mistakes because they were tired and therefore lost concentration.

Mental preparations

During a hard contest I think it is even more important to be well prepared mentally. It is really easy to lose "faith" in one's own ability when the conditions are hard. At the W/C first we had the strong wind that caused problems, then the rain came on top. If you are well prepared in your mind these things are not problems, but otherwise they can be big mountains to climb!

I have tried to read more and also to have some contact with people working in mental preparation for people doing sport on a high level. It really fascinates me what a big difference it can make in a contest if you are well prepared mentally or if you are not. Of course, if the three first areas described at the beginning are well prepared, the mental preparation (self-confidence) will also improve automatically. But it is also possible to work on this area of mental preparation by itself. The goal is to "think like a winner". Everything has to be thought through far in advance of the contest. Every move and possible situation that can occur during the contest has to be dealt with in your mind before the contest. Not only once, but many times.

The day starts with waking up in the morning and finding the right feeling from the beginning of the day, and the day is over when you are standing up on top of the podium with the cup. During the day a million different things can happen that can affect your results. If you already have prepared your mind how to confront successfully these things, the chances of making the right decisions when problems arise are bigger than if you have not prepared at all. This mental preparation can really be the hardest thing of all to achieve. A contest might be 18 months ahead, and to start concentrating on and preparing to fly in it over and over again really takes a lot of energy. But I think it is really important to do it for top results.

A good exercise to start working with mental preparations is to begin writing a diary about your training and contests. Note there what you have practiced and how you felt. Also after a contest you can note different moves you made and the feeling afterwards. These notes can help you find out what to think of when preparing mentally for an important contest. If you are aware about the way you reacted earlier in a contest if something happened, it is possible to prepare in advance, and avoid negative thoughts. You should always try to turn negative thoughts quickly into positive thoughts.

Finally

All the things described above perhaps make it sound like it is nothing but hard working in the quest to
(continued in page 40)

(Concerto 6, *continued from pg 15*)

...Guy Buisson had tried VIT on a small AR stab, he needed 10 seconds of VIT after launch...it is pity that the idea just fell by the wayside (see Vol Libre 74, the Wakefield "Hnymph-Ortd"). We shall return later to this point.

In "Circular Airflow", Zaic continued his analysis and tells us about models with CG at 60%, 70%, 100% and comments on their ability to react to a perturbation. The further back is the CG, the less pronounced are the reactions and the easier it is to trim a powerful climb. This brings us to open a new chapter and so... in the next issue, we will throw a comprehensive look to the problem of static stability of gliders, with supporting statistics at our finger tips.♦

References

Althaus, D., "Profilpolaren für den Modellflug", Neckar Verlag, 1980.

Räbel, E., "Modellflug Profile", München 1965/73.

Zaic, F., "Circular Airflow and Model Aircraft", Northridge, California, 1964.

Barker, J., Notes in SCAT Electronic News, 2003.

O'Connor, S., id.

Sotich, C., "An introduction to the zero-lift line for FF models", in NFFS Symposium 1968.

Wantzenriether, J., "F1B Statistics", in Vol Libre #85.

Linkosalo, T., "Digital timer for F1B", in Free Flight Quarterly #9, October 2003.

King, P., "Climb trim for VIT/VIW equipped Wakefields", in NFFS Symposium 1998.

Blackam, R., "The Spirit of Wakefield", in Free Flight Quarterly #1 and #2.

(translation SM)

(WC 2003 Preparations, *continued from pg 5*)

make top results, but let's not forget that it also must be fun! The day when fun is absent in the preparations you will not find the right feeling, and the right results will not come, even if you are well prepared in all the areas described. It is important before the contest to find this right feeling, then it is possible to fly relaxed, with good self-confidence, and make the right decisions! I'm impressed by a young girl from Sweden, Carolina Klüft, who won the decathlon at the Athletic World Championships in France in August 2003. She is a perfect example of how it is possible to achieve top results, with extremely hard preparations, and still feel it is only for fun. She repeated several times that if she didn't feel that the athletic contests were to be enjoyed she should not be competing at all, and I believe her! Sometimes it is difficult to accept such words when they come from people who make a living by sport, but I'm sure Carolina Klüft means it: if she didn't enjoy the contests any longer she would stop!

To end this article I want to use the words of one of the best F1A flyers ever, two-time World Champion, Victor Chop. Victor answered the question: "How is it possible to get top results?" with the words: "Try, try and try again!" I think these words sum up my point of view really well!♦

(Fiat G55, *continued from pg 19*)

Although it did not display any dangerous instability, it was evident that the model was not competitive so I set it aside and went on to build a Spitfire Mk XIV (see FFQ #6). As described in the that article, the Spitfire defied all my efforts to make it turn right under power so I had to settle for a left power pattern. This caused me to wonder if the smaller Fiat could do better flying to the left. After reducing the amount of right thrust to only about 1 degree and reversing the wing warps I was thrilled to see the performance improve immeasurably! At only about 75% winds it climbed to a great height in a very stable manner, transitioning into a nice left glide.

At the next contest it easily won the WW 2 event against stiff opposition. Since then it has won several more events, had both wings folded in high winds, been fished out of high trees and is still flying incredibly well even though it has gained some weight due to repairs.

The mystery remains as to why the big model flew so well to the right while the smaller model did much better to the left. Granted, bigger models are usually more stable but the difference in size was not all that great. Of course, there may have been some subtle surface alignment or CG differences that I overlooked, but I had experimented with many different settings before deciding to have the model turn to the left. Since the G55 and the Spitfire, I have built three more low wingers, trimming them all to fly to the left under power because they seem to fly more consistently in that manner. I have had a problem with my lightly built models developing minor warps between contests. The left flying models seem to tolerate these misalignments better than the right flyers. The turns may open or close slightly but otherwise they remain stable and little fussing is needed to get them on the right track again.

One problem that I have observed with left turning low wing models is that some are adjusted so as to turn much too sharply during the power pattern, necessitating excessive wing wash to keep the inboard wing from dropping. These models often fly very well under power, climbing nicely in flat turns but rolling to the opposite side when the torque diminishes which causes them to lose altitude quickly or even spiral in and crash. My experiences indicate that there is still much to be learned regarding the trimming of low wing scale models and their performance is more difficult to predict than that of high wing subjects.

References

di Terlizzi, Maurizio, "Fiat G.55 Centauro", Istituto Bibliografico Napoleone, Rome, Italy, September 1998.

Vergnano, Piero and Alegi, Gregorio, "Fiat G55", Ali d'Italia, La Bancarella Aeronautica, Torino, Italy, October 1999.

