



**Great Britain R/C Aerobatic Association**

# **AEROBATICS**

***NEWS***

Newsletter of the Great Britain Radio Control Aerobatic Association



***September / October 2003***

# Pattern Ponderings

What a fitting end to the competition season! The combined GBRCAA Championships and BMFA Nationals held at RAF Wittering on 27/28th September, was a great success with a total 27 pilots flying 6 rounds on two flightlines over the weekend. Many pilots were not only competing for the Champs and Nationals titles but also to boost their scores in the League. One way or another, it was all decided here!

I feel sure someone will send me a proper write-up for the next Aerobatics News...

The results for the Champs/Nats are shown elsewhere in this edition as are the final League table results.

**League Table.** There was some confusion about whether the Champs should count as single or double points, but as announced by Chairman, Kevin Caton, it was to be double points. This yielded some surprising results as it also counted as 2 comps effectively halving the points again, thus making it difficult to predict the final result. My brain hurts just thinking about it so I'll finish up by thanking Keith Jackson for administering the table again this year - come to think of it, didn't Keith win the FAI league?? (don't worry, I checked all the figures myself and Keith won it purely on merit!)

**GBRCAA Annual General Meeting and Dinner.** A little further on you will find details of the forthcoming AGM including committee & members proposals and some of the officers reports. As I mentioned before, we hope to get through the meeting in good time for some afternoon seminars. Time permitting, the seminar format will be as follows:

**Questions & Answers** - An open discussion on topics selected on the day.  
Write your question on the form on page 9. and hand to John Harrop (before the AGM starts), who will select the most popular or interesting questions.

**"Engines for Aerobatics"** by Peter Brett

**"Setting up a Model"** by Kevin Caton

**"Artistic Aerobatics"** by Steven Atherton

For the presentation dinner in the evening, we will be joined by our guest speaker(s) Kath & Terry Watson, both founder members of our Association over 20 years ago. Should be interesting.

## \*\*\* Menu Change \*\*\*

Instead of the single menu previously advertised in the separate mailing you will have received from Stuart Mellor, we now have at least 3 menu choices plus a vegetarian menu. I don't have all the details yet so Stephen will advise us of the choices and take orders on the day.

It looks like our first attempt at a dinner will be a success as we already have about 30 members booked. Don't forget, if you haven't yet booked, the dinner is £22 and we have a special room rate at the Holiday Inn of only £30/night if you wish to stay over. Please contact Stephen Greenwood ASAP for more details.

**Centralised Contest Directors Needed.** Anyone who has flown and CD'd the same comp will know that running the event puts you off flying at your best. Therefore, if you would like to CD a Centralised competition (and not fly), then please get in touch with Alison Harrop.

**Website Discussion Updated.** Nik Middleton has updated the discussion page on our website ([www.gbrcaa.org](http://www.gbrcaa.org)) to bring us extra functionality including the ability to post pictures. The appearance is similar to that used on RC Universe and I'm sure that once we get used to it, it will prove to be as popular as the old one (which incidentally keeled over under the strain of all your posts). Before posting your first message, you will need to take a few minutes register.

**Alan Simmonds**  
Newsletter Editor.

# World Championships Diary

By Nik Middleton (Team Manager)

## Wednesday August 6<sup>th</sup>

As I leave the hotel, I glance at the outside temperature display in the car. It's already showing 72 degrees and it's only 5.45am. By the time it reaches 6 am, it's climbed up to 76. It's going to be a trifle warm today! I reassure myself that the money spent repairing the air conditioning was well worth it.

It's August 6<sup>th</sup>, and I'm travelling on the M20 towards Dover to catch the 7.15 ferry. The previous night I'd travelled up from my home in Devon, going via Keith's and picking up some of the heavier equipment. Both Keith and his wife Anna are flying out to Poland, and so as to save on excess baggage I'd suggested taking the odd airframe or two. I'd arranged to stay at the holiday Inn in Maidstone using one of my freebie night stays (all those business stays have their advantages sometimes).

As I pass the chunnel station at Ashford and think how much it looks like a high security prison, I feel a little apprehension about the trip ahead. I need to do six hundred miles today, my resting point being the Holiday inn at Berlin airport. The original timetable from the Polish organizing committee showed team registration on both Wednesday and Thursday. The last bulletin stated it was now only Wednesday. Having already made my travel reservations, I can't change my plans. It's going to be a little tight!

Winding down the approach road to Dover, I get my first sight of the port. Two ferries have just past each other about half a mile out to sea. The morning heat is doing some weird visual effects on the water so that the ships appear to be ghosts floating on air. Is this a good or bad omen I wonder?

The trip across is uneventful, and I drive onto French soil around 9.30am (lost an hour in the time change) I only have half a tank of fuel, having been informed petrol costs a little less in Europe. When I get to a quarter remaining I'll refuel.

Before I realize it I'm speeding past Dunkirk and into Belgium. My trip takes me through France, Belgium, Holland, Germany and finally Poland. A little over a thousand miles if all goes well. Time to fuel up. The small fuelling station is self-service. First problem. The card reader is insisting I enter a PIN for my Visa card before it'll dispense fuel. I don't have a PIN! This could get serious. I drive on. A quick tap on the fuel management computer shows I have 90 miles at my current speed. Time to ease off of the speed to conserve fuel. Thirty miles down the road, to my relief I find a petrol station with a human, who gladly accepts my card for a full tank. I now have a range of 380 miles, which should take me across the German border.

I cross into Germany around 1.30pm, the previous 250 miles being pretty uneventful, without to many wrong turns, the car's compass proving invaluable as always. It's been steady on EAST for the last couple of hours. It's to remain so for the next fifteen.

Driving through Germany is fairly painless, though I did manage to get lost around Duisberg. The motorways do a dog's leg in that area. Once again the compass saves me. The speed limit on the German autobahns is 130kph, around 85mph. Even at this speed, cars are flashing by. I estimate they're doing around 150mph. They seem to completely disregard the speed limit. Woes betide anyone who pulls out in front of them. The road ahead seems endless, still, I'm eating up the miles. I make a mental note of the fact that the temperature gauge is registering a tad higher than normal, but I figure that this is because the air-conditioning radiator is in front of the main one, and it's probably working quite hard. It's now 97 degrees outside and the windows are very warm to the touch.

By the time I start to close in on Berlin airport, it's dusk, around 9.30pm. I'm very tired and have difficulty focusing on the road signs. I've really pushed my limit, but fortunately the hotel appears out of the gloom in front of me, and I thankfully switch off the engine for the day. A check of the

speedo shows I've completed 600 miles today.

A shower and something to eat, and I feel a lot better. I've broken the back of the journey and only have four hundred miles to go tomorrow. However, talking to the hotel staff, I'm warned that it might take me a few hours to get across the border. With that in mind, I set my alarm for 5am.

## Thursday 7<sup>th</sup> August

I'm rolling by 6am, and it's looking like another scorcher. I decide to fuel up, unsure if the garages take plastic in Poland. On the ferry I'd managed to exchange 100 pounds for Zlotys, so I should be OK. By eight o'clock I'm at the German/Polish border, and twenty minutes later pass through to the guard huts. So far so good! My main concern is that I will have to pay custom's deposits on the airframes. I'm waved through the German side, and I'm now at the Polish kiosk. The official checks my passport, and only glances at the Jeep. The Jeep has heavily tinted windows and it's difficult to see what's in the back. As he hands me back my passport, I notice him glance in the back through my open window. He doesn't release my passport, still starring intently into back of the Jeep. I take a chance and start rolling, the passport is pulled from his grasp and I'm away. I look in the mirror expecting to see the official gesticulating, but nothing. Made it, phew!

The first thirty miles from the border, the roads are just as good as they are in Germany, and I begin to wonder if they've been improved since the British team were here last, but to my dismay, the road soon narrows from three lanes to one. My goal is to reach Poznan by 10.30, some one hundred miles distant, before I call a rest. The road is fairly quite and I make good time.

I stop at a Macdonald's and grab a burger, no, they are not the same worldwide, and continue through Poznan. The other side of the city, I join a virtually empty brand new motorway. If things keep going like this I'll be in Deblin by three pm!

Forty miles later I'm on the highway to hell. The beautiful motorway had abruptly ended some seventy miles from Warsaw. The roads are quite remarkable now. It's single lane with Horses and buggies mingling with Mercedes'. The road surface is something to behold. If you can imagine a farm track used by tractors in the mud, which then has tarmac over it, complete with ten-inch ruts, you'll start to get the picture. My speed ranged from 20-60mph, though the average was around 30. I soon got the hang of the road etiquette. When you wanted to overtake, you basically drove down the centre of the road with your headlights on. As the road was only wide enough to fit two cars, both the ones you were overtaking AND the oncoming traffic were obliged to drive on what might be taken for the hard shoulder, only it's about a third of the width! While this got the adrenaline pumping, you can get to too much of a good thing after a while. It was extremely tiring having to watch not only was coming at you, but what was coming behind you all the time. I do believe I was starting to get the Messerschmitt twitch.

The two hundred and fifty miles from Poznan to Deblin finally ended at 4.45pm when I entered the gates to Deblin AFB. By that time, I was pretty much brain dead from all of the bumps and thumps of the road. Like many, I've not really taken the Jeep off road much, but I reckon driving the route I'd taken, it was a pretty good simulation.

After getting past the guards at the main entrance to the base, I followed the signs to the secretariat. By a stroke of luck, I met Keith. Not having all of the required documentation (passports, FAI licenses etc) I then followed Keith back to our allocated accommodation. We'd all decided to take the least cost option to try and reign in our spend. We were billeted in the youth hostel, which I understand had been renovated since the last WC. Apart from our rooms being on the top floor, the general standards found there were more than adequate. We also had the advantage of being at the airfield as apposed to being some 10km outside, which was a more expensive option.

Having gotten the documentation from the team, I then returned back to the secretariat to register the team. This all went fairly smoothly until I was asked to pay accommodation costs for the Balfour's extra day. Elliot and his two sons had originally planned on arriving on the same day as me, but had elected to arrive a day early. Fortunately I had just enough Euros to pay the organizers with.

Significantly more relaxed, having dispensed with the formalities, I returned to the hostel, and having showered, join the team for a meal in the restaurant and the obligatory few beers in the officer's club.

### **Friday 8th**

Got up at 7am, getting breakfast half an hour later. The team are on the road for 8.30, heading for the practice site at Ulez, some 15km away. The weather is perfect, light winds and a temperature around 80f. The site is well attended, with four flight lines widely dispersed. A number of frequency ranges are in use, so each flight line keeps to its own band. There is a slight delay while we wait our turn. Each of the team members has a flight and all report they're reasonably satisfied. By now however, there've been more pilots arriving at our flight line and it looks like it'll be over an hour before we can fly again.

With the blessing of the other pilots on the flight line, we reserve three channels making sure everyone is aware, and the team move to a fifth flight line. Every thing is going well, and we hope to get a least four or five flights in. It's then that disaster strikes. Malcolm has just taken off when he reports he has no aileron control. Somehow he manages to nurse it back to the strip, then, about three meters above the deck, it goes straight in at a forty-five degree angle. There's a thud and a big cloud of dust as it hits the hard earth.

I can't bear to go and look at the damage, but instead immediately drive back to the original flight line to see if there's been a frequency conflict. I'm assured that there hasn't been, and go back to inspect Malcolm's aircraft.

Malcolm's number one airframe is pretty badly damaged. The engine is hanging out of the bottom of the plane, with the removable cowl totally destroyed. The beams on the Hyde mount have sheared and the nose ring in pieces, not to mention a buckled spinner, crumpled exhaust header and pipe. Malcolm is clearly distressed, and I remind myself he's only sixteen! I take a fresh look at the damage. The firewall is OK, as is the rest of the plane rearwards. It turns out that Keith has a spare Hyde mount; Elliot has replacement spinners, headers and pipe, and most importantly a big tube of CA. I am convinced I can rebuild the aircraft and send Malcolm off to the crash site to recover all of the pieces he can find. Elliot has the task of stripping and cleaning the engine, as well as fitting it to the new mount. Meanwhile I sit down on the runway and start to piece together the bits of fibreglass to rebuild the nose of the aircraft. I estimate it'll take about, two hours for the repair, and I'm only fifteen minutes out. The aircraft doesn't look too bad; indeed from ten feet you'd have trouble seeing it was damaged, though as the cowl was in about fifteen pieces, it's a bit of a Frankenstein seen from below.

Before he flies it, Malcolm carries out an extensive range check. It's way short of what it should be, so we replace the receiver with a new one. It all looks good. It would appear that the crash was due to a fault receiver module. Malcolm does a test flight, which is uneventful. He's pleased with the plane and continues to practice for the rest of the day.

We return to the airbase well pleased with a good day's practice. That evening there's a barbecue. We're all bused to the end of the air force base. We're treated to a great spread

And entertained with live music. I don't understand a word of what they're singing, but the voices are superb. While there, I catch up with, Bob Knoll and Tony Stillman who I know from my time in the states and also have a lengthy conversation with Bob Skinner.

### **Saturday 9th**

I'm up at 6.30 as I need to check in the transmitters, as today is our official practice day. I'd misread the times, thinking this had to be accomplished at 6.45am. It turned out to be 7.15 so I had a little time to wait, still better early than late.

After breakfast, I took Keith's no 2 to the hangar, which had been reserved as a secure storage area. The team returned to the hanger for 10.30 for model kitting, our official practice slot was to be at noon, Angus to fly first, Keith then Malcolm. Angus was to call for Keith. Immediately after our

one-hour's official practice we were to have an hour for model processing.

My aim is for everyone to have two flights each. We'll make the first flight like it's for real and the second up to the pilot as to what they want to do. Both Angus and Keith have uneventful flights. Then it's Malcolm's turn. Two minutes into his flight I hear a sharp intake of breath from those watching and turn around to see his plane going in at 45 degrees into hard earth. It's a complete write off. Time to get the bin bags out. I assisted Elliot with the painful act of recovery and urge the other two to keep flying.

I'd just returned to flight line with a bin bag of pieces only to turn around and see Keith's Angel's Shadow doing a shallow dive with a wing missing. This is not turning out to be a good day!

My first reaction was then Keith hadn't secured his wings correctly, but he assured me this wasn't the case. Inspection at the crash site revealed that the wing sleeve was still on the tube. Later, we were to determine that the left wing panel had suffered a structural failure in flight.

The Angel's Shadow's wings are constructed from two wing skins over a balsa and foam structure. The traditional foam/balsa construction used on many pattern aircraft consists of a technique where the balsa is bonded to the foam and a leading edge is made out of solid balsa. On the Shadow, there is a seam at the leading edge where the upper and lower panels meet. What would appear to have happened is that the seam failed, air got in, and then there was an explosive rupture of the panels.

The team returned back to hanger for model processing. All went OK except Keith's backup is overweight, inspection reveals header tank with fuel in. This is duly removed and thankfully the plane now passes.

A rather sombre evening follows.

The same evening, the team manager's meeting is scheduled for 8pm. The evening meal is served from 7.30 to 9pm, so I like many of the others decide to eat after the meeting, figuring it will probably last no more than an hour at most. By nine o'clock, Bob Skinner and the rest of the officials still haven't arrived to host the meeting. We're told they're still having their evening meal. The meeting finally gets started around 9.45. The mood in the meeting is quite hostile, though this is probably more down to the fact that there are thirty plus team managers and their assistants who haven't eaten since lunchtime and no hope of getting anything later. Bob Skinner manages to diffuse the situation, and we all head for the officers club to report what had been said to the team members, which was not a lot. The main concession was that, after approval from the CD, we could check out our transmitters and go to the practice site.

### **Sunday 10th**

I get permission from CD to take transmitter to practice site for Malcolm. They return to state that they believe that there is local interference on Ch 65. Ch 69 gives 3x range.

Malcolm understandably is very reluctant to fly unless he can change frequency. Having lost two aircraft I'm in no mood to disagree. I tackle the CD about changing the frequency. He informs me that they've just done the frequency and flight orders for the whole contest and he's not about to change. I inform him that I'll have no alternative but to withdraw Malcolm from the contest. For a few seconds it's a Mexican standoff, but I'm serious about the withdrawal. In the end, to his credit, the CD agrees that Malcolm can fly on the same frequency as Angus as long as I agree to check with transmitter impound that there is no conflicts. Having talked to the team, we decide that it's probably simpler to use Angus's transmitter for both he and Malcolm, and the flight profiles are loaded. In the event, this is a good move, as later, we begin to suspect that it's Malcolm's transmitter that is the root cause of our troubles.

Keith and Malcolm put in reasonable first rounds; Angus does a very good flight in strong winds.

### **Monday 11th**

Angus is to fly at 10.30, and to be on the safe side, we get there at 9am to find the line running 30 minute's ahead. There's a mad rush to get the plane ready. He has no time to prepare, and though respectable, it's not his best round.

## Tuesday 12<sup>th</sup>

Keith is to fly, when the transmitter is released from impound, he expresses his concern that he switched off without pinching fuel line and that the engine might be flooded, but he decides it's OK.

When Keith gets to the flight line and is told to start, engine is indeed flooded. There's a race to get cowl off, remove plug, re assemble and start. The procedure looks like a pit crew in a grand prix, fast but no panic. 15 seconds remain on the clock before he's airborne. The flight is good but rushed, with manoeuvres too big for the available time. He lands with 4 seconds on the clock to great applause.

Malcolm gets news in morning that he got 5 A's in exams, and this lifts his mood and he puts in good flight.

Angus is also good. He breaks the 500 levels, but still gets some zeros on snaps.

## Wednesday 13<sup>th</sup>

Keith is concerned about an aileron servo, that's not centring correctly. It's duly swapped out in time for his flight. He subsequently has best scoring flight of the team, but it's not enough to get any of the team into the semi finals

## Thursday 14<sup>th</sup>

Rain day, team go on a trip and barbecue, me, I enjoy not having to get up at 6.30 and have a lazy day.

## Friday 15<sup>th</sup>

Semi finals

CPLR has best flight, Chip Hyde's biplane is not impressive, it appears to have a nervous twitch, though he still scores well.

## Saturday 16<sup>th</sup>

Finals

The final results turned out to be the same as the previous world championships, though in my view, only the first place position was deserved. Christophe is simply the best by a wide margin. Onda from Japan, who's only sixteen and flying in his first world championships deserved to place better.

In the evening we had the banquet. The entertainment is impressive with 19<sup>th</sup> century dancing by performers dressed in regalia of the era. I manage to corner Pete Cappelman and quiz him about the snaps, which had caused us so many problems. He informs me that the interpretation had been picked apart, and that they had been told to look for specific qualities. In other words, how they were to be judged had changed. He had also been told that the judging criteria would be passed onto the team managers. This never happened. Even Christophe was getting zeros. There was a lot of discussion amongst the team managers as to what was being looked for. Most of the judges would only say, 'read the rule book' which wasn't a lot of help. We finally managed to figure out what was happening, by looking at the scores and hints from some of the more open Judges. This left a very bitter taste in the mouth of most people, and the dissension spoilt the atmosphere of the contest, and it truly never recovered its spirit.

## Sunday 17<sup>th</sup>

The Balfours and myself depart for home around 7.30am; Keith and his wife are staying on to visit Polish relatives. The trip is a joy as ever, and after an overnight stay in Hanover, I finally get back home around 10pm on Monday. Some 3,000 miles round trip. Did I enjoy the driving experience? Yes! Would I do it again? No way! Next time I'll fly and pay the excess baggage.

# Trophy Winners for 2003

Congratulations go to all of the following pilots:

## GBRCAA Championships Winners

FAI:	Brandon Ransley	
Masters:	Brian Hoare	
Senior:	Andrew Waterhouse	
Standard:	Neil Scratchley	
Sportsman:	Tom Bootyman	
Best Junior:	Alistair Michie	Bob Hall Trophy

## BMFA Nationals Winners

FAI:	Brandon Ransley	SMAE Trophy *
Masters:	Brian Hoare	
Senior:	Andrew Waterhouse	Ray Brotherston Cup
Standard:	Neil Scratchley	Yvonne Weller Bowl

## Domestic League Winners:

FAI:	Keith Jackson
Masters:	Matthew Hoyland
Senior:	Andrew Waterhouse
Standard:	Neil Scratchley
Sportsman:	Tom Bootyman

## FAI Centralised Winners

First Centralised	Brandon Ransley	Aeromodeller Trophy *
Last Centralised	Brandon Ransley	Taplin Trophy *
Midland Centralised	Keith Jackson	Bill Harrop Trophy
Centralised League	Brandon Ransley	Sid Allen Trophy *

\* Awarded by BMFA

All other trophies will be awarded at the dinner to those who are present.

## Question & Answer Session

Question:

Name:

## Secretary's Report 2003

Unfortunately 2003 has seen another reduction in membership from 137 last year to 130 this year. I have only joined 14 new members this year (& 14 last year). Prior to this 25 new members a year was the norm, and this in spite of halving joining fees for brand new members and advertising in BMFA news.

It does appear that high fees for new members is not the problem to recruitment of new members we once thought, they probably treat joining fees as just another unavoidable expense necessary to fly in comps.

Obviously the same argument cannot be extended for existing members - I certainly believe membership fees have gone past the point where members simply pay up to keep in touch via the newsletter & certainly hope that no more increases are planned for the foreseeable future. Whilst advertising & publicising the Association must continue, there are other areas where we can do more.

I have always thought that recruitment depends more than anything on exposure at club sites where ordinary club members can see first hand what competition is all about and want to have a go, knowing they can rely on help & advice from club members. Centralised events or indeed our champs, whilst producing the highest standards of flying achieve absolutely nothing in terms of recruitment since they are normally held on restricted airfields or closed sites. During the last few seasons the majority of domestic comps have been held in t' North or midlands and the majority of these well oversubscribed, and, thanks to tireless efforts of the few CD's involved, very enjoyable & easy going competitions - the very essence of what domestic comps are about.

It's vitally important for recruitment reasons, I believe, that the once dominant southern half of the country begins to hold domestic comps again. This can't be achieved overnight & it may well take a few seasons to get established, but if you are a member of a southern club, please try to persuade your club to hold a comp next year. If you want any help in organising a comp, please contact the committee or any of the established C.D.'s in the contest calendar who will be more than willing to help.

Although the membership figure has fallen again, this doesn't seem to bear any relationship to the flying & competition activity within the existing members. It's been one of the fullest seasons I can remember & very heartening to see the breadth of activity within the membership. Long may that continue.

**Stuart Mellor**  
**Secretary**

## Competition Secretary's Report – 2003

As Autumn rain falls I find myself writing another years report. With many ups and downs, as one would expect with aeroplanes (not too many downs though!), all five centralised were successfully completed and teams selected for International duties. As Competition Secretary I would like to ask you all to volunteer your services in future events – it is not fair to expect the committee to act as Competition Directors and general dogs body for all the events (obviously I am not talking about domestic events which appear to have been a great success).

In July there were two important events: Firstly Brandon ran an excellent two-day event featuring the much maligned F-03 and training for all. I do feel that Brandon has found his niche with the legionnaire (Flair bi-plane).

The second event was of course our vice-chairmans wedding (at long last son, good luck Angie).

The triple crown went ahead thanks to our gracious hosts north of the border I will not comment any more on the event itself as I am sure you will read much more about it in the press.

The Nationals/Championships went ahead despite Barkston and Wroughton becoming unavailable, RAF Wittering or should I say the Peterborough Club stepped in to support us as they increasingly do. Along with the lone harrier on the A1 this seems to be becoming our home also.

Looking toward the season of 2004, I would like to ask you all to remember the method of entry, I don't mean to sound pedantic, but S.A.E. Envelopes, car details and meeting deadlines are important, I will adhere to them in the seasons to come. The first 3 centralised will form the basis of our team selection process the chief Judge will re-articulate rules for these and other events in the new year.

In conclusion I would like to congratulate all those of you that have been successful in your endeavours, and for those who wished for more . . . . . keep flying!

Regards

**Alison Harrop**

## Chief Judges Report - 2003

The weather has been the making of the competition calendar this year allowing so many competitions to take place. It has had its downside for me trying to find judges for all the competitions, but I've been lucky and have managed to cover all the Centralised events with the help from Alan Simmonds and John Mee standing in at the eleventh hour at Wittering as three judges pulled out with personal problems.

I would like to thank all the judges both full time and flyers for the support they have given the Association and me this year. I am looking forward to next year with a new FAI schedule and hopefully a judging seminar with the help of Bob Skinner.

The GBRCAA Champs/Nats was a good event with 28 pilots taking part and my thanks to Geoff Keen, Alan Simmonds and Steve Birchall for the many hours they sat in the judge's chair judging all classes. Thanks also go to the flyers that judged over the two days.

The Cashmore competition decided the last place for the team. For me it was great that Cashmore again was the battlefield for this last position yet again. My thanks to David Tappin and Mitch for judging, especially to David who had recently been in hospital.

I have to say that the highlight of the year for me as a judge was the Larks competition as both PO3 and FO3 were flown for the first time at a competition. This was great for Steve Birchall and myself, as we had not seen the FO3 flown in anger. I was surprised how well the 6 pilots coped with the schedule, the rolling loop in particular, as this is a very high K factor manoeuvre.

**Bob Ailles.**

# Great Britain R/C Aerobatic Association

## Annual General Meeting

To be held on Saturday 15<sup>th</sup> November 2003 at the Holiday Inn , Leicester

@ 11.00am

### Agenda

1. **Apologies for absence.**
2. **Approval of AGM 2002 minutes.**
3. **Matters arising.**
4. **Officers Reports.**
5. **Approval of Accounts.**
6. **Election of Officers.**
7. **Subscriptions, Competition entry fees 2004**
8. **Committee Proposals**
9. **Members Proposals**
10. **2004 Events :**
  - GBRCAA championships: C.D., Entry fee
  - BMFA Nationals: C.D., Entry fee
  - Sandown
  - Other events
11. **Any other Business**

### **Committee Proposals:**

**Proposal 1.** Delete the constitution Byelaw section I. 2.(I) - Any Other Business.

Reason: To encourage submission of proposals so that proper research can be carried out and more accurate information can be given.

**Proposal 2.** All pilots wishing to fly at a GBRCAA competitions should hold a BMFA B certificate.

Reason: To help ensure pilots have achieved an adequate level of flying ability so as not to endanger others present or their models.

### **Members Proposals:**

**Proposal 1.** That the present League scoring system be modified as follows: That "bonus points" only be awarded according to the number of pilots a competitor actually BEATS in any given competition.

Reason: It will make the spread of points, especially at the lower end of the respective Class, more representative of actual ability rather than just reflect the size of the entry. I have done a calculation for Senior Class, and there would have been no change down to 8th place, but below that a number of changes which I think gives a more realistic reflection of individual ability.

Proposed by: Bill Michie

**Proposal 2.** Change the Domestic League Table scoring method as follows:

Keep the rank points as they are now (1st=10, 2nd=8, 3rd=6, 4th=4, 5th=2, 6th=1, 7th=1, 8th=1 etc) but link the bonus points to the average of the pilots raw scores. For example:

% of max score averaged over the counting rounds at a comp.

up to 40% = 2 point  
41-45% = 4 points  
46-50% = 6 points  
51-55% = 8 points  
56-60% = 10 points  
61-65% = 12 points  
66-70% = 14 points  
71-75% = 16 points  
76-80% = 18 Points  
over 80% = 20 points

Thus a pilot wins a comp with an average score of 60%, the league points awarded will be 10 (rank points) + 10 (bonus points) = 20 points. A pilot places 3rd with an average score of 72%, the league points awarded will be 6 (rank points) + 16 (bonus points) = 22 points.

Reason: To provide a result which more accurately reflects pilot skills rather than the number of pilots attending a comp since: a) pilots will not be penalised for a low entry in their class and b) pilots will have an extra incentive to improve their score regardless of the number of entries.

Proposed by: Brian Hoare

**Proposal 3.** That the present system of Double Points for the GBR Champs be retained.

Reason: The Champs is the culmination of the year's flying, many of the "top" competitors in each class attend, conditions can be more challenging (weather, 2 flight-lines, many more flights, stricter judging?! AND the chance for competitors who cannot get to lots of comps, to get realistic qualifying points for the annual League comp).

Proposed by: Bill Michie

**Proposal 4.** Alternative proposal to 2. above: If above proposal defeated, that the number of qualifying scores be reduced to four, from the current five.

Reason: not all of us can get to 5-8 comps in a season, and the present system gives a chance to those who may only be able to make 3 comps plus the Champs. The same principle of “Best 4 results” would still count, and if you enter 6-8 comps in a year your chances should still be better anyway.

Proposed by: Bill Michie

**Proposal 5.** That Take-off’s and Landings attract a”K” Factor for scoring, of one instead of two, for the reasons given:

**Reason:** I still believe that T/O’s and Ldg’s should be marked for all classes except FAI, but that the K-factor of two is too high. K 1 would be sufficient to make pilots pay attention to their presentation, without unduly influencing the overall scoring of a complete AEROBATIC schedule. I think this more fairly reflects the relative importance of scoring of the Aerobatic content of the flight, but still has the desired effect of making pilots pay good attention to their presentation, and should be applied in all classes except for FAI, as the start and end of a schedule are still very important parts of the overall presentation.

Proposed by: Bill Michie

**Proposal 6.** That P-05 and F-05 is flown at all centralised events

Proposed by: Brandon Ransley

**Proposal 7.** That P-05 and F-05 is flown at the first 3 centralised events

Proposed by: Brandon Ransley

**Proposal 8.** That P-05 and F-05 is flown at the last 2 centralised events

Proposed by: Brandon Ransley

**Proposal 9.** That P-05 and F-05 is flown at the Championships

Proposed by: Brandon Ransley

**Proposal 10.** That P-05 and F-05 is flown at Nationals

Proposed by: Brandon Ransley

**Proposal 11.** That P-05 and F-05 and unknown are flown at Nationals

Note: The LARKS format could be used so people can just fly P-05. Views at LARKS - fly FO schedule.

Proposed by: Brandon Ransley

**Proposal 12.** Judges are paid actual cost of accommodation (capped at £40 per night)

Proposed by: Brandon Ransley

**Proposal 13.** Cashmoor does not host a centralised (Alternate such as LARKS)

Proposed by: Brandon Ransley

**Proposal 14.** Amendment to the team selection procedure: If any member has a proposal for discussion and possible adoption at the team selection meeting, he shall send such proposal in writing to the Secretary by a specified date. A list of proposals shall then be circulated to the membership not less than 14 days before the meeting via the GBRCAA newsletter or separate mailing.

**Reason:** To keep members informed of the proposals to be discussed at the team selection meeting.

Proposed by: Alan Simmonds

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*Bill Michie also sent in a topic for discussion:*

**Snap rolls:** This year, the judging criteria for snap-rolls appeared to have changed during the year, or was not being applied uniformly at different comps. I know this is an old bone to chew

on but believe it needs addressing for the benefit of all. I think due cognisance has to be taken that there are many differences in model flying characteristics depending on design/ wing loading etc, and that more emphasis should be placed on certain aerodynamic effects, especially: acceleration of roll and yaw/ pitch rates which will only happen in a true “snap”, which is, after all, an incipient spin at higher speed, well above the normal stall speed.

Regards, Bill

*This will be the first topic for the Q & A session after the AGM. Ed.*

## **Newsletter Editors Report - 2003**

First, I would like to say a big THANK YOU all those who took the time to contribute to Aerobatics News this year. It doesn’t matter if it’s just a photo, a website link, a letter, a comp report or a full blown article; every little bit helps to make the newsletter worthwhile and without your support, the whole exercise would be pointless.

There are two areas I think could do with some improvement. The first is New Products. I don’t get too much time for browsing the internet so if you come across any interesting new products, do let me know. Secondly, we need more articles. Kit reviews, engine reviews, if that ARTF pattern model you built flew like a dog but you managed to fix it, let us all know how you did it though these pages. Don’t keep it to yourself, we’re all on the same team.

I have tried to make the content interesting and relevant to precision aerobatics and to make it as readable as possible. If you have any other suggestions on how it could be improved in the future, I would welcome your input.

Having printed the newsletter for a number of years during Keith Jackson’s reign as editor, I had a pretty good idea what I was taking on with this job so to ease the workload I have farmed out some of the work to a friendly printing company I know. They now print all the black, I then print the colour pics on my inkjet before it goes back to them for collating, stitching, folding and trimming. Then, it’s back to me again for stuffing and posting. It takes a while, but I believe presentation is important. Printing technology is improving all the time and I’m sure it won’t be too long before we could have the whole print job done for us at a reasonable cost.

Early in the year, the committee decided that certificates should be presented at all competitions regardless of whether the CD had arranged separately to award trophies. I explored the possibility of having them digitally printed but found we could get better quality results for a slightly lower price on my inkjet printer using a good quality heavy photo paper. Although it doesn’t take long to do, I do ask that CD’s let me know which certificates they require one week before the comp.

Several events have conspired against me this year making it difficult to maintain some newsletter deadlines but have also prevented me from doing any competitive flying. The offer of some editorial help received recently from Steven Atherton will be gratefully accepted and will hopefully enable me to improve my performance on both counts in 2004!

I am certainly prepared to continue as Editor for another year, beyond that, we’ll have to see.

Kind regards

**Alan Simmonds**  
**Newsletter Editor**

# New Products

## Iron Bay Fuel Regulator

In simplest terms, the Iron Bay Fuel Regulator automatically controls the amount of fuel flowing to your engine and provides a consistent reliable flow of fuel regardless of the tank position, level of fuel, or attitude of the aircraft or vehicle.

You provide a pressurized fuel source to the fuel regulator and it does the rest. The pressurized fuel source can be muffler pressure, crankcase pressure, or even an electric fuel pump. As long as there is a positive flow of fuel to into the regulator, the amount of pressure does not matter as the Iron Bay Fuel Regulator reduces the pressure based upon the demand of your carburettor.

A check valve is included for increasing the amount of pressure for installations where long fuel lines and a remote tank location are required.

Speaking of which, the location of your tank is no longer a concern. As a matter of fact it can now be placed on the CG of your aircraft where it belongs! The tank can be located below the engine, above the engine, mounted in the wing, or even functional drop tanks below the aircraft can be used.

*(This is very much like the Cline Regulator I tried but is reported to work better. Needs to be located close to the carb (preferably about 1/2") to work well. Ed)*

\$43.95 plus \$7.00 S&H - <http://www.ironbaymodelcompany.com>



## New ZN Line Aluminium Engine Mount

Made for YS 140-160 DZ or OS 140. Price: 135.00 €



## Members Adverts

Members may place private adverts in this section **free of charge**. Please contact the editor for commercial rates.

### For Sale

- **Loaded Dice Special.** This aircraft was used by Alistair and me for last year's season with good success, in Standard and Senior Classes, achieving promotion points in both. Many previous competition successes in FAI. Reluctant but necessary sale to part finance new model for next year. Wingspan 70 inch, length 68in, one of two built by Terry Westrop, finished in John Mee's colours. Complete with soft-mounted Hanno which has Shadel AAC piston/liner, Mk 2 Hanno pipe, Rhoms, aileron servos. Asking £400, and for that price I'll throw in wing covers, Rhom pump, spare props. Very smooth flier.

Bill Michie (01279) 504595.

- **YS140DZ Dingo**, very little running (15 flights) on 20% YS fuel. Not yet run in, 8200 on 16x12. Supplied restrictor + air filter used only. Genuine reason for sale - returning to type. £310 inc. postage.

**Sullivan Dynatron** 12-24 volt starter ("worlds most powerful starter") as used for starting above engine only, virtually n.i.b. Cost new £75, asking price £50.

Also 2 off 12v 12 amp hour **gel batteries** bought new at same time £15 each or £25 pair.

Stuart Mellor Tel. 01246 568043

- Now Reduced!!! **Flair Swallow**. New, ready to fly; just fit receiver. Fitted with YS 91 and stock silencer. HS 77BB servos in wings, Futaba 9303 rudder, Futaba 3001 for elevator and throttle. New 1700mAh Nicad and switch. Fully installed, aligned and balanced ready for F3A use. Now fitted with U/C lowered by 50mm which still leaves 50mm ground clearance with 14 x 10 prop. Only £450

**ZN Line ENIGMA** finished by Probuild to Level 5b. Comprises Wings, Tailplane, Rudder, Ailerons and Elevator skinned with Leading and Trailing edges fitted. Tips finished with Carbon reinforcement. Ailerons, Elevator and Rudder fitted and hinged with Kevlar Cloth. Wings joined with Carbon Cloth and re-inforced centre section and Servo Boxes fitted. Also includes various fixtures and fittings, MK Control Horns, Elevator Joiner, Closed Loop and Tailwheel. Hatori Header Pipe, HydeMount and Fixed Carbon Undercart with spats.

Absolute bargain at original sale price of £990.

**YS DZ140**. Offered for sale with very little running. Purchased as spare engine for W/C in Poland. Now surplus to requirements. £300 for quick sale

Keith Jackson Tel: 01722 410279

## GBRCAA Championships and BMFA Nationals

Pos	Name	Final Total	Rnd 1	Norm	Rnd 2	Norm
<b>FAI</b>						
1	Brandon Ransley	4000	518	1000	487.5	961
2	Keith Jackson	3926	501	967	507	1000
3	Kevin Caton	3791	481	928	455.5	898
4	John Harrop	3781	489	944	453	893
5	Richard Christopher	3720	484	934	423	834
6	Sam Wragg	3379	424	818	367	723
7	Justin Meadows	3130	354.5	684	336	662
8	Tom Shore	2445	313.5	605	244	481
<b>Master</b>						
1	Brian Hoare	4000	390	1000	405.5	1000
2	Ken Moss	3454	275	705	333.5	822
3	Adrian Harrison	3309	251.5	644	337.5	832
<b>Senior</b>						
1	Andrew Waterhouse	4000	386.5	1000	369.5	1000
2	Barry McLeod	3904	356.5	922	334	903
3	Bill Michie	3561	313	809	310.5	840
4	James O' Neill	3536	291.5	754	351.5	951
5	Alistair Michie	3483	333	861	281	760
6	Ashley Hoyland	3155	306.5	793	289	782
7	Russell Aisbitt	3055	261	675	213	576
<b>Standard</b>						
1	Neil Scratchley	4000	256	1000	244.5	1000
2	Ray Burbridge	3732	256	1000	192	785
3	Mike Williams	3718	219	855	211.5	865
4	Keith Baker	3495	187	730	178.5	730
5	Geoff Ellis	3449	208	812	197.5	807
6	Roger Marples	3250	187.5	732	176.5	721
7	Chris Cutting	2634	163.5	638	154.5	631
<b>Sportsman</b>						
1	Tom Bootyman	4000	137	1000	128	1000
2	Paul Bellingham	2786	94	686	98	765



## RAF Wittering - 27/28th September 2003

Rnd 3	Norm	Rnd 4	Norm	Rnd 5	Norm	Rnd 6	Norm
516.5	1000	533.5	1000	523.5	1000	512.5	998
489.5	947	502	940	502	958	513.5	1000
504	975	473.5	887	474.5	906	503.5	980
484	937	492	922	505.5	965	480	934
475.5	920	477.5	895	508	970	454	884
451.5	874	435.5	816	449	857	426	829
382.5	740	404	757	436	832	410.5	799
310.5	601	349	654	306	584	293.5	571
364.5	1000	397	1000	373.5	1000	375.5	1000
351	962	382.5	963	192.5	515	0	0
330	905	280	705	169.5	453	325.5	866
371.5	980	319.5	804	399	1000	391	1000
379	1000	397	1000	384	962	368.5	942
358	944	364.5	918	315.5	790	335.5	858
298	786	341	858	325	814	356.5	911
332	875	341.5	860	353.5	885	318.5	814
296.5	782	277	697	304	761	312	797
293.5	774	307	773	182	456	325.5	832
0	0	228.5	993	226	1000	242.5	1000
187	954	217	943	179.5	794	202.5	835
187.5	956	230	1000	178	787	217.5	896
178	908	199.5	867	187	827	216.5	892
196	1000	183.5	797	181.5	803	201	828
172	877	191	830	150.5	665	196.5	810
126	642	149	647	137	606	171	705
130	1000	133.5	1000	110.5	1000	127	1000
83.5	642	92.5	692	0	0	0	0



**GBRCAA Domestic Competition League Table 2003 (Final Positions 6th October 2003)**

Pilot	Class	Total	Skelbrooke 13th April	Mansfield 25th May	Ashbourne 15th June	Newmarket 30th June	Skelbrooke 30th June
Total number of entries		208	15	17	18	12	18
Keith Jackson	FAI	72				13	
John Harrop	FAI	56			11		
Richard Christopher	FAI	55				11	
Brandon Ransley	FAI	52					
Dave Matthias	FAI	51		13	13		
Sam Wragg	FAI	48		9			11
Kevin Caton	FAI	40					
Phil Turton	FAI	32	12		9		
George Drever	FAI	27				9	
Justin Meadows	FAI	18					
Tom Shore	FAI	18					
Richard Welch	FAI	11		11			
Arthus Silsby	FAI	10	10				
Simon Johnsonn	FAI	7					
M. Hoyland	Master	69	12	15	14		15
Brian Hoare	Master	66	10	7			13
Gerry Scothern	Master	45		9	10		7
Stephen Simm	Master	39			12		11
Stuart Mellor	Master	37		13	8		9
Ken Moss	Master	22					
Brian Gasgoine	Master	19		11			
Adrian Harison	Master	18					
Hubert Pritchard	Master	9					
Andrew Waterhouse	Senior	85				14	
Barry Macleod	Senior	83		16	18		16
Bill Michie	Senior	76				12	
Ken Moss	Senior	74	17	12	14		14
Adrian Harrison	Senior	63	15	14		8	
Alistair Michie	Senior	58				10	
Ashley Hoyland	Senior	53	13	8	12		8
Steve Dunning	Senior	49	9	7	16		10
Russel Asbitt	Senior	45	8				
Martin Utterly	Senior	42	8		10		12
Nigel Clayton	Senior	38		10	9		7
Eddy Scott	Senior	32	11		9		
Steve Kent	Senior	23					
James O'Niell	Senior	22					
Gary Peacock	Senior	19					
Michael Binnersley	Senior	18			9		

(Based on best 5 scores in season)

208 Entries

60 Pilots

Larks 5th July	Warboys 27th July	Huddersfield 3rd August	Bedford 10th August	Mansfield 24th August	Skelbrooke 7th September	Champs 27th & 28th September (Double competition score)
18	17	13	18	16	19	27
14	13	11				32
10			11			24
8	11		13			20
16						36
		13		12		
		9		10		18
12						28
					11	
	9		9			
						18
						18
7						
10		11		12	13	
12	11	13	11	14	11	26
				10	9	
				16		
				7		
						22
				8		
						18
		9				
16	18		17			34
14	12	16	13	15	17	30
	14		15		21	26
10	9	14	8	13	15	
12	10	10	9	9	12	
	16		11		13	18
8		8		7	12	16
		7				
7	9		8		12	16
		12				
					12	
					12	
				11	12	
						22
					19	
	9					

Pilot	Class	Total	Skelbrooke 13th April	Mansfield 25th May	Ashbourne 15th June	Newmarket 30th June	Skelbrooke 30th June
Niel Scratchley	Standard	81				15	
Ray Burbidge	Standard	65				11	
Keith Baker	Standard	49				9	
Steve Kent	Standard	46	10	12	11		13
Chris Cutting	Standard	43				7	
Clive Grisold	Standard	38	12				11
Alan Connelly	Standard	37				13	
Chris Bond	Standard	32					
Mike Williams	Standard	26					
Mel Garlik	Standard	23					
Geoff Ellis	Standard	18					
Roger Marples	Standard	16					
Andrew Rake	Standard	10		10			
Jed Lawson	Standard	9					9
Tom Bootyman	Sportsman	60	10	11	10		
Andrew Meek	Sportsman	57			12		13
Paul Bellingham	Sportsman	20					
Trevor Plumbe	Sportsman	12	12				
Richard Lemaire	Sportsman	11					11
David Drummond	Sportsman	9					9
Paul Furze	Sportsman	9					

Larks 5th July	Warboys 27th July	Huddersfield 3rd August	Bedford 10th August	Mansfield 24th August	Skelbrooke 7th September	Champs 27th & 28th September (Double competition score)
14	15		17			34
	13		11			30
	9		9			22
12			8			16
			15			
	11		13			
10				11	11	
						26
8	7		8			
						18
						16
				12	13	24
		11		10	11	
						20
					9	

## Rudder Control

I came across this article/discussion on Don Ramsey's website (<http://www.cox-internet.com/donramsey/>) a few years ago and found it quite useful. Don has kindly agreed to let me reproduce it here in *Aerobatics News*. Ed.

When you first start flying pattern you don't even think about it. Once you've had a little time in the sport, you start to notice some people never seem to need to correct their line while others are constantly banking to reestablish their heading. Well, those that are banking the model with aileron are noticed by the judges, the other flyers, the spectators, the concession attendant, the horse standing out in the field and anyone else who may be watching. That's not the way to correct your heading. Rest assured the pilot that always seems to be on heading didn't get there by just having a well trimmed plane and being lucky in his manoeuvres. I once commented to Glen Watson that he never seemed to make corrections. His response was "I never quit making corrections." He was just doing it in a way that was less obvious and almost stealth. Glenn won 7 of 8 Intermediate contest he entered.

OK then, how do I go about making these less noticeable corrections to my heading. It's that other control that you only use for takeoff and stall turns, the RUDDER. I competed a season without using the rudder to any real extent and placed in the middle of the pack in most contest. Once I started using it reasonably, I started to score much better. This is a necessary control if you want to compete effectively in Sportsman and Intermediate and essential in higher class if you want to keep your shiny pattern plane in one piece. The point is, learn this control when you start and you'll be far ahead of your competition.

To learn to use rudder, you must have a starting point. The plane does manage to get into some reasonably strange positions sometimes and knowing what rudder to push isn't always intuitive. Well, it's almost never intuitive to a new pattern pilot. I'm going to give you a way to think about rudder. It's not the only way and maybe not the best way, but you have to start somewhere.

Ideally, you want your model to have a pure response to rudder (when you push the rudder, the plane only yaws and does not roll). If you have a computer radio, the mixing functions will take care of this, otherwise you may (will) have to use some aileron to get the necessary response (harder!). Your position in the pilots box is also important. I strongly recommend you stand with your shoulders square to the flight line with the radio's antennae pointed down the centerline. Assume this position and don't move for the entire flight. If you move your shoulders during the flight you stand the chance of losing reference to the correct line. This position also gives you the best chance to develop a mental picture of the required corrections.

These suggestions may seem a little mechanical, and they are, but with practice they become easy. Rules:

Rolling from upright to inverted, the sticks go in opposite direction. Right roll, left rudder; left roll, right rudder. This will always give you top rudder when you are knife edge.

Rolling from inverted to upright, the sticks go in the same direction. Right roll, right rudder; left roll, left rudder.

When the line needs to be corrected and the plane is upright, I find it easy to visualize myself in the cockpit and push the nose of the plane in the direction it needs to go. Standing square to the flight line makes this easy. If the plane needs to move the nose right, push right rudder.

If the model is inverted and the line needs correcting, I again go mechanical (can't seem to get myself in an inverted cockpit without going goofy). If you're coming in toward centre, inverted, push the nose in the direction it need to go. If the nose needs to move right, push right rudder. Use your eyes as the direction for the rudder. Your head is turned to the plane so push the rudder toward the eye that would put the nose where you want it. Think about it! Once past centre, going away, push the tail in the direction it needs to move. If the tail needs to move left, push left rudder. Push it toward the required eye.

That's it for the mechanical part. Pretty easy huh? Now let's put these rules to use and talk about practising.

Correcting your line while upright; straight flight out, straight flight back, setting up for and exiting manoeuvres, etc. Do a complete flight of just flying a straight line along the path you will use for your manoeuvres. Use the rudder coming in and going out while visualizing yourself in the cockpit and note the aircraft movement. About a tank of fuel and you should have this down.

Half Reverse Cuban Eight: You're always looking at the tail of the airplane when you start this manoeuvre. As you pull up into the 45 degree climb note the position of the nose as if you are sitting in the plane and make any needed correction. Release the correction and roll inverted, note the tail position and go mechanical. Since you are going away from yourself inverted, push the tail in the direction it needs to move. Do this a couple of times and the correction becomes automatic. This is already getting easier.

Loops: Starting loops can be visualized just like starting a take-off. When I start a pull up for any looping manoeuvre I push the nose in the direction it needs to go. As the plane comes inverted, I assume I'm looking at an inverted airplane coming toward me and push the nose the direction it needs to go. Use your eyes as suggested above.

For Intermediate flyers rolling inverted and upright, try making the rolls a little slower and using the rudder going in and out of inverted. Do this for your straight inverted flight and reverse outside loop. Use the mechanical inputs suggested above for these rolls (don't use rudder for the 3 rolls).

Start all corrections very gently as soon as you notice the need and gently release as quickly as possible. Experience and practice will make a big difference. Burn the fuel and it will pay dividends!

**Don Ramsey**

## Rudder Drills

Four of the Sportsman (soon to be Intermediate) centre manoeuvres can be readily adapted to rudder drills. The objective is to fly them one after another without leaving the manoeuvre and to be able to move the whole manoeuvre in and out a prescribed amount. If you have a caller, have her call the direction and the amount of the correction. The easiest is the three loops. Remember to keep your wings level and make the changes with the rudder. Don't forget to pay attention to centering too!

The other three manoeuvres useful for this drill are the cuban eight, the reverse outside and the square loop. Get real comfortable with the reverse outside before you use it in a rudder drill. A lot of good airplanes are lost on this manoeuvre, including one of mine!

It is tough to see the effects of rudder in the turnaround manoeuvres, that is why the emphasis is on the centre manoeuvres.

In actual contest flying a measure of aileron is used to maintain track in both pushes & pulls. This seems to be a popular downgrade to the unschooled judge who takes points for "wings not being level". The only reference for downgrading "wings not level" that I have found is in the avalanche and I think there could be better wording on that. Sometimes getting it right is not enough, you have to be able to fly what the judges want!

**John Ferrell**

Horizontal rudder exercise: We'll apply this to learn how to use your rudder. If you have a reasonably well trimmed pattern plane it should be able to do flat rudder turns without dropping or raising the nose or without much roll coupling. Just start by flying level at a safe height and perform flat, big horizontal eight's in front of you using rudder only, but relax the sticks to neutral in the crossovers so you will need to think before inputs for the next half of the eight. Enter the eight's from all directions and fly left to right and right to left. Then when you're good and don't make mistakes upright, do it all again inverted. Do this high in case you get confused.

Vertical Rudder exercise: The best way I found to practise vertical rudder control was to do a particular stall manoeuvre. Figure M with 3/4 rolls in the up and downward leg rolling in the same direction. Each pass gives you the chance to do a left or right stall turn with the plane facing you and

one facing away from you( easy). Also there is a lot of chance for correction with rudder in the up and down legs of the M.( This manoeuvre is harder to perfect than it seems at first). The rolls in between help to confuse a bit and put you off tract especially in cross wind but skill at rudder control will keep you online even in the wind. In this figure M you have to do the stall turn under a bit of pressure and the rudder inputs soon become instinctive. This manoeuvre is not recommended for the raw beginner as it has a reasonable K factor and there is a bit of inverted pushout at the bottom of the middle on the M. Practise it from left to right and visa versa.

These two manoeuvres are all that is need to get you use to rudder control. I have found the controls I use the most are the throttle and the rudder. I don't know what the others think but the rudder probably gets used the most.

**Hanns Lim**

So far you have received a lot great advice. Here is 2 more cents to throw on the heap. I like to think of my self as a pilot that learns by engraining from practice/redundancy. If I have a particular manoeuvre or discipline (rudder) I feel needs improvement, I like to step away from practising the whole pattern routine and burn several tanks doing just that one thing. Then go back and apply lessons learned to flying either that section of the pattern or the entire routine.

**Glen Watson** (Editor note: 1998 National Champion Advanced)

I did do an article on that -- but it may have been in the sport mag I wrote for. The drill was mentioned here. It is really a deceptively simple one - practice sliding the model - whilst holding the wings level -- first - from end to end of the box - then reverse etc.- The results take time and many sessions, for the mind to lock in -and -if you rely on "remember to push to the Error side" method for selecting correct rudder -- you will surely err-- reason being that rudder must become as ingrained a response as elevator input -- If you really want to get proficient-you must learn to fly REGARDLESS the state of trim or inherent couple in a model. An old friend once told me (and this guy really was good) "just fly it" when I asked him how to trim for various manoeuvres. He could fly any mode and used no HI/Lo rates etc-- Tho this kind of skill is rare , The idea has merit - for example - I still get questions concerning "how much right thrust is correct". Once you get comfortable with constant rudder flying , you will find that NO offset works very well-and , in fact you will not even notice it. Another drill that helps is learning to fly using a tray - if only to find how much "English " you put on the TX as you fly- A strap is very helpful - and is my own favourite - but I have seen too many different approaches to holding/thumbing etc to say one method is superior- Bottom line - A well practised flyer will usually beat a flier who relies on special models, trimming .etc--because he simply learns to deal with ANY situation.

**Dick Hanson**

When upright, the FAR side of the plane goes the direction you push the rudder stick. e.g., going away the nose (far side) goes to your right when stick goes to your right. Coming at you the tail (again, the FAR side) goes to your right when stick goes to your right.

Inverted, going away from you the TAIL (near side) will go right when stick goes to your right. Inverted coming at yourself, the NOSE (again, the NEAR side) will go right when stick goes to your right.

So - When upright, steer the far side with the rudder. Inverted, steer the near side. (Also works on vertical lines.)

This short, simple "mantra" has kept my heli out of the dirt many, many times while working on nose-in landings and inverted hovering.

**d'hawk**

# F3A World Champs

## Poland 2003

By Angus Balfour

### Preparation:

Before these World Champs I had just built a new Synergy and the Alliance was to be backup. The model was completed about two weeks before the champs and test flights were good enough for me to use this as the number one model. However, we could not get the Dingos to run satisfactorily (could not tune the idle so kept cutting, this was later traced to a broken wrist pin). This meant that I had to revert to the L in the Alliance and the only working Dingo went in the Synergy. Unfortunately this took up a lot of my time to get sorted and hence less practice flying was done than was hoped for.

Nevertheless both models were performing well and I was hopeful of a place in the semis.

### Travel:

The route we chose to take was Glasgow to Newcastle and then got the ferry across to Ijmuiden. From here we then went straight across Holland and into Germany and eventually stopped about 25 miles from the Polish border in a town called Furstenwalde. We stayed the night there in a very nice hotel called Hotel Kaiserhoff. Luckily we now had a top box so progress was quick. It also meant that when Malcolm was asked to step in for Dave Matthias at a late stage we didn't have any problems getting four models into the car as all four model went in the top box apart from a couple of sets of wings.

The next day we got up early and drove to the border. After a small wait at customs we crossed the border at about 9am. At first I didn't see what all the fuss was about. The roads were as good as in Germany. After about 30 miles however the road narrowed and got much more busy. The Polish driving was something else. I've been in Ibiza where driving leaves a lot to be desired but that was nothing compared to Poland. People were overtaking over blind summits and squeezing in in front off you so that you had to swerve out the way. As the road was barely wide enough for two cars this meant going onto the "hard shoulder" which was more like a dirt track with ten-inch ruts. In addition to this you had to watch out for horse drawn carts coming up the hard shoulder the wrong way!! By the time we got to Deblin AFB we were all totally knackered. We were lucky enough to bump into one of the interpreters who directed us to the building where we were to check-in. About five minutes later we met Keith and Anna Jackson who had just arrived themselves and got a meal in the restaurant.

Our team manager Nik Middleton arrived a day later with both of Keith's models.

### Poland practice:

From a personal point of view this went pretty well. The engine and model performed almost identically to back in Scotland so all was well. Keith was also having good practice and things were looking good for the competition. Things were not quite so good for Malcolm though.

The day before the UK official practice Malcolm took off and got halfway round the procedure turn and it became obvious that the model was not in full control. It kept going in and out of control so he hastily brought it in and at the last moment it went out of control resulting in a very heavy landing. The engine had been pulled out but fortunately not much else was wrong. Nik then went to work repairing the aircraft. We then checked out the battery, receiver and also range checked it. The range was very short so we changed the receiver and got proper range. The model was then re-flown and everything seemed to be going ok.

### Official practice:

For the UK team this commenced at 12 o'clock so a nice lie in was had for the first time in weeks! From here on the day went downhill.

I had the first flight, which wasn't too bad, not as good as in practice but a solid first flight nonetheless. Malcolm was next and everything was going great until the cobra. He pushed down, did the 2/4 pt roll and the model just locked out. Totally annihilated!

Nik checked with Frequency Control that nobody had switched on but everything was clear. It was a new receiver that had been checked the day before, ranged checked again on the day and everything that could have been checked had been done on the day before so it looked like it might have been a transmitter fault.

The slot was still on so I then took Keith up for a flight and refuelled my model as he was flying. Three minutes later all I heard was a massive crunch sound and looked up to see an Angels Shadow with one wing slowly rolling towards the ground. The model was a complete write off. Looks like the join line at the leading edge had opened up and the air going in had ripped the wing to pieces. Not good.

I then saw the slot out with one last flight and so ended the UK teams official practice. Memorable if nothing else. It now meant that Keith and Malcolm had to use their backups, which was really going to make things difficult for both pilots as both models were heavier than their no1 and in Malcolm's case he was flying a freestyle model.

### Competition Day 1:

This basically went reasonably well. All pilots had slightly shaky flights and the scores were pretty average. From my point of view I was a bit disappointed as I had got a few zeros for my snaps which is very unusual as I had never been zeroed for the snaps in the P-03 before. This brought my score down significantly. A few other pilots, most notably Christophe had also got a few zeros. It seemed the judges were looking for really barrelly snaps. I really didn't want to change my set-up significantly and as I had been scored in the UK and at the Tournoi in Romilly I decided just to leave the set-up alone but lead with much more elevator to accentuate the break.

### Competition Day 2:

This went better but still a bit shaky on the rolls (still getting used to the Synergy I think). I came into all the snaps and lead with full elevator to get the model to jump a bit and they all seemed like really good snaps. The rest of the flight went well so I thought I would receive good marks.

Got the marks back and I was gutted. Even more zeros than yesterday despite putting in far more elevator to the snaps so the score was very disappointing.

### **Competition Day 3:**

The next morning before I was due to fly I went out practising and put in far more elevator and rudder to the snaps. The model was hugely different and my timing was all out but after a few flights I was flying them a lot better and they were far more barrelly so I thought I would leave it at that and go back to the competition site to do my flight.

This turned out to be a cracker. Rolls still a touch shaky but the rest of the flight was spot on and the snaps were good so I was very hopeful for a high score.

Got the scores back and I just couldn't believe it. Two zeros for the horizontal snap and one for the avalanche. The score spread was 388 from the judge that gave me two zeros up to 520 giving me an average of around 470. My highest score so far but I was still getting zeros! There was not the time for me to change my set-up for the next day as it was evening by now and I was on pretty early the next day. I couldn't of changed it much more anyway as I would have ended up completely mistiming the snaps.

### **Competition Day 4:**

For this flight I just went out and tried to enjoy it. Before all the snaps I also came off the power so that the model was much slower exiting. For this flight I did actually get marked for most of the snaps but the scores were very low and the flight wasn't quite as good as the one yesterday. The end result was that I ended up a very disappointing 44<sup>th</sup> out of 97 pilots.

Keith put in a good flight and ended up getting around 470-480, which pulled him up to 48<sup>th</sup>. Malcolm continued to battle with the freestyle and came in 62<sup>nd</sup>. The UK came in 17<sup>th</sup> out of 35 countries.

### **Finals:**

All pilots apart from Wolfgang Matt flew very well. The result was predictably Christophe 1<sup>st</sup>, Quique 2<sup>nd</sup>, and Chip 3<sup>rd</sup>. Quique didn't fly anything like as well as in Romilly this year and Chip seemed to be struggling with his biplane in the wind. I'm sure he would have been 2<sup>nd</sup> if he had flown a monoplane.

Christophe flew superbly and won all of the rounds in the finals. In fact the only rounds he lost in the whole comp was when he got zeros for the snaps.

Jason Shulman was flying an electric Rhapsody. For me this was probably the model of the champs. His flying was accurate and in quite tight. There was almost no noise from the electric motor (sounded a bit like a turbine). I first saw the model at the start of the champs when it was relatively calm winds and remember thinking very good but not much power. In the finals it was very windy but the electric had as much power as any dingo. I was very impressed and was left feeling convinced that electric is the way to go. I think that in 5-7 yrs when the price has come down a bit we will see a significant number of electric models around. Jason ended up 7<sup>th</sup> but probably deserved higher.

### **Afterthoughts:**

I think under the circumstances the British team did respectably. Malcolm and Keith both had model problems plus a few zeroes of their own and the judges just totally took issue with my snaps.

At the Champs there was an extreme dearth of information as to exactly what the judges wanted. "Just read the rule book" as one well known judge is always saying. That's fair enough but the judges had shifted the goal posts and were heavily downgrading for any snaps that weren't barrelly. This in itself is fair enough but nobody actually told you this. We were basically left to find it out by ourselves from our own scores and talking to other pilots and by the time we had made adjustments and altered our snaps more to what the judges were after the competition was over.

There was also talk that the judges were taking a point off every manoeuvre that was further than 150m away. In the rulebook I believe it states that the model should be flown at a depth of 150-175m and no more than 175m or the manoeuvre will be downgraded. Yet another case of the pilots not being informed of what the judges are looking for and the judges at the Champs shifting the goal posts again.

Apart from these complaints though the Champs were very well run indeed and the Polish were very hospitable to all pilots, judges and supporters.

All in all my first world champs was an extremely enjoyable experience, helped largely by the 70p Polish beer and the company of the UK, Irish and Swedish teams. I did appreciate very much being able to represent my country.

We were all disappointed with our positions but we have got to learn from this and get all our pilots performing snaps etc the way the judges are looking for which will require better communication between pilots and judges in the future if we are to improve at all.

The team also needs a judge to accompany the team to offer constructive criticism on the flights. I personally think it is too much to ask of the team manager to do all the organising before hand and to organise everything whilst we are there, plus not all team managers are judges.

I think this extra support and coaching at the event would make a big difference to the team performance and would have gone a long way to rectifying the situation we had in Poland.

I would just like to take this opportunity to thank the BMFA and SAA for the financial support they gave me, Probuild for their support and model construction, JR/MacGregor Industries for the radio equipment, Nik Middleton for doing an excellent job as team manager and of course my Dad for his calling and financial support.

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