



Great Britain Radio Control Aerobatic Association

# AEROBATICS

**NEWS**

Newsletter of the Great Britain Radio Control Aerobatic Association



*November / December 2002*

# Editorial

## Front cover

shows young Alistair Michie with his ex John Mee Loaded Dice / Hanno 61. Picture was taken at Middle Wallop where Alistair placed third in Standard class of the GBRCAA Championships.

## New suppliers

In this edition you will notice two new adverts and it is hoped that members will take advantage of these new distributors to the UK.

## New committee members

Following the AGM a couple of committee positions have changed which include Nigel Armstrong stepping down as Vice-Chairman with John Harrop taking over this role and Alan Simmonds stepping into my role as Newsletter editor.

## New email address for Newsletter Editor

Please note that the current newsletter email address will change after this edition has been posted. The new editor Alan Simmonds can be contacted after January 1st 2003 on:

**Alan@gspceilings.com**

## RC Forum

I looked at this site recently and discovered a reader poll on various aspects of pattern flying. The following results may be relevant here in the UK.

### If you haven't played in Pattern, or left, Why?

No local interest/support	79	25.73%
Too expensive to be "competitive"	59	19.22%
Boring to do the same thing, over and over	36	11.73%
Not enough time	34	11.07%
Fly IMAC instead	34	11.07%
Personalities of others involved	31	10.10%
Judging Rules/Criteria	13	4.23%
Too complicated (manoeuvres)	12	3.91%
<u>Too complicated (equipment)</u>		<u>2.93%</u>

**Total votes: 307**

More information concerning this web site may be found at [www.rcuniverse.com](http://www.rcuniverse.com). I can certainly agree with points two and four and the GBRCAA is well know for point 6. However I disagree strongly with the third point and cannot remember when I was last bored of flying schedules. In regards to the first point, GBRCAA members can help to prevent this by agreeing to perform demo's at clubs and event s local to your areas. This is really bread and butter stuff for association pilots who's flying competency skill must be such that simple demos of whichever schedules you are flying should present no difficulty whatsoever. I'm sure these displays form lasting impressions; I still remember the demo Kevin Caton did at our club nearly 20 years ago. Well its food for thought and one way at least where you can take an individual yet active part in promoting the GBRCAA.

Also on this website you will find much comment about YS engines, so try the following address:

**<http://www.rcuniverse.com>**

Much comment is made concerning fuel types for the DZ140 and the unanimous recommendation is to use low viscosity oil in between 20% - 30% nitro. Finally you will see references to a YS110 to replace the YS91AC and some excellent comments regarding the ZNLine Synergy 90 rft reputed to sell for ~\$500.

## Finally

I'd just like to say thanks to everyone who has supported the newsletter in the past four years. It has been a very enjoyable and rewarding job and I think I will greatly miss my role in this position. I hope that you all will support your new editor and I'm sure that with your help Alan will do a fine job. See you all in the new year.

Keith Jackson  
GBRCAA Newsletter editor

# New Stuff for 2003

Dear Mr. Jackson,  
here is some more information about the models Rhapsody and COCAIN:



Rhapsody is available in 3 types: Rhapsody (old wing and elevator), Rhapsody Competition and Rhapsody 3-D.

Our kits are from a very high quality.

The fuselage is built in full-glass epoxy with inside Balsa-Sandwich (no styrofoam). Additional is inside a horizontal frame, to make more stability in the rear. So you will have the same stability after one flying season. The angle of attack is pre-built as well the engine right and down thrust angle. From the kit, you can normally plug in the wing with the fuselage. The wings are also full-glass ready painted. The wing connector is a 30 mm cfk-Tube. The wing is ready. The same with the



elevator. The aileron and elevators are elasto flaps. The SLW you must connect with hinges. A good model builder will need about 30 – 40 hours to finish the model (information from our customers). We deliver a German construction manual with all important construction parts (about 15 sides). You can choose between several designs between 0 -150 EURO additional costs. With no extra charge we deliver between 3 or 4 colours upside and one colour lower side. Also you can choose between retract prepared

in the wing or no. With no retract, you must build in a frame (according construction manual) for fixed gear in the fuselage.



We deliver only the fuselage, canopy, wings, elevators, SLW, connector tubes. Separate parts as gear, hinges, etc. not included in our kit. In the moment we have a long delivery time (we are sold out). Normally we can deliver within 6 – 8

weeks. COCAIN kit has nearly the same specifications. This model will be available at spring 2003.

RHAPSODY: Spw.: 1990 mm Länge ü. A.: 1990 mm  
RHAPSODY: Competition: Spw.: 1920 mm Länge ü. A.: 1990 mm (new wing and elevator)  
RHAPSODY 3-D: Spw.: 1990 mm Länge ü. A.: 1990 mm (new wing and elevator)  
Engine: ab 22 ccm oder OS 140RX / OS160, Webra, YAMADA Weight: ab 4450 g

COCAIN: Spw.: 1990 mm Länge ü. A.: 1990 mm  
Motor: ab 20 ccm oder OS 140RX / OS160, Webra, YAMADA  
Weight: ab 4500g

For more information and current prices, please contact Wolfgang Lorenz at [www.f3alorenz.de](http://www.f3alorenz.de),  
email on [Modelltechnik-Lorenz@t-online.de](mailto:Modelltechnik-Lorenz@t-online.de) or telephone / fax 0049 6631 916574.



## More Photos from the Euro Champs 2002



*Richard Howarth readies his ZNLine Synergy / YS140L with the aid of his dad John*



*PL Models Smaragd. Sorry, no further information on this model, but great colour scheme*

# Photos from the TOC 2002



*Wolfgang and Roland Matt, prior to the event, with their Fibre classics Extra 330 / 3W150 power*



*Quique Somenzini ditches the Extra that he used for many years in favour of this Yak 54 / 3W 150 QS design*



*Mike McConville with his Edge 540*



*Group New Zealand with Irish support!*

# 2002 F3A European Champs

## 1. Journey to Zamora

After fixing my backup model that I had slightly damaged the night before, and packing the car, Dad and I left at about 10am and got to Portsmouth at about 7pm. Journey was relatively straight forward apart from road works on the M6 which cost us about 1 ½ hrs. Ferry ride was enjoyable and gave us a chance to discuss the forthcoming competition. Car journey in Zamora was straightforward and uneventful apart from Dads car losing 5<sup>th</sup> gear! Arrived at the site for about 3pm approx.

## 2. Practice

Arrived at the competition site on the Thursday (3pm) and was able to get a flight in. Engine seemed a bit down on power and the aeroplane required some trimming. Apart from this it flew as normal when compared to colder temperatures and lower altitudes. Brandon had already arrived and was flying well. Richard and his Synergy were also going well. The site was well laid out, plenty of parking and had a bar and seating area. The next day I managed two practice flights. I used 30% nitro this time, which went some way to recovering the lost power.

We also found the practice site, eventually, which was totally useless. Rough football pitch with goal posts. This meant that all practice had to be done on the competition site with the rest of the competitors hence less practice.

## 3. Official Practice

This started off with the model processing, which went without a hitch. The guy measuring did have to double check my back-up plane though!! Must have been dead on 2m. Myself and the other team members then had our practice flights in a strong crosswind. Unfortunately Richard ran out of fuel and landed off the strip tearing his fixed gear out. This meant that he had to fly his Alliance for the competition.

## 4. The competition

Rounds 1 and 2 for myself started relatively well. I was nervous and it showed in my flying but I got decent enough marks for the two flights. Round 3 was a cracker of a flight but I got a disappointing mark. Round 4 was another good flight in a strong crosswind in. I had set the model out relatively deep to give myself a chance in the crosswind but due to my superior wind correction skills (flying in Scotland does have it's advantages!) the model stayed out there! I received a very disappointing score for that round and perhaps it was because I was relatively deep. The end result was that I came 27<sup>th</sup> out of 59 pilots.

Richard encountered mixed fortunes. He hadn't flown his Alliance much before hand so his first two rounds were below his usual standard. He then reverted back to his now fixed Synergy for rounds 3 and 4 and apart from a rich engine run in round 3 he flew well. Richard ended up 35<sup>th</sup>.

Brandon had an engine cut in round 1 due to a faulty non-return valve. He flew well in the last three rounds to get into the semis in 17<sup>th</sup> place. After a bad first F-03 he then put in a good second F-03 to end up 15<sup>th</sup>.

## 5. Finals

The flying in the finals was of a mixed standard. CPLR was predictably excellent and was well ahead of the rest of the field. His unknowns were flown very well with very few mistakes and he ended up winning the competition. In second place was Roland Matt and third was Marco Benicasa. The Germans did not fair well and ended up 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>. Stephan Fink almost crashed during his two roll, rolling circle in the first unknown! It struck me that whilst these pilots were undoubtedly very good at the P and F schedules when it came to "off the cuff" flying they definitely lacked the natural ability as shown by CPLR and the likes.

## 6. Afterthoughts

The UK team ended up a relatively disappointing 9<sup>th</sup> place. However, considering the problems we encountered (Brandon's engine cut, Richard flying his no2 model and my inexperience) I firmly believe that the Brits gave a good account of ourselves.

I felt extremely well supported by other team members/callers and not least David Tappin. It definitely helped having just to focus on the flying and not worry about getting my Tx etc etc. All team members were there to support each other and give assistance if required which all went together to create a good team spirit.

#### 7. Preparation and team selection

I personally felt that I had insufficient time to prepare for these Championships. I was practicing two schedules for the champs and this took up all of my available free time. There definitely was insufficient time to get a new model built and trimmed. I believe the current system choosing the best three pilots a year in advance instead of three months is definitely a big step in the right direction and should allow those team members enough time to prepare properly and hopefully allow them to perform to a higher level at World/Euro championship level.

This was my first Euro champs and I found it a much higher pressure/calibre event than I had thought it would have been. I honestly believe that nothing could of prepared me for this kind of event, apart from actually doing it. People go on about running the Centralised events to FAI rules (as they should always have been done) to put the pilot under more pressure, i.e. noise checking, timing, weighing etc. I don't think it does put the pilot under more pressure and certainly doesn't even come close to international level. People are also going on about changing the current team selection process to a two day team trial to "put the pilot under similar pressure to international events and hence choose those pilots that can handle this kind of pressure". Again, I firmly believe that this would not prove to be the case. You cannot recreate international level stress/pressure from a team trial involving ten or so pilots and flying F and unknown schedules. I agree that UK pilots need to get judged on F schedules and I think that this could be incorporated into the present Centralised events, not a two day team trial.

I think all this talk about changing the selection mechanism for the team stems from a "quick fix" attitude, partly at least. It's going to take years for British pilots to develop and compete with the top pilots in the world. No type of selection mechanism will change that fact. The selection process is working just fine as it is. Indeed, we have only just chosen the team for the worlds using the best 3 from 5 in a calendar year process (process just been implemented). I cannot help but feel that the process should be left as it is and allowed to settle for at least a couple of years and only then should we perhaps re-think the team trial process if no advance has been made in UK pilots performances.

I definitely think we should have the top pilots flying the F schedules though. Whether this be in Centralised competition or in team practice has to be discussed but for those pilots at the top it is imperative that they do. I have heard some top pilots say that there is no point flying F schedules as "they are not good enough to get into the semis". This may well be the case, but if they do get in and they have never flown it they will end up last. Flying harder schedules will also greatly increase pilot skill and anyone even contemplating getting in the team should be encouraged to fly these schedules to improve their ability.

I also think that far too much emphasis is put on those people in the team. The gradually diminishing membership must be addressed. I think some people are perhaps put off by the whole association revolving round the team and its selection. The association needs to leave the Team selection / Centralised events be as much as possible and focus their energies on getting new pilots into the association. This is the real key to improving the performance of the UK at international level, getting new pilots in and getting them up through the ranks to push those guys at the top.

#### 8. Conclusion:

The Eurochamps was an immensely enjoyable experience for myself. I learned a huge amount and got on well with the other team member/helpers. I have qualified for next years World Championships and I am very much looking forward to it.

I think the present team of Brandon Ransley, myself and Dave Matthias should perform very well. We have all been to at least one previous European or World championship and have got plenty of time to practice.

I would finally like to take this opportunity to thank all those people that made this possible. The GBR/CAA, judges, helpers, fellow team members, the team manager David Tappin and my Dad for his support, calling and financial backing.

Angus Balfour  
UK Team Member 2002



# Correspondence

## OS160Fx: Setup Information

As most people seemed to be impressed with the performance of Dennis Van der Torren's Extra at this years Nat's, I thought I'd question him as to the particular set-up he used. Candid as ever, his reply was:

*I use the Hatori # 902 that looks like a tuned pipe but it is only a silencer. With an APC 17x12 this produces about 7200 rpm. I use an Irvine 60 size carburettor. On the engine I use pressure from the silencer to the fuel tank.*

*The response on the throttle looks like a four-stroke. When you want to know more mail me; I have the Hatori pipe in stock in my shop.*

*best regards,*

*Dennis*

*For those of you interested in this form of propulsion, Dennis' telephone number, fax and email once again are:*

*Tel: 00 31 (0) 416 334 573 Fax: 00 31 (0) 416 342 355*

*E-mail [hobbyin@xs4all.nl](mailto:hobbyin@xs4all.nl) [www.xs4all.nl/~hobbyin](http://www.xs4all.nl/~hobbyin)*



*Hatori 902 pipe (~£106) and 907 header (~£18.50) for the OS160Fx. Prices obtained from [www.hatori-models.co.jp](http://www.hatori-models.co.jp)*

## Young Blood

I received this model / setup information from Bill Michie following the Champs. Both Bill and Ali have had quite a good year coming third in Seniors and Standard Class respectively, with Ali winning his class in the recent Bedford event. Nice to see flyers coming through the ranks like this.

*Hi Keith,*

*Ali started flying Std class at last years Nats with my old 3<sup>rd</sup>-hand Graphic, after about 2 wks practice. I bought our Loaded Dice from John Mee in December for this year and possibly next, but we seem to have got to the stage of already needing a bigger model! The Dice is a "70in Special", one of two built as a trial before the L-D 2 S came out. (wingspan 70 ins as opposed to the LD 2 S f 68in). Engine is a modified Hanno with a Dave Shadel AAC piston/ liner set and Mk 2 pipe, prop 12 1/2 x 11 1/2, running 10% Dynaglo for the Champs.*

*This was our 4<sup>th</sup> comp this season, after Warboys, Bedford 2 and the Nats.*

*Ali has been flying since he was about 7, and is now 13. He started Aerobatics halfway through last year. Next year we should hopefully be competing with a simple scratch-built 2m model, it'll be interesting to see how much of a difference it makes.*

Hopefully see you at the AGM, it looks like I'll be off that weekend!  
Regards,

Bill Michie



Alistair Michie shown here on the left taking 2nd place at this years Nationals, with Andy Waterhouse, (1st) and Ross Thurlow (3rd).

#### **Acoustic noise reduction in cowls**

Following some successful trials with open cell foam within the underpan of his ZNLine Alliance, current UK team member Angus Balfour sent me a picture of the amount that shows the way that it is installed (see below). Basically the foam is 30mm thick Melatech which is a very lightweight, open cell foam which is both heat and chemical resistant. Melatech, marketed by Hodgson & Hodgson exhibits very good attenuation of mid and high frequency noise and hence perfect for this application. It can be supplied both with and without a very sticky self adhesive backing. Angus has really maxed out the quantity that can be used within the under-pan and this has the effect of forcing the cooling air nearer the surface of the pipe to enhance heat transfer.

Hodgson & Hodgson may be contacted on 01664 821809.



Correspondence (cont'd)

### **GBRCAA Heads Up**

Well the time has come to put pen to paper or at least press 'Print'. "Why?" You ask and "Who are you anyway?" Well, to answer those questions the answer is as follows: -

My name is Paul Furze – look in the last GBRCAA Newsletter at the League Table 2002 Final Standings. See me? No, well you're looking at the wrong end of the table. Start at the bottom and work four up, there that's me - Sportsman.

Now for those people that are still reading and wondering why a Sportsman level pilot is writing to the GBRCAA I think that everyone should be allowed to have a say regardless of ability. (Even if only once!).

I'm sending this in for two reasons. Firstly, to have my say about the new proposed sportsman schedule and secondly because I have some requests and comments. A view from the bottom up 'so to say'.

I should point out at this point that my model is a JB Aviation - 'Supersport'. A high-wing type, similar to the WOT4. It is fitted with an Irvine 46. This model has taught me what I would term to be the 'Basics'. Before you all say go out and buy a better model remember that, as a hobby aren't we trying to encourage more people to enter our F3A class. As such the entry level 'Sportsman' should pretty much allow most people to have a go with what they have already got without going and spending more money on a plane to try something they may not even like. As long as they have a model that will loop, bunt and fly inverted I say get out and have a go at it.

Ok my view of the proposed 'Sportsman' schedule. Eeuch! I think most people know what Eeuch means but I should be a bit more specific. The rectangular take off sequence is awful for a sportsman level pilot. Not because of any difficulty but it puts the first downwind section further away from us than would the original take off sequence. Now I prefer the first downwind section to be down the flight line as this allows me to adjust any trims that may need to be done with the model closer. There may be a point for argument that trims should not need to be adjusted and I'd maybe agree with this point if I were flying a better model. However we are at the 'cheaper' end of the ability classes and models don't all have ball raced clevises, digital servos etc. so some in flight trim maybe needed. Well it is with me and I won't believe for one minute that other sportsman flyers' models are that different. So please put the take off sequence the same as all the other classes.

Next up is that Cuban Eight. I have nothing against the manoeuvre itself it just that it seems to require a model with a bit more power than mine. To get the loops big enough so that the half rolls are at a reasonable height, and avoid getting too close to the floor, requires me to enter the first part at full throttle. However, the straight bit before the first half roll is taken more slowly and thus speed is lost before the second loop. Now when I ask other people were I fly to fly that manoeuvre they all seem to be put off saying that to perform that you need a bigger engine/model etc. The original schedule had half and half-reverse Cubans as end manoeuvres and as such I could get a bit of a run at them and so get the height ok. The full manoeuvre is just a bit too much for an entry-level model.

My next gripe (yes a third) is the spin. Well not the spin itself but the set up to it. The last end manoeuvre is a half square loop with half roll. This, when completed, should put the model at the top line and allow for the height lost when performing the spin. It is tricky to get an entry-level model high enough when doing the half square loop bit. Now maybe the answer to this is not to change the schedule but to change the judging on this. Allowing the model to complete its half square loop with half roll at whatever height the model has been flown at for the top line. Then allow a climb to take place put the model high enough for the spins.

Well that's my comments on the schedule now for a bit of a request from you all, well those of you that write in with comments or instructional stuff.

I'd like to know what you 'think', yes think, when performing each manoeuvre. I have read many instructional books, bits in magazines on how to fly various acrobatic manoeuvres. To me they tend

to a bit academic. 'Loops', should be circular and 'flown at a constant speed' sort of thing. This informs me what it is but not so much how to fly it.

To try to explain what I'm on about here I have a bit of a story. I play guitar. In the early days whilst learning to play freeform solos my guitar teacher was demonstrating a short three-note arpeggio that would work well over a certain set of chords. I knew the notes he was using 'A', 'C' and 'E'. I ask him to shout out the notes as he was playing them so I could keep track. He started playing, getting faster and shouting the notes out. As we came to the very end of the piece which was now getting quite quick without thinking he shouted 'A' 'C' 'E' 'A' '11' '9' '7' 'Root'. Although the ending was a bit unusual and not what I expected I ask him why the numbers and not the letters. He said that when things became quicker and/or complicated he tended to think more in intervals than the letters of the notes. We talked a little about this and he'd just said it was something that he'd done as it was easier for him to do. My playing improved greatly (Well I think so!) just by 'thinking' in a different way.

So what's the point I'm making? Well I suppose that although we increase our ability mostly by practice, sometimes just approaching something, with a different mental perspective can give fantastic results. How to do this with flying? Well I ask one pilot to perform a loop and shout out his thoughts as he did it. The result was 'Cloud' 'Straight' 'Pull' 'Pull' 'Tweak' 'Cloud' 'Throttle' 'Pull' 'Tweak'. The translation is fairly obvious except the first 'Cloud' and what 'Tweak' meant. When I ask him what that first 'Cloud' was he said that on his approach to the loop he 'Saw' the top of the loop at a certain point on a cloud. Now the interesting point is not that he marked the top of the loop, which I have been told to do, but that he marked it before starting the straight approach to the loop and not when he was at the bottom of the circle. The 'Tweak' was when he used the rudder.

Now we're all (i.e. Sportsmen level) aware of trying to see a pattern in the sky before we fly it but how many of us see it before we do it and not as we do it. I now try to see where the top of my first loop will be before I even take off. I even suppose that if I practice enough one day I'll get a loop that's actually round!

Trying to pass on knowledge is difficult when something is not an exact science and I believe that if pilots of a higher ability than me (and since I'm fairly new to this that means just about all the GBRCAA pilots) were to capture their thoughts (on flying only please!) and thus let us see what they are thinking it may offer us a completely different angle. This doesn't only apply to sportsman level pilots.

Well now I've said my piece on the schedule and made a request I've just about finished (*oh good, and don't think for one minute you're going flying today – Paul's Wife!*) except for a few suggestions I have.

How about a 'Sportsman' level only competition some time? Although it's nice to be at a competition and see the higher classes performing, the sportsman's class dose not have a lot of manoeuvres and a whole round for us is over quite quickly. It would be great to have Sportsman only competition so we could all get in more flying time. Maybe we could ask one of the higher pilots to come and give a demonstration of the schedule at the event as well.

I would also like to see a bit more beginner level stuff in the newsletter. I live in Cumbria and as such don't get to see GBRCAA pilots that often, as most of the 'action' seems to take place down south. Thus my main contact points for the GBRCAA is the web site and the Newsletter.

Anyway that's me now finished so good flying to you all and see you on the circuit.

Regards,  
Paul Furze.

*Well are there any members out there who might be able to help Paul and other Sportsman pilots in his positions? Or for that matter organise an event just as he suggested? Ed*

# LARKS 2003 2-Day Contest

5/6 July 2003

## Aim

A 2-day contest with 5 flights each for up to 20 competitors. In addition ability to practise and to be tutored on the Friday.

Saturday evening – a relaxed fly-in with BBQ.

FAI pilots (and if any entries, Master pilots) will be expected to judge lower classes.

Opportunity for FAI Pilots to fly FO3

## Timetable

### **Friday 4 July**

From 10am – NOT BEFORE!

Practise at the site available for anyone (proving BMFA and GBRCAA membership) at a cost of £5 per pilot.

Tutored practice sessions at £5 per 20 minutes given by Brandon Ransley (and other team members (current or ex) and judges if they are willing to attend and give their time) involving 5 mins discussion beforehand to discuss the aims of the flight, flight and remaining time for analysis post flight. This is subject to sufficient interest being shown on the entry form.

Note – club members may be present and may be flying on this day.

### **Saturday 5 July**

9.00am - Pilots briefing

9.30-12.30 – Round 1

12.45-3.45 – Round 2

4.00-6.00 – part of Round 3 – who will fly will depend on number of entries in each class. However, if we decide to fly a class then all entrants in that class will fly that evening.

6.00 – Club BBQ and fly for fun – no pattern models – bring your fun flies, helis, old timers etc – flying off the peg subject to club peg system which will be explained at the site. Club Raffle etc

### **Sunday 6 July**

8.30-9.30 – finish Round 3

9.45-12.45 – Round 4 – for FAI this will be FO3\*

1.00-4.00 Round 5 – for FAI this will be FO3\*

\* Those FAI pilots who do not wish to fly FO3 DO NOT HAVE TO – they can fly PO3. However they cannot place higher than any FAI pilot who flies FO3. The purpose of this is to allow all FAI pilots to have the same number of flights and for those who wish - including the team who will be going to Poland for the World Championships about 4 weeks after the contest - to practise this demanding schedule in a contest environment before our best judges.

The above timetable is dependent on number of entries in each class and, of course, the weather. If weather does not allow the above programme then adjustments will be made at the time by the CD.

#### Scoring

Scores will be normalised on a round by round basis in each class. There is no TBL for FAI (or any other class).

#### *All Classes other than FAI*

Best 3 out of 5

Best 3 out of 4

Best 2 out of 3

If only 2 flights both will count

If only one flight that will determine placings.

#### *For FAI*

For those flying 5 rounds of PO3 – as for other classes

For those flying 3 rounds of PO3 and then FO3 as follows

If 3 or less flights as for other classes.

If more than 3 flights are flown then the best 2 PO3 schedules will be renormalised to 1000 and carried forward. If we then get 1 FO3 flight then this flight and your renormalised prelims will count. If we get 2 FO3 flights then your best 2 scores out of the 2 FO3 flights and the carried forward renormalised prelims will count.

#### CD and Jury

Brandon Ransley will be CD.

Jury will be confirmed but is likely to be Roy Ransley, the Chief Judge and Kevin Caton. Hopefully it will not be needed or used.

### Entries and Entry Fee

Entries **MUST** be received at least 21 days before the event to enable time for the CD to plan.

First 20 to enter will be given places (save where FAI and Master pilots refuse to judge in which case the CD can give the place to another entrant). After this a reserve list will be started. If you decide not to compete please let me know asap so that those on the reserve list can be notified.

Entry Fee is one and a half (1½) normal 2003 entry fees. See entry form.

Please send **TWO** stamped addressed envelopes with your entry.

### Accommodation and other info

Details of accommodation and confirmation of your entry will be sent out as soon as your entry is received or 6 weeks before the contest, whichever is the later.

Final details will be sent out in your second envelope after entries close ie about 10-14 days before the contest.

### Where do the entry fees etc go?

£100 to LARKS for use of field – LARKS has a new field very close to the old one and there has been a lot of expense to get it ready. We need to replenish the coffers.

Judges and CD expenses

Balance to GBRCAA general and Team Travel funds

Proceeds of BBQ, Raffle and Friday flying to LARKS

Proceeds of tuition will be £5 to LARKS if Brandon Ransley is tutor and split equally between LARKS and GBRCAA in other cases.

**I know that some people are not keen on two day events. However, I seriously believe they are viable and can be fun if well run. In addition, the location is central.**

**I hope that you will give it your support and that this can develop into an annual event on the calendar.**

**Brandon Ransley**

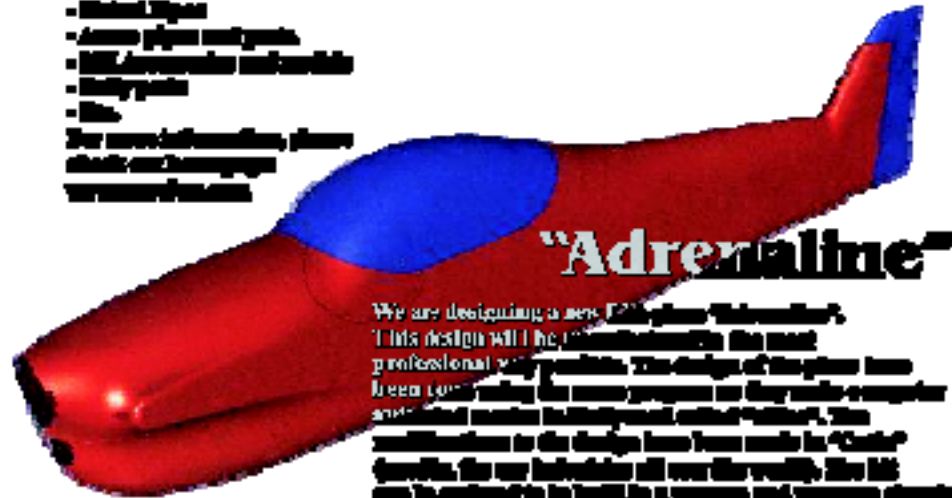
**The Granary, Tunnel Hill Mews, Knock Lane, Blisworth Northampton, NN7 3DA  
Tel: 01604 879263 Fax: 01604 879264 Email: bwr@howes-percival.co.uk**

## The nordic F3A shop!

We have a lot of parts for the F3A plane from the manufacturers

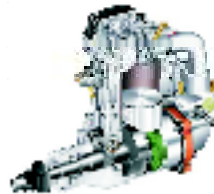
- The Engines (you can use the distributor for all the Nordic countries)
- Metal Spins
- Axon pipes and parts
- IMA Accessories and parts
- Bulky parts
- Etc.

For more information, please check our homepage [www.rcsweden.com](http://www.rcsweden.com)



We are designing a new F3A plane "Adrenaline". This design will be the most professional and competitive. The design of the plane has been done using the same program as they make computer animated movies called "Solid". The modifications to the design have been made in "Catalia" (solid). We are including all over the world. We will use the software to build in a vacuum and pressure chamber (optional) to get the lightest and strongest F3A design possible. The wings are being produced with a computer controlled system to ensure the best result. The prototype is for the moment being built for the first flight. Please check our homepage for more information!

**Specifications**  
 Wingspan: 2000 mm  
 Length: 1800 mm  
 Weight: 1400-1500 g  
 Engines: 1-150-170 (2 or 4 stroke)  
 Size: class F3A class



**D140 DZ**  
 WINDY 150 cc 2 stroke  
**Dingo**  
 Direct Injection



Address: 261 Skövde  
 261 26 Skövde, S-261 26  
 Sweden

Tel: +46 303 77000  
 Fax: +46 303 77005  
 E-mail: [info@rcsweden.com](mailto:info@rcsweden.com)  
 Web: [www.rcsweden.com](http://www.rcsweden.com)



# LARKS 2003

## 2 day contest 5/6 July

### Competition Entry Form

Name:

Address:

Tel no.

Email:

BMFA Number

GBR/CAA Number

#### Frequencies

- 1.
- 2.

You must specify an alternative frequency. ODD frequencies only allowed.

Competition Entry Fees – Please tick

Sportsman	£7.50	<input type="checkbox"/>
Standard	£15	<input type="checkbox"/>
Senior	£21	<input type="checkbox"/>
Master	£21	<input type="checkbox"/>
FAI	£24	<input type="checkbox"/>

Complete entry form, entry fee and **two** addressed stamped envelopes must be sent to the contest director not less than three weeks prior to the contest date.

**Cheques should be made payable to the GBRCAA and dated for the date of competition.**

Important Notice to all Competitors

### Important Notice to all Competitors

Pre entry is a requirement of all GBRCAA. If you wish to submit a late entry for this competition, contact Brandon Ransley (01604 879263). If there are spaces and the CD is willing to accept your late entry you will have to pay double the stated fees for the competition. If you have pre entered and fail to turn up on the day, no refunds will be given.

### **Please complete this section**

- I will / will not be flying on the Friday. If you change your mind please let the CD know.
- I would like  tutored sessions on the Friday. Please specify how many and if you have a preferred tutors, who they are: \_\_\_\_\_ and \_\_\_\_\_
- I will/will not be attending the BBQ on Saturday evening and will have  additional guests. Please specify the number so we can plan for level of food.
- I am competing in FAI or Masters and will be willing to judge lower classes. Please tick to confirm

Note, if you are not willing to judge your place may be given to those who will.



## PRECISION AIRFRAMES

The Fully Professional Build Service

MATRIX	SPECIFICATION
	Length: 1990 mm Wingspan: 1900 mm UC: Fixed Engine: 140 - 160 Weight: 4.2/4.7 kg
Designers: Ewan Galloway, Hamish Galloway and Frazer Briggs	

- *Unique* wing and tail Adjustment System
- Retract option
- *Choice* of configuration - ARTF or ARTC
- Carbon - Kevlar fuselage
- Unbeatable Value! - Call to find out ...

# 00353-86-2662501

Ring for more information

OR

Email: [davefoley63@hotmail.com](mailto:davefoley63@hotmail.com)

You can now benefit from over twenty years skilled craftsmanship of experienced flyer, Dave Foley, Irish F3A Team Manager.

Dave Foley, c/o The Quay, Cootehall, Boyle, Co. Roscommon, Ireland

# YS DZ Notes

The “new” YS DZ140 has been a long time coming and rumours of its existence date back to mid 2000 where I saw the first version at the Tornoi de Champagne in Romily, France. Since then I know that much R&D has taken place with numerous changes being made to hone the performance of this radical new engine.

Differences from the YS140L and for that matter most other YS 4 stroke engines include:

- Direct injection of fuel into the chamber housing the intake and exhaust valves. This means fuel no longer enters the crankcase directly and the majority of any such lubrication relies on piston blow by. Two immediate side-benefits of this are that much less fuel will be spat out of the intake, and secondly intake noise, minus the “squelchy” sound from the fuel, will be reduced.
- The air intake is fitted with a restrictor reducing the orifice from ~13.4mm to ~8mm diameter, thus reducing the effective area to ~35% of the original 140L engine. The reason given by YS for this is to reduce the fuel consumption; removing the restrictor results in an increase of ~300rpm, which I have corroborated by testing.
- Higher compression ratio utilising a piston with large rectangular slots in the piston crown leading to the inside of the ring.
- Mechanical fuel pump. The pressurised YS fuel system is no more and to obtain a high injection pressure a simple mechanical pump operated by the inlet valve push rod has been implemented. Cooling fins above the pump housing have been added to prevent the fuel from boiling!
- New disc valve spacer assembly (not shown in this picture of an earlier DZ). This is actually made of Tufnol in what I assume is an attempt to prevent hear transfer from the crank case to the air intake.
- No separate air bleed screw for adjusting the mixture at idle; any modification is performed via the regulator as per the early YS two strokes.
- Fuel regulator screw faces forward; don’t try to adjust this with the engine running; seriously, it does actually mention this in the instructions!!



These are what I consider to be the main, obvious differences between the DZ and the 140L. No doubt more subtle differences exist and perhaps those more knowledgeable of YS engines in the GBRCAA might care to write in to enlighten us all.

My main aim in writing this article was to tell you about my experience of the DZ. I have been running a YS DZ140 since the middle of this season with, I am pleased to report, more than a degree of success. I got hold of DZ #1 just prior to the Centralised event in Scotland. It fitted exactly in place of my 140L and required nothing more than a change of plumbing. As already mentioned the DZ uses a mechanical pump which sucks fuel from the pump rather than providing a head of pressure to force the fuel back from the tank. As such it is imperative that no air enters the system as the engine will simply cough and perhaps quit. To ensure a bubble-less fuel feed YS provide a “furry” clunk which is simply open cell foam wrapped over a “normal-ish” clunk and this is to prevent air bleeding into the clunk once fuel levels get low. I tried this without success although I have to say there are reports from pilots using this without any such problems whatsoever. However in my case I would go through half a tank and then

the engine would splutter and eventually die. This is I'm sure partly due to the level of vibration around the tank and had I have had more time I would have investigated this further. Clearly the furry clunk is supplied as a fix so it must work, mustn't it!

A side benefit of not using the pressurised fuel system is that now if the engine does run out of fuel or if the fuel pipe splits, the engine doesn't seem to backfire as violently as for example the 140L. Also the tank is now required to vent to atmosphere and a way to allow this without having silicone pipes dangling out of the fuselage is to use your now redundant YS check valve on a short pipe coming from a third tank vent, inside the fuselage.

Anyway as time was short I decided to do what Wolfgang & Roland Matt did to fix the problem and use a header tank. Mine took the form of a 4oz clunk tank mounted just forward of the main tank; larger than was necessary but all that was available at the time. The principle of the header tank is simple; the fuel feed is positioned in a small tank, which is assumed to be fed by a much larger one and therefore the former is always full of fuel. In fact the header only starts to empty when the main tank is empty. This results in an uninterrupted flow of fuel to the engine. Once installed the fuel supply problems I encountered disappeared completely.

Another facet of the DZ then began to show itself. If the tank is filled in a normal manner, (e.g. via a T piece in the tube from clunk to engine), then the engine will flood and it is necessary to clamp the fuel feed to prevent this happening. When I eventually received my DZ instructions in English, this was clearly stated by YS. Currently I use a clothes peg and double over the fuel line. However back in the pre-YS days people used the Dubro fuel valve (shown below) which acted to interrupt the fuel feed when a filling nozzle was inserted into the valve. This could be used in place of the clamp and I will let you know how this idea progresses.

Once these problems were sorted out I then realised that the engine wouldn't hold a consistent idle at the specified 2200rpm. Occasionally it would but often it would cut during the schedule and certainly during the reverse spins of the PO3. After fruitlessly fiddling with the regulator and main needle and with the Centralised event just days away, I installed a small battery to energise the glow plug at low throttle settings. This cured the problem 90% of the time but was a bit of a belt and braces approach.

So now I had an engine that would run consistently and idle most of the time and was thus prepared for Scotland. And indeed I needed to as we were treated to almost gale force crosswinds in Glenrothes. In this setting the DZ certainly outperformed every other engine at that event even with the extra weight of a 20oz main plus 4oz header tank. It was clear that this engine was significantly more powerful than anything else used in the UK at that time.



Preparing for the Triple Crown shortly after and the engine was running very well to the point where I was experimenting with different pipes to obtain the "correct" sound. My set up included a Greeve pipe and Hatori manifold, all rubber mounted (as per July 2002 newsletter), APC 15 x 13 propeller and the Hyde mount that is normally used in the Angels Shadow. Everything was fine until the practice day (doesn't it always happen like this) and the engine power reduced from a nominal 8700rpm to ~8200rpm. After much messing around trying to eliminate various factors I decided to run the engine open exhaust and was glad to hear it run up to what might be considered normal revs. The problem stemmed from the pipe being gunked up, no doubt as a result of me running the engine quite rich and storing it in the vertical upwards position thereby allowing burnt fuel to congeal around the stinger. Yet this pipe / manifold seemed to run okay with a 140L which lead me to suspect that the DZ was sensitive to back pressure, a point re-iterated when I fitted a rubber stinger on the first round flight and had the engine quit unexpectedly. Removing it for the round 2 flight saw it perform once again faultlessly. It's difficult to conclude that the engine is sensitive to back pressure having not tried to repeat this problem; one doesn't go out with an Angels Shadow and try to get the engine to quit in an awkward situation. So I guess all I can say about that is be cautious and if it does run strangely when all else seems fine, try running open exhaust and see what happens.

Later that season I received my second DZ and at the same time I was performing tests on intake noise and needed to had an adaptor made to fit over the DZ intake. To facilitate this I removed the back-plate from DZ #2 and sent off just the bare casting to the company doing the work. Just prior to this I tried to

run DZ #2 and it would run at low revs just fine but would not open up to moderate or event full throttle, requiring the main needle to be opened excessively. On investigation I found that there was virtually no fuel flow from the pump regardless of the regulator position and that this was obviously a manufacturing problem. During these investigations comparing the parts of #1 with #2 I noticed that the throttle barrel was different. I had heard from numerous other pilots over parts of 140L's differing as a result of continual development and on fitting #2 barrel to #1 engine, the idle problem vanished. Now whether this was an incorrect part or just the result of intentional earlier R & D I'll never know, all that concerned me now was that I could get rid of the pesky remote glow system that I'd used previously.

This brings me to the current situation and to summarise, my set up and running conditions include:

- Hyde Mount
- Hatori Manifold
- Hatori 693 pipe (although the Greeve pipe was less restrictive)
- APC 15 x 13 propeller
- OS FS Plug

Fuel wise I have always run Cool Power 30% as my previous mix using Klotz Super Techniplate contains castor oil which carbons up the valves. I believe the standard Klotz Techniplate contains no castor oil and I might experiment with this over the Winter period. Also Bekra oil marketed by Model Technics also seems favourable and a number of GBRCAA pilots have reported good results with fuel mixed with this oil. In terms of content it is my understanding that Cool Power 20% (green) contains ~18% oil which is less than recommended by YS. In fact I believe this oil to be different from that used in the heli mix. Indeed when I have tried the DZ with this fuel it does not perform anywhere near as well as with the 30% (pink), sounded harsh and maybe this was more to do with heat dissipation than the drop of 10% in nitro. Again if the more experienced fuel guys in the GBRCAA would comment, I'd appreciate it.

With Cool Power 30%, the engine achieves between 8600rpm - 8700rpm on a 15 x 13 propeller. Strangely the engine doesn't seem to want to rev higher than this on the ground, which is a figure that a good 140L can produce. Yet in the air the power difference is obvious, so don't get too hung up if your ground revs are not what you expect. I have tried other propellers such as the 16 x 12 and 15½ x 12 wide without any great success as I find the engine revs more during manouvres due to the lower load. However I believe that I am flying a little too fast at the moment with the 15 x 13 and will certainly try these propellers again. Marco Benincasa used a 16 x 10 propeller at the Torno de Champagne this year to produce more static thrust with the intention of better recovery after snap manouvres.

In terms of noise this engine does seem a little quieter than the 140L although I have to perform measurements to confirm this. As mentioned with an intake orifice some 65% smaller than the 140L, the DZ does produce less intake noise. It was hoped to take advantage of the restriction offered by the venturi by removing it and adding an air filter which exhibited the same amount of restriction. However my afore mentioned intake adaptor is now in the hands of Probuild who for their own reasons are holding on to it and I cannot perform any further work on this concept.. So currently I have removed the venturi and fitted a CFE air filter with an additional finer gauze filter for additional security. This acts to re-impose the airflow restriction given by the YS venturi and gives the same rpm as before.



To be continued...

# My Dingo

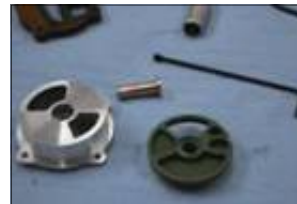
By Thomas Tutanska

I purchased the new YS 140 DZ (Dingo) as soon as it was possible. I went straight testing it and found it not working. The engine didn't idle and missed some power on the top end. I phoned to the YS performance and asked their help as the engine came from USA and had a guarantee I didn't want to lose by opening it by myself. They advised me to open it anyway and that is what I did. At first I found nothing abnormal and tried again. The symptoms were the same. Next phone-calls were made to Sweden to Mr. Bernt Olsson. He was of lot of help with everything else but we didn't find any hope until I opened the engine again. This time the fault was pretty much more visible as the whole back area of the engine was full of some brown shit. This had been worn out from the brass shaft of the disc valve and so the trip back to the States began...



The Dingo came back pretty soon, the whole trip took less than a month with express post. It came with an invoice saying: "The pump and the back assembly changed". I bolted it on and it ran! I had to adjust the pump a bit leaner and that was it, no problems with the two tanks I ran for testing. One morning at 7 a.m. I was at the field and the engine was about to go in the air for the first time. Everything went nicely with the starting and I took off. First of all this thing has power like nothing I have ever seen. I had to reduce the throttle when the plane kept accelerating 45deg up with half throttle. I flew a few circles to make sure everything was OK and then pulled up to vertical. Damn it goes fast up with half throttle, no use to test with full power. After some flying the engine suddenly started to fail. It ran perfectly under half power but didn't want to go on the full throttle, it just didn't accelerate. I landed the plane soon with no problems.

After some testing on the ground it was clear to me that the engine wasn't going to start running well anymore. No matter if I tried to go richer or leaner it didn't accelerate over half throttle. The only thing that I heard was that scary tone you hear with YS when it doesn't get fuel or something is broken. Suddenly the engine kicked really bad and broke the cowl of my Midas. I unbolted it from the plane and started it on bench later the same day after disassembling the whole engine and cleaning with fuel all over and inside. No success, there was no use in trying to adjust it anymore, this particular engine was



giving me nothing but trouble. I opened it once again and checked everything, this time I felt there was some gap in the new back plate assembly too.

I discussed the matter with Mr. Olsson again and he advised me to send it to him this time to save some time and money. He opened the engine and found nothing wrong with it except that the disc valve seemed not to be rotating as well as it should. He put it back together and ran it for half gallon without any troubles. He told me the engine performs just like his, and when he opened it again he



found the disc rotating much smoother. The engine has now been run for about 10 tanks and it is possible that the cause of the problem has now been worn out when it was more ran in. Hopefully this was the case as the engine is coming back to me now as I can't take any more fighting with this new and expensive engine.

When the dingo came back to me 4th of October I bolted it on my test stand right away. I filled the tank and started the engine with the first try. From the beginning it was clear that the engine was working. It idled on about 1900 RPM, accelerated well and gave no worries at all. The power output wasn't that good but I was using old Bolly 120std carbon pipe which most likely caused the drop to 8600-8700 RPM with the 16x12 APC propeller. Like I said nothing seems to be wrong anymore. I'll bolt it on my Midas if I dare and test it as soon as possible when I am positive that everything is OK.

### **Another Dingo**

My friend Markus Aaltonen had decided to order a Dingo for his next plane project before we knew there was something wrong with my engine. Markus received his engine October the 21st and bolted it on his back up/test plane right away. After starting and warming up (with correct adjustments) he slowly increased the throttle and BANG, the engine kicked so hard that the glass fibre fuse cracked a bit. After some repairs and thinking came the next try and again BANG. While the resin was still soft after reinstalling the firewall back to its place we had some conversation on telephone... Markus opened the back of the engine to see if everything was still OK inside. Nothing suspicious was found and the engine was ready for the next try.

We had some serious thinking on the adjustments and installation before the next start. This time the engine ran quite OK and didn't bang anymore. Markus tried to adjust the regulator but the accelerating remained rough and the engine didn't have power on full throttle no matter what he



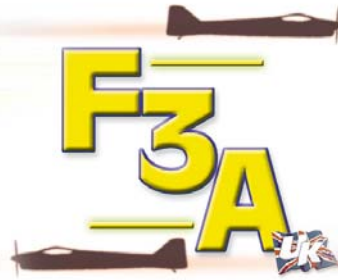
tried. After some more tries and a plug change the engine started to feel like it was losing pressure. The fault was found soon after listening to the engine.

All the cylinder head bolts were tight and the head was leaking badly. After taking the head off these pictures were taken.

The head gasket was installed incorrectly in the factory and it failed. No wonder why the engine didn't perform its best. Luckily Markus had a spare gasket so the testing could go on the next day. The leaking stopped and the engine runs well now.

*This article was taken from [www.ee.oulu.fi/~tutanska/start.html](http://www.ee.oulu.fi/~tutanska/start.html). Ed*





81,STATION ROAD.LANGLEY MILL  
NOTTS. NG16 4DU.  
TEL.01773 717336 / FAX.01773 713051  
E-MAIL hewittjohn@talk21.com

**F3A UK BUILDING FOR YOUR SUCCESS!**

**F3A UK** are proud to announce that we are now a **ZN LINE distributor.**  
**F3A UK** have learnt through experience in aerobatic flying exactly what is required from entry at standard level through to achieving masters status.  
We here at **F3A UK** treat every pilot as an individual and tailor our services to your needs.

**F3A UK** offers a full building service leaving you free to put in that all important practice.

All ZN and PL kits come with carbon/nomex former kits and carbon endgrain balsa bulk-heads.

**All building work is done in house.**

OPEN 7 DAYS A WEEK  
**9am-9pm**

**For every kit bought from F3A UK  
10% will be given to the GBRCAA**

**F3A UK THE ALTERNATIVE !!**

## **ZN LINE KITS**

All ZN Line kits come with all flying surfaces covered in contest grade balsa.  
(Servo and retract holes cut).

Pictured right}  
2002 RCM&E  
FREESTYLE  
WINNER!!!  
Ali from Al's Hobbies  
With his **F3A UK** built  
ZN Line Majestic.



### SYNERGY

Carbon / kevlar £ 530.00

### EVILOS.

Carbon / kevlar £ 530.00

### ALLIANCE

Carbon / kevlar £ 530.00

### CAPRICE

Carbon / kevlar £ 530.00

### MAJESTIC

Carbon / kevlar

Carbon u/c £ 560.00

### MADNESS 3D

Ready covered £ 195.00

**OPTIONAL FIXED GEAR  
AVAILABLE FOR ALL KITS**

## **LARGE MODELS**

### CAP 232 TOC

Ready to cover £ 1,275.00

**NEW !! WINNER OF 2000 TOC!**

### EXTRA 330S

Carbon / kevlar.3mtr span, engine capacity 150cc,(D/A 150),carbon u/c,  
Carbon former kit £ 1,175.00

### **NEW! EXTRA 330S**

Carbon / kevlar, 2.5mtr span, engine capacity 100cc(D/A 100), Carbon u/c, Car-  
bon former kit. £ 750.00

## PL PROD

All PL Prod kits come with all flying surfaces, covered with contest grade balsa (servo and retract holes cut).

### SMARAGD

Carbon / kevlar £530.00

### EXCELLENCE

Carbon / kevlar £530.00

### LARIMAR

Carbon / kevlar £530.00

### TORNADO

Carbon / kevlar £530.00

### EXTRA 330s

Carbon / kevlar, 3m span ,engine capacity 150(D/A150) £1,145.00

**OPTIONAL FIXED GEAR  
AVAILABLE**

## FIBER CLASSICS

### EXTRA 330 TOC

Ready painted in Fiber Classics own colour scheme £2,350.00  
(Custom designed option available).

### GILES 202 TOC

Ready painted in Fiber Classics own colour scheme £1,950.00  
(Custom designed option available).

### YS

**NEW !!** YS 140 DINGO £395.00  
(Available now!)

YS 140L £365.00

YS 91 £260.00

YS 63 £208.00

### OS

OS 140F1 £850.00

### WEBRA

145R £315.50

### D/A PETROL ENGINES

D/A 150 £1,145.00

### **NEW!!**

YS 140 FZ 2 £360.00

**NEW!!** D/A 100 £895.00

ENGINE MOUNTS

Gator soft & safe	£40.97
Hyde 140	£118.00
Hyde 140ARI	£150.00
<b>NEW!!</b>	
PL mount for YS 140	£150.00
<b>NEW!!</b>	
ZN mount for YS 140	£139.00

MANIFOLDS

Hatori YS 120/140	£30.40
AAP power manifold	£50.00
AAP header tube	£9.50
AAP support bracket	£10.45

PIPES

Hatori 693	£125.50
F3AUK pipe 4 stroke	£60.00
F3AUK pipe 2 stroke	£60.00

TETRA

14oz tank	£8.80
16oz tank	£9.90
20oz tank	£11.00
Fuel t's	£4.10
Fuel dots	£4.50
Switch bracket	£7.35
Black 55mm wheel	£14.27 each
Red 55mm wheel	£14.27 each
Angle push-rod	£3.00
Straight push-rod	£4.00

HATORI

Silicon tail pipe	£7.95
-------------------	-------

CFE

nose ring	£9.95
OS 140 nose ring	£10.95
YS 140 air filter	£19.50

RETRACTS

Supra DX 60	£41.90
Supra DX 200	
(Titanium legs)	£99.50
Giezendanner	£139.95
3/16 titanium legs	£19.75
3/16 DX legs	£10.95

ZN

Annodised horns(L)	£11.50
Annodised horns(M)	£11.50
Annodised horns(S)	£11.50
Pull-pull wheel	£15.00
70mm spinner	£38.50
76mm spinner	£42.10
82mm spinner	£42.10
98mm spin.carbon	£62.50
113mm spin.carbon	£68.00
127mm spin.carbon	£74.50
152mm spin.carbon	£92.95

PL

Annodised horns(L)	£11.50
Annodised horns(S)	£11.50
85mm spin.carbon	£47.50

APC

14 x13	£9.07
15x11	£9.07
15x12	£9.07
15X14	£9.07
15X14N	£9.07
15.5X13N	£9.07
16X10	£9.07
16X11	£9.07
16X13	£9.07
16X14	£9.07
16X16	£11.00
17X12	£11.00
14.5X12F/B	£19.95
15.5X12F/B	£19.95

MK

Gear linkage	£9.65
Suspension axels	£44.50
Tail wheel	£13.50
Dual coupler(S)	£24.99
Dual coupler(L)	£24.99
55mm wheels	£8.95
2.5mmBB servo-ends	£6.39
2.5mmBB horn ends	£6.39
3 mm BB servo-ends	£6.39
3 mm BB horn ends	£6.39
YS header mount	£21.95
OS header mount	£25.95
Alloy horns	
Plastic base(S)	£5.50
Alloy horns	
Plastic base(M)	£5.50
2.5mm ball joints	£4.20
Remote glow plug set	£13.70

DUBRO

4-40 ball link	£2.96
4-40 pull-pull system	£6.75
Servo horn set	£10.50
T-style horns (L)	£4.95

GATOR

Stab adjuster kit	£10.95
Wing adjuster lit	£13.95
Wing tube set 7/8x24"	£20.85
Gator mount rubbers	£6.55

TRU-TURN SPINNERS

2.1/2" FAI	£25.50
2.1/2" FAI (LBP)	£33.50
2.3/4" FAI (LBP)	£33.50
3" FAI (LBP)	£36.00

BUILDING MATERIALS

300mm x 300mm end grain-carbon balsa	£21.00
300mm x 300mm nomex Panel (glass skin)	£15.00
300mm x 300mm nomex panel (carbon skin)	£23.00

LEAK FREE GASKET

YS 140	£15.95
--------	--------

### FUTABA RADIO GEAR

9 zap W/C 2 combo	£950.00		
9102 servo	£52.00	9402 servo	£58.50
9202 servo	£44.00	9204 servo	£58.50
136G servo	£34.50	3101 servo	£21.50

### **DIGITAL SERVOS**

9150 low profile	£71.50	9151 9.5 kg	£85.50
------------------	--------	-------------	--------

FULL RANGE OF ACCESSORIES IN STOCK

i.e. battery packs, switches, extensions, etc.

### RING FOR BEST PRICE.

### **NEW ! NEW ! NEW ! NEW ! NEW ! NEW ! NEW ! NEW !**

- ZN Synergy 90 3D ARTF
- Fiber Classics Revolution-Pro fully moulded F3A design
- ZN Line Enigma designed by Arnold Poyet
- ZN Line Hyde Away
- Asano carbon pipes for 2 and 4 stroke (very light)
- Asano flexible manifold for YS
- Asano flexible manifold for OS
- Jamara ARTF KITS - £149.95
- Swallow 90, Edge 540, Giles 120, and Cap 232
- Hatori pipe 698 for YS DZ140 £125.50



**And finally wishing all our customers past,  
present and future a very happy Christmas**

# Nationals 2002: Results

FAI Class	Pos.	Final Total	P0-3 Schedule		P0-3 Schedule		P0-3 Schedule		P0-3 Schedule		P0-3 Schedule		
			Rnd 1	Norm	Rnd 2	Norm	Rnd 3	Norm	Rnd 4	Norm	Rnd 5	Norm	
Brandon Ransley	1	3000.000	478.67	1000.00	454.33	959.18	492.00	1000.00	1000.00	475.00	1000.00	478.00	1000.00
D. V/D Toorren	2	2981.819	474.67	991.64	473.67	1000.00	460.00	934.96	990.18	470.33	990.18	470.00	983.26
Dave Matthias	3	2957.263	461.67	964.48	470.67	993.67	470.67	956.64	977.54	464.33	977.54	471.33	986.05
Keith Jackson	4	2912.439	462.33	965.88	456.00	962.70	471.00	957.32	983.86	467.33	983.86	455.00	951.88
L. Leeuwen	5	2850.549	386.00	806.41	439.67	928.22	452.33	919.38	957.89	455.00	957.89	461.00	964.44
Kevin Caton	6	2829.716	433.67	905.99	448.33	946.52	446.67	907.86	945.26	449.00	945.26	448.33	937.94
John Harrop	7	2655.235	416.33	869.78	427.67	902.89	0.00	0.00	874.39	415.33	874.39	419.67	877.96
Richard Welch	8	2633.874	389.00	812.67	416.33	878.96	427.00	867.89	823.16	391.00	823.16	424.00	887.03
Richard Christopher	9	2494.506	389.00	812.67	389.67	822.66	405.00	823.17	820.35	389.67	820.35	405.67	848.68
John Mee	10	2437.253	381.67	797.35	386.67	816.33	359.33	730.35	823.16	391.00	823.16	381.33	797.77
Sam Wragg	11	2398.732	371.00	775.07	386.00	814.92	370.33	752.71	798.60	379.33	798.60	375.33	785.22
Mike Wood	12	2329.084	348.33	727.72	364.67	769.88	364.33	740.51	705.96	335.33	705.96	391.33	818.69
Alan Simmonds	13	2027.234	316.67	661.56	365.33	771.29	287.33	584.01	594.39	282.33	594.39	0.00	0.00
Peter Brett	14	1972.824	248.33	518.80	298.33	629.84	299.67	609.08	649.12	308.33	649.12	331.67	693.86

<b>Senior Class</b>		Senior 2002		Senior 2002		Senior 2002		Senior 2002		Senior 2002		Senior 2002	
Name	Pos.	Final Total	Rnd 1	Norm	Rnd 2	Norm	Rnd 3	Norm	Rnd 4	Norm	Rnd 5	Norm	Norm
Phil Turton	1	3000.000	339.67	1000.00	315.33	1000.00	285.67	907.84	265.33	959.04	324.67	1000.00	1000.00
Mathew Hoyland	2	2956.969	329.00	968.60	311.67	988.37	314.67	1000.00	266.00	961.45	303.33	934.29	934.29
Bill Michie	3	2831.527	312.67	920.51	285.33	904.86	286.67	911.02	276.67	1000.00	275.00	847.02	847.02
Jon Land	4	2805.404	283.33	834.15	304.33	965.12	280.33	890.89	262.67	949.40	259.33	798.77	798.77
Brian Hoare	5	2770.178	290.00	853.78	301.00	954.55	287.67	914.19	247.33	893.98	292.67	901.44	901.44
Nik Middleton	6	2662.028	299.67	882.24	296.00	938.69	264.67	841.10	222.67	804.82	221.67	682.75	682.75
Ken Moss	7	2515.231	258.33	760.55	260.33	825.58	258.33	820.97	240.33	868.67	236.67	728.95	728.95
James O'Neil	8	1380.338	308.33	907.75	0.00	0.00	137.33	436.44	10.00	36.14	0.00	0.00	0.00

<b>Standard Class</b>		Standard 2002		Standard 2002		Standard 2002		Standard 2002		Standard 2002		Standard 2002	
Name	Pos.	Final Total	Rnd 1	Norm	Rnd 2	Norm	Rnd 3	Norm	Rnd 4	Norm	Rnd 5	Norm	Norm
Andrew Waterhouse	1	3000.000	257.33	1000.00	226.00	1000.00	224.00	1000.00	50.00	272.23	0.00	0.00	0.00
Alistair Michie	2	2839.237	219.00	851.04	223.33	988.20	188.33	840.77	183.67	1000.00	3.33	17.12	17.12
Ross Thurlow	3	2828.290	79.33	308.29	203.00	898.23	208.33	930.06	60.67	330.31	194.67	1000.00	1000.00
Barry Macleod	4	2729.056	212.00	823.83	174.33	771.39	194.67	869.05	168.33	916.52	183.67	943.49	943.49
Ashley Hoyland	5	2688.436	222.67	865.28	214.33	948.38	179.67	802.08	160.67	874.77	167.00	857.88	857.88
Neil Scratchley	6	2583.618	188.00	730.57	153.67	679.94	194.00	866.07	161.67	880.22	163.00	837.33	837.33
Steve Faram	7	2413.259	192.67	748.70	150.33	665.19	170.00	758.93	166.33	905.63	126.67	650.68	650.68
Chris Dowsett	8	1880.217	162.00	629.53	120.33	532.45	124.00	553.57	124.67	678.77	111.33	571.92	571.92



# GBRCAA Championships

## Middle Wallop

5th - 6th October 2002

FAI Class	Pos.	Final Total	P0-3 Schedule		P0-3 Schedule		P0-3 Schedule		P0-3 Schedule	
			Rnd 1	Norm	Rnd 2	Norm	Rnd 3	Norm	Rnd 4	Norm
Brandon Ransley	1	3000.000	490.0	1000.00	499.0	988.12	505.0	1000.00	501.0	1000.00
Keith Jackson	2	2977.220	468.0	955.10	505.0	1000.00	494.0	978.22	500.5	999.00
Richard Christopher	3	2590.927	422.0	861.22	431.5	854.46	442.0	875.25	418.0	834.33
John Harrop	4	2587.973	402.5	821.43	414.5	820.79	437.0	865.35	451.5	901.20
Sam Wragg	5	2586.212	0.0	0.00	450.0	891.09	409.5	810.89	443.0	884.23
Simon Johnson	6	2443.527	377.5	770.41	412.5	816.83	377.5	747.52	429.0	856.29
Justin Meadows	7	2406.522	335.5	684.69	403.0	798.02	396.5	785.15	412.5	823.35
Peter Brett	8	2082.285	301.5	615.31	336.5	666.34	329.5	652.48	382.5	763.47
Tom Shore	9	1941.899	317.0	646.94	344.0	681.19	273.5	541.58	307.5	613.77

<b>Senior Class</b>	<b>Pos.</b>	<b>Final Total</b>	<b>Rnd 1</b>	<b>Norm</b>	<b>Rnd 2</b>	<b>Norm</b>	<b>Rnd 3</b>	<b>Norm</b>	<b>Rnd 4</b>	<b>Norm</b>	<b>Rnd 5</b>	<b>Norm</b>
Matthew Hoy-land	1	<b>3000.000</b>	291.5	940.32	322.5	912.31	355.0	1000.00	358.5	1000.00	332.5	1000.00
Brain Hoare	2	<b>2942.254</b>	310.0	1000.00	353.5	1000.00	334.5	942.25	315.0	878.66	313.0	941.35
Bill Michie	3	<b>2794.607</b>	285.5	920.97	328.5	929.28	314.0	884.51	311.5	868.90	314.0	944.36
Jason Thomas	4	<b>2469.652</b>	244.0	787.10	308.0	871.29	288.0	811.27	279.5	779.64	0.0	0.00
Ken Moss	5	<b>2418.428</b>	235.5	759.68	296.0	837.34	286.0	805.63	278.0	775.45	0.0	0.00
Adrain Harrison	6	<b>2389.509</b>	246.5	795.16	288.0	814.71	63.0	177.46	279.5	779.64	0.0	0.00
James O' Neill	7	<b>2285.289</b>	225.5	727.42	246.0	695.90	306.0	861.97	166.0	463.04	0.0	0.00

<b>Standard Class</b>	<b>Pos.</b>	<b>Final Total</b>	<b>Rnd 1</b>	<b>Norm</b>	<b>Rnd 2</b>	<b>Norm</b>	<b>Rnd 3</b>	<b>Norm</b>	<b>Rnd 4</b>	<b>Norm</b>
Andrew Waterhouse	1	3000.000	208.5	934.98	258.5	1000.00	272.0	1000.00	253.5	1000.00
Barry Macleod	2	2880.867	223.0	1000.00	243.0	940.04	249.0	915.44	238.5	940.83
Alistair Michie	3	2796.888	222.0	995.52	225.0	870.41	217.5	799.63	236.0	930.97
Ashley Hoyland	4	2716.174	204.5	917.04	228.5	883.95	219.0	805.15	232.0	915.19
Neil Scratchley	5	2619.617	180.5	809.42	228.5	883.95	228.0	838.24	227.5	897.44
Keith Baker	6	2136.760	167.0	748.88	164.0	634.43	161.5	593.75	191.0	753.45



## COMPUTERS?

If you're looking for a computer system, before you spend in the high street why not talk to us. We specialise in systems built to your needs and budget. Established for 9 years we can supply systems at lower than shop price and offer expert advice with top quality systems.

**Examples:** AMD Motherboard 128MB RAM, 30GB HDDrive, 8-32MB AGP Video, 56 Speed CD Rom, Sound and speakers, 17"VGA Monitor, 1.44 Floppy, 56k Modem, Keyboard, Netscroll Mouse, WINXP HE and UK delivery!!  
processors as follows:-

AMD Duron 1200	£504.30	Inc VAT
AMD Athlon 1 Gig	£519.80	Inc VAT
AMD XP1800 1.53G	£544.47	Inc VAT
AMD XP2100 1.73G	£568.50	Inc VAT
INTEL P4 1.8G	£617.47	Inc VAT
INTEL P4 2G	£635.15	Inc VAT

**Add 16x DVD + £44.50 or 40x12x48 CDRW for Just £68.00!!**

**Range of IBM ,Toshiba, and Dell Laptops with prices as low as £350 please call or view our web site**

**UPGRADES and parts - sound cards, zip drives, hard disks, SCSI cards, memory, networking, printers, scanners, software, etc etc Call for full list or quotation.**

*All machines with 2 year RTB Warranty.*

**Interest FREE credit available for GBRCAA members !!**

**Call Bob Palmer at:-** [ResiSystems Limited](http://www.resisystems.co.uk)

**0870 1628971** Daytime **01325 284206** Evenings

Systems House, 18 Exeter Drive Haughton Grange, Darlington Co Durham DL1 2S

**E email [bob@resisystems.co.uk](mailto:bob@resisystems.co.uk)**

**WEB SITE <http://www.resisystems.co.uk/acatalog>**

Or buy on-line at:-

**[Http://www.computers-hardware-accessories.com](http://www.computers-hardware-accessories.com)**

*Prices correct at time of writing though may vary by publication.*