

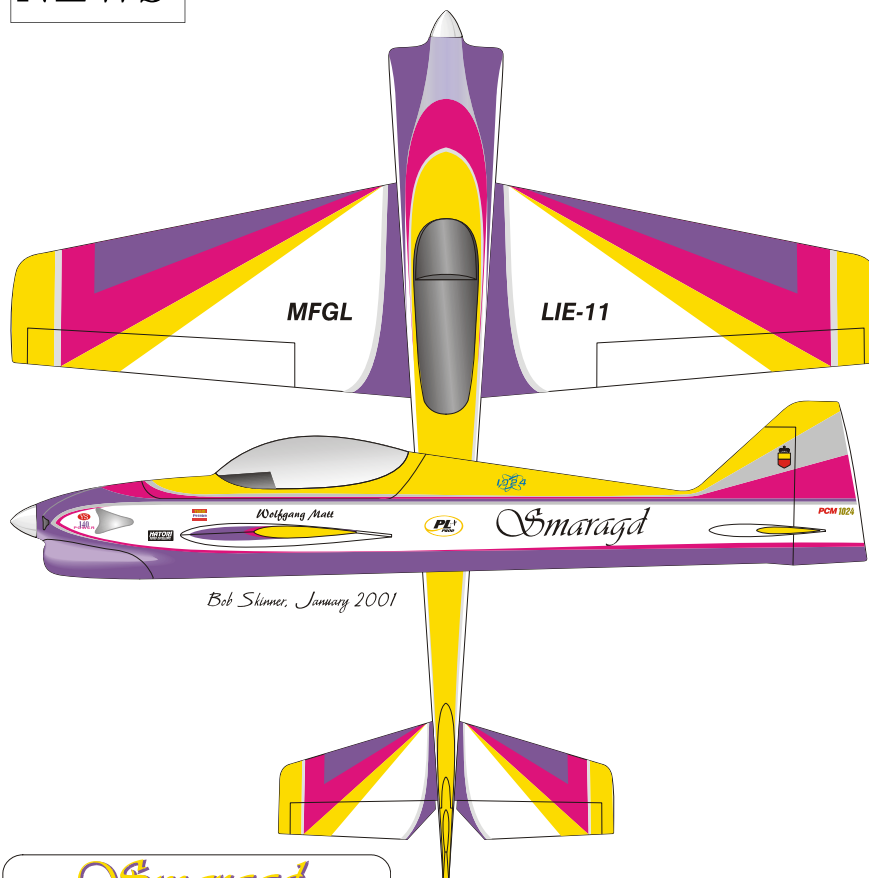


Great Britain Radio Control Aerobatic Association

# AEROBATICS

## NEWS

Newsletter of the Great Britain Radio Control Aerobatic Association



Bob Skinner, January 2001

### Smaragd

BY WOLFGANG MATT, LIECHTENSTEIN.  
2nd at 2000 E/C, Otheé, Belgium

Fuselage length	1995mm
Wing span	1900mm
Wing section	11%
Weight	4400g
Construction	Carbon, Kevlar, foam, balsa, film, paint
Retracts	Giezendanner electric
Engine	YS 1.40L 4-stroke
Plug	OS F
Muffler/tuned pipe	Hatori tuned pipe
Propeller	APC 15 x 12
Fuel	Cool Power, 25% oil, 30% nitro
Radio	Futaba 9 Z WC
Mode	One

July 2001

## G.B.R/C.A.A. COMMITTEE 2001

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<p>The Editor wishes to thank the National Society of Radio Control Aerobatics, USA and Bob Skinner of the South Africa Model Aircraft Association for the use of some material from their official publications in this and subsequent newsletters.</p>	

# Aerobatics Editorial

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E-mail to newsletter: [Keith@gbrcanewsletter.freereserve.co.uk](mailto:Keith@gbrcanewsletter.freereserve.co.uk)

## **Scottish Nationals**

This two day event will take place at Fife Airport, Glenrothes on 10th & 11th August. Catering for Sportsman and Master-FAI class (P-01), interested parties should contact Elliot Balfour on 0141 584 9609.

## **Cancelled events in the South**

A number of events in the South of England have been cancelled this year. The reason was not due to Foot & Mouth or even petrol shortages. Specifically it was due to the lack of entries received by the CD in question, which meant that he could not justify asking a club for the use of their site for a whole day. Yes this has been a difficult year, but unless these events are supported, they will dwindle and might result in your respective area having no local events whatsoever. Please support your CD's; they do an invaluable yet much understated job for your association.

## **Southern Area Championships**

In response to the dire lack of events in the South, your vice chairman Phil Williams has come up with a new event for the South. Supported by Chief Judge Bob Ailles and the committee of the Maidstone club, this two day event will take place over the weekend of the 6th & 7th October, at Maidstone in Kent (this event replaces the original event at Maidstone on 7th October). At least full rounds are anticipated and prizes will be awarded to the winners of each category. Of course this competition can only proceed if people send in their entries to Bob Ailles along with a 11/2 competition entry fee (Masters £24, Seniors £21, Standard / Sportsman £15) as soon as possible. Bob has details of any accommodation people might need over the weekend. If sufficient interest shown a barbeque will probably be in force over the two days. Finally just because it is called the Southern Area champs, don't feel like you aren't included; this event is open to all GBRCAA members, so with me probably CD'ing the event, I hope to see you all there.

Keith Jackson  
GBRCAA Newsletter editor

## **NATIONALS 2001 - Barkston Heath - August 25th, 26th & 27th**

**Weather Forecast :** 21°C, Sunny, Light breeze along the runway, any rainfall will be away from the airfield. Won't it be wonderful!

### **Format**

If my forecast hasn't tempted you to send in your entry then how about a full 3 days flying. Departing from the normal format of 2 day's preliminaries followed by a fly-off on Monday, this year we are holding a normal competition over 3 days so everyone will have the opportunity to fly on Monday.

### **Programme**

We will be using both flight lines for all 3 days. The number of flights planned for each day will of course depend upon the number of entries and we won't really know that until the day, but if entries are down due to the World Champs we'll try for 3 flights on Saturday and Sunday and 2 on Monday.

### **Entries**

If you haven't done it already, please send your entry form and cheque to BMFA HQ as soon as possible. The BMFA will accept entries until 18th August or on the day for double fees. Your NATS CD, Brian Hoare would appreciate a phone call or email just to let him know you have entered and what your frequency options are, particularly if you are entering late. This will help Brian allocate the frequencies, plan the flying order and let you know before the event.

### **Safety**

In accordance with BMFA rules, all models equipped with a Failsafe function will be checked before the first flight. If you are using a PCM radio or PPM with added failsafe, please ensure it is programmed to set the throttle to idle (or stopped if electric powered) before the NATS.

### **Security**

A transmitter compound will be used on both flight lines. Please remember to hand your transmitter in before the start of each session, return it to the compound straight after your flight and collect it again at the end of the session. For your own peace of mind, a transmitter will only be returned to it's owner if he is wearing the correctly numbered bib.

### **Help Needed**

We need volunteers for: Flight Control, Tx Control and Scoring - just a few hours of your time will help the event run more smoothly. To give the full time judges a break, we will also require the services of some Master pilots to judge the Standard & Senior classes. Please let Brian know in advance if you are prepared to help (or know someone that can!).

You can phone Brian on 01606 861793 or email him at [briansairstrip@aol.com](mailto:briansairstrip@aol.com)

Hope to see you there

Alan Simmonds

# Tornei de Champagne 2001

*Due to the lack of a report from the UK contingent, I have employed one from our Latin American correspondent. Ed.*

My participation in France for the F3A international championships and the first Artistic Aerobatic contest of the world has been successful and it give me more energies to keep working harder for the F3A World Championships this August in Ireland. Also these results help me to confirm that I am on the right track on what concern to the synchronization between the flight and the music, main spirit of this new aerobatic class. This championships it is the most important one of Europe for F3A and for this year, it is called Tournoi International de Champagne, it was held in the city of Romily about 1:30 hs East of Paris.

The entry of 56 pilots representing, France, Germany, England, Scotland, Ireland, Liechtenstein, Belgium, Italy, Holland, and Argentina. The top European pilots took part of this competition, also the French and World champion Mr. Christophe Paysant Le Roux, so the competition did have an excellent level of flying. We flew three flights, during there days and all of them PO1. At same time the artistic aerobatic contest (AA), with only 7 pilots for reason of time and with the main purpose to test the rules on competition. The weather did not cooperate, rain and low clouds delay the competition for several hours except the Sunday. The F3A competition was a close competition and I am happy with my second place, this give me extra energies to keep working for the world championships.



*Top three in FAI F3A class. Quique Somenzini (PL Smaragd / OS 140F1), CPLR (ZNLine Synergy / YS140LM) & Roland Matt (PL Smaragd / YS 140LM).*

The AA results are even better, this first place helps me to believe more in my ideas and plus I had the great honor to compete to a great flier like Christophe in his country. The AA competition had as main target to test the rules on "flight", and I think they did work very well. My concerns were about the 2 minutes flying, but my fears were very well answered at Romily, showing by the pilots that in two minutes many things can be done. We flew the qualification program, only 5 but difficult Aresti maneuvers, then 2 minutes mandatory music, 2 minutes free music, 4 minutes mandatory music and 4 minutes free music. After all these rounds the final classification was:

I felt very pleased to do the flying formation with Christophe when we closed the contest before the awards ceremony. His Majestic and my Excellence flew together with the 1492 Conquest of Paradise music. For me I believe this was the most significant moment of all the championships, not only because what the airplanes did on the air, it was the meaning of us flying together. Finally, my thanks to PL prod for his hospitality, to the Aero Club Romilly and my sponsors, Futaba, OS engines and PL prod for allowing me to have in my hands such good products.

Quique Somenzini



*Participants in the Artistic Aerobatics event*



*Christophe Paysant Le Roux with his new ZNline Synergy / YS 140LM combo*

*Quique Somicini with his 3D Smaragd / OS 140F1*



# Team Manager's Report

Our showing at Sandown was, for me, a bit of a disappointment. At very short notice we got bounced from a good to a poor stand location and helpers and pilots were in very short supply.

As I noted in my last report, Sandown took place a month later than usual and was sandwiched between the Tournee de Champagne in France and the Triple Crown in Ireland so who can blame people for taking a breather on the weekend between. It didn't stop Steve Underwood and Richard Christopher though, both of whom participated in all three events. Keith Jackson produced 200 very nice introductory leaflets at short notice and all but 34 were given away. If 10% of those bring new members then there will be a 17 member bonus, there is no other way of measuring the success or failure of such a PR venture. Because of my responsibility to raise funds for the team I put a lot of effort into making it a major opportunity to fill the coffers. We sold a good few draw tickets but if everyone who turned up to help had stayed at home and donated their costs to the team travel fund we'd have made more money, so lets hope that Stuart Mellor reports a sudden surge of new members. Anyway, my thanks to the nine members who did make the effort to support your association, maybe we'll see the other 131 of you next year? Finally, congratulations to Jon Tappin for winning the Sandown Challenge, yet another pot for poor Jill to keep polished.

Now to the Triple Crown, firstly I would like you all to know that we were made to feel very welcome and acknowledge the all round enthusiasm for the forthcoming World Championships shown by the small team of Irish enthusiasts who have taken on this mammoth organisational task. It was disappointing not to have the opportunity to use the Mallow site for the Triple Crown, as originally intended, but FMD worries had put paid to that. The site at Bantry, a private full-size airstrip on the shores of a beautiful bay, was wonderful and the weather was at it's absolute best (which was a bit against our expectations having, on the previous day, suffered a horrendous crossing from Holyhead to Rosslare on the Stena Lynx). Bad weather excepted, anyone contemplating extending their visit to the World Championships with a bit of R&R should head straight for the South West, one of the most beautiful part of Ireland. There was an Alcoholics Anonymous convention going on in Bantry when we were there which gave rise to questions about what the "AA" in GBRCAA stands for.

The Triple Crown was intended to be an opportunity to check out the systems to be used at the World Champs and one idea which caught my attention was a revised score sheet where the numerals 0 to 10 were printed against each manoeuvre and the scribe simply crossed out the judges score. The score sheet was then scanned and the given score automatically transferred to the scoring program. The program, which was used in Liege for the European Championships (without the scanning add-on), was designed by Ireland's David Power, he is also responsible for this new addition. Those of you who attended the Judging Seminar in Leicester will remember meeting David and his brother Brian who would have got the prize for the furthest travelled if Bob Skinner hadn't been there too. Following the concept of using the Triple Crown as a test of the World Champs administration, our CD was Kevin Barry, who will be in that hottest of hot seats at Mallow. Finbar Constant, ex-Ireland F3A Team Manager and Event Direct Director for the World Championships was keeping a close watch from the sidelines. The English team comprised Richard Christopher, Keith Jackson, Steve Underwood and Sam Wragg. They were supported by Ray Konstantenou (who will be Keith's helper at the World Champs) and Sam's dad, Ben Wragg. Our contribution to the International team, Arthur Silsby from the Isle of Man, was certainly the farthest travelled if you include water which he had to cross three times because there was no direct ferry back from Ireland until four days after the Triple Crown. He had to come back via Holyhead and then drive to Liverpool to get another ferry back to Douglas I-O-M. English judges were Bob Reid and yours truly. The Editor tells me that full results and lots of lovely pictures will be published in the next newsletter. I offer my congratulations to the Scottish team who triumphed again even though they were one man short - so no lowest score to drop, which must have put huge pressure on them. As the majority of the Scottish team came from higher up the league table than the majority of the English team our lads should also be congratulated, only 112 points out of 8641 separating the two teams. Maybe its time to consider abandoning the concept of not fielding the UK World Champs team at the Triple Crown otherwise we'll never get that cup back (until, that is, the World Champs team comprises the Balfour Brothers and Steve Burgess!).

As I write this report the World Championships are but five weeks away. I hope you will all join me in wishing the UK team, Keith Jackson, David Matthias and Brandon Ransley, the very best of luck. I only hope that my efforts will live up to their expectations. Looking forward to seeing as many of you as possible in Ireland and hoping that you're getting all those draw tickets sold, a duty from which the team are excused for the time being, they'll be far too busy practising.

Kind regards,

David Tappin  
UK F3A Team Manager.

# ARCADIA

## A BEGINNER'S MODEL TO STANDARD/SENIOR CLASS

The following is a brief description of how I came about to build my model to compete in standard and then hopefully senior classes of Aerobatics.

As a relative beginner in aerobatics (up till now I have only built a DSM Aerostar 62) and completed a Sportsman schedule a few times) I was looking for a half decent model that I could compete with in the forthcoming competitions this year whilst at the same time not going overboard on the finance front (recent arrival of baby!). Looking around at what was on offer there seemed to be a big gulf between the 2 m jobs complete with all singing all dancing YS engines, carbon fibre fuses e.t.c and the bog standard DSM Aerostar/Excelsior. Whilst the latter offer good value for money I think the designs look a bit dated now. So what was the alternative – design my own!

Well, not quite. Keith Jackson had designed a 72" span model about 12 months previously for a club mate of mine. I must admit that I was extremely impressed. It was designed as a no-nonsense, simple, light but aerodynamically clean aeroplane that was easily capable of the standard and senior roles. Whilst being impressed with the design I wanted to make some alterations just to put my mark on it you understand!

Firstly, I put retracts into the wing. I always felt that the design was crying out for retracts. Next I changed the canopy shape. The original had a Bob Newman New Solution Canopy whilst I preferred a more rounded shape and opted for a DSM Excelsior canopy. Next, I wanted a glass fibre cowl. I have tried in the past to make my own cowls but more often than not failed miserably so I was on the lookout for one. At Sandown last year I spotted what looked like a suitable cowl on the Dave Smith Models stand. Asking if it could be sold separately and receiving a positive reply I duly ordered one. Not only was the cowl exactly the correct width but it also enclosed my OS120. A side benefit of this cowl was that it was slightly deeper which made the next and last alteration easier.

Whilst Keith had designed model to be simple this resulted in the OS120 fitted using the standard silencer. Not the quietest of silencers around. I had decided that I wanted an enclosed pipe and subsequently was able to make from balsa, skinned with finishing resin, a belly pan to enclose the pipe. The result was, I think, most pleasing.

Construction is fairly standard, wing one piece and dowel and bolted onto fuselage. However, in order to make the fuselage lighter but stiffer,  $\frac{1}{8}$ " balsa was used for the sides but then skinned with finishing resin and cloth on the inside. A lattice framework was then made for the top and bottom spacers from  $\frac{3}{16}$  square balsa resulting in a lightweight but strong airframe. All up weight ready to fly lee fuel came out at a fraction over 8 $\frac{1}{2}$ lb.

The model flies extremely well and after sorting out the trimming which included changing the differential on the ailerons (would always barrel roll at first) the model is now not the limiting factor – I am. It is very quiet and emits a lovely whistle as it flies by. However, the biggest plus as far as I am concerned was that this did not break the bank. Because of its size standard ball-raced 3001 Futaba servos can be used (except for the rudder) thereby reducing costs enormously. A breakdown of the main costs is as follows:

- Cowl - £14
- Canopy - £6
- Retracts - £50
- Wings & Tail (c/o Phil Williams) - £65
- Deckings (cut myself) - £5
- Fuselage and fin (wood) - £5
- Engine s/h – £150
- Pro Build Pipe - £30

Only other cost is radio plus fittings. All in all cost is about £350 – not bad eh? I have attached a couple of photos of the finished article.

Rob Shaw.

(P.S. The name came from the better half – A Duran/Duran fan.)



# Letters to the Editor

## Letter concerning the 4th Centralised Event at Barkston Heath

Dear Keith,

Having just judged the Centralised Masters contest at Barkston Heath on July 15th, I thought it would be a good idea to pass on one or two thoughts from the judges' chair.

Some pilots seem less willing to scribe than others. It is not fair on a pilot who has just taken off, to have to compose himself for a competition flight whilst there is a constant volley of shouts from judges and other officials of "scribe wanted". If pilots do not come forward on a voluntary basis, the CD will have to produce a flying order and a scribing list.

As a new addition to the judging list, can I assure all pilots that I take the position extremely seriously. It is very easy to criticise the judges, but how many people have actually had a try? A pilot can go out and practice as often as he wants. A judge can study the downgrades and manoeuvre shapes, but until he gets to a contest he cannot put his skills to the test. I think it will take a season or two to get all the new judges that Bob Ailles has recruited up to speed, but I am sure that we get there in the end.

As an association we must strive to improve all aspects of aerobatics in the UK. Judging is only one part of the equation. Correct running of contests to the F3A rule book is another. We must try to run our centralised contests to the letter of the law, only this way can we improve our European and World rankings

See you at the Nationals  
Nigel Armstrong

Thanks for your note Nigel. I agree with your sentiments entirely. Maybe the scribing list is a potential solution to this perennial problem? It could be worked so that pilots could nominate a caller when their entries are sent in and the CD then work out a scribing list accordingly so that no one could ultimately refuse to scribe due to helping other pilots. This list could be read out at the beginning of the event and anomalies sorted out. The list could then be displayed along with the flying order throughout the day so that everyone would know when they would be required.

Having said that apathy is the root cause here and we must all realise that as a small organisation we all have a collective responsibility to offer help without the CD having to run around every other minute.

Thinking back to the Barkston event in terms of the rules, only the good nature of those pilots attending prevented protests from being made following some of the happenings during the course of the day. People should not be placed in this situation and would not if all the rules are known and followed. I sincerely hope that such avoidable problems do not re-occur at future team trial events.

*Ed*

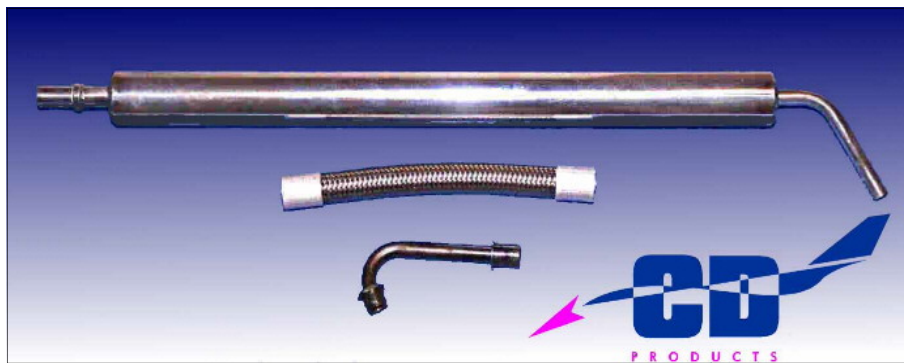
## Email from CD Products re 4 stroke exhaust system

Hi Keith,

Thank you for the interest in my products. A price list can be found at my web site, [www.ozemail.com.au/~cdprod/](http://www.ozemail.com.au/~cdprod/) I will endeavour to get some bits to this years W/C for you to see but, sadly, our team are all running two strokes this year and being sponsored by OS, they are all running OS pipes as well. I do not have an agent/distributor in the UK yet. I have distributors for US, Canada, Taiwan, Korea, but none in Europe. I sell direct to countries without stockists.

Best Regards,  
Chris Dalby





*I featured these products in the March 2001 edition. Watch this space... Ed*

**Message from a New Member!**

Hello Keith

I thought I would send this to you just in case you got desperate if you have loads stop reading and launch it in the bin. I wonder if this is the reason that most people don't send in photo's of their models. *(I always try to publish pilots models and have yet to have anything sent to me that isn't usable. Ed).*

I joined the GBRCAA this year for the first time hoping to have a go in the Standard Class. I was hoping to watch a comp at Cashmoor to see what the procedures were and to make sure I was not going to make a idiot of myself, but due to foot and mouth it has not happened as yet. It is quite scary when I think about it, trying to fly set patterns with people behind watch, especially the judges, but I suppose it would be a waste of time if they were not there.

Anyway I have not wasted my time, my plane is just about finished, now its time to practice and try to get to grips with a four stroke, which reacts quite differently compared to a OS 90 two stroke. Anyway so here is my pried and joy.

Its a Scorpio, the kit comes from Ireland so I have been told. I have just put a YS 120 AC in with a Hatori manifold and a Probuild alloy pipe. With a recommendation from Phil Williams I have changed to mechanical retracts rather from air, and starting with a 14\*12 APC prop. I am using a 180mAh battery pack for the retracts (just in case they jam) and a 900mAh for radio gear. The plane weighs in a 9 1/2 pound, so with any luck I can fly around on 1/3 throttle to keep noise down.

If you have got this far thanks for reading. Hopefully I be entering the standards with a friend of mine latter this year.

Thanks again David Martin. (Dorset)

*Thanks for sending this Martin. Any other offers ? Ed.*



## **New Competition at Ashbourne**

Dear Keith

Could you add the following local competition the next issue of the GBRCAA news letter.

### **9th September 2001 ASHBOURNE**

Thanks

Brian Hoare

*Please also note the new competition at **Warboys on 19th August**. CD Ross Donovan. Ed*

## **Recent GBRCAA local events in the South**

I have received a number of emails concerning the Cashmoor event (29th July) and others which had to be cancelled bringing the total number of local events in the South to.... Zero. Read on ...

Sent: 23 July 2001 09:56

To: 'Keith Jackson'

Subject: RE: GBRCAA Comp - Cashmoor July 29th

The reason for the event being cancelled was Mitch withdrawing the field due to it being in poor condition as a result of lack of mowing... Having only two entries at the time Mitch withdrew the field I had no choice but to agree. I have currently got four entries for Hastings in August!!!! and about the same for Cashmoor in October. Its very difficult to justify the use of a site on a prime flying day for a small field .Members are relying on being able to phone entries in the week before a comp which makes my life very difficult.

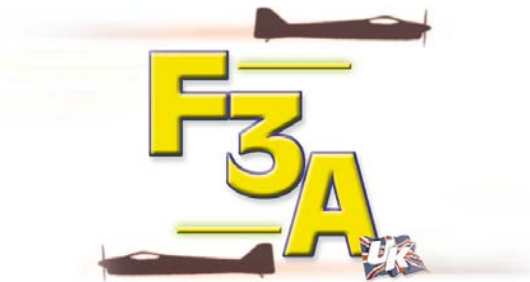
Regards

Alan Hilton

This is quite a ridiculous situation to be in especially considering the terrible year that we have already had. The salient points here are:

- CD's should not have to wait for pilots to phone entries through at the last minute. They need to organise the event which includes liaising with the local club to use their field. It is hard to justify doing this with so few formal entries. Please, if you wish the GBRCAA to continue putting events on in your area then follow the rules and apply in writing using the standard entry form at least three weeks before the scheduled event. All members of the GBRCAA receive this form and periodically (though not recently) they are included in the newsletter. Please see page 19.
- There is an absolute need for an area coordinator to liase with CD's / clubs etc and ensure that these events are put on following whatever protocol is required. IF you feel that you would like to put a little bit of effort into ensuring events are held in your part of the country, then please write in and put your name forward at the AGM this year. It is very sad to the number of local events dwindling in any case and especially when they are cancelled needlessly, as in this case.

Ed.



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NEW !!WINNER OF 2000 TOC! EXTRA 330S Carbon / kevlar, 3m span, engine capacity 150cc, (D/A 150) ,carbon u/c, Carbon former kit £1,175.00

NEW!EXTRA 330S Carbon / kevlar, 2.5m span, engine capacity 100cc (D/A 100), carbon u/c, Carbon former kit.

£895.00

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

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LARIMAR Carbon / kevlar £600.00                      TORNADO Carbon / kevlar £600.00  
EXTRA 330s Carbon / kevlar, 3m span, engine capacity 150(D/A150)£1,145.00

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EXTRA 330 TOC  
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(Custom designed option available).  
GILES 202 TOC  
Ready painted in Fiber Classics own colour scheme £ 2,150.00  
(Custom designed option available).

ENGINES

NEW!! YS 140 DINGO                      £ 460.00  
YS 140L    £ 395.00  
YS 91     £ 260.00  
YS 63     £ 208.00

OS 140RX                                         £ 850.00  
WEBRA 145R                                       £ 315.50

D/A PETROL ENGINES

D/A 150     £1,145.00  
NEW!! D/A 100                                   £895.00

ENGINE MOUNTS

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Hyde 140ARI                                     £ 155.00  
NEW!!  
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NEW!!  
ZN mount for YS 140                           £ 145.00

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Hatori YS 120/140                           £ 37.40  
AAP power manifold                           £ 46.50  
AAP header tube                               £ 12.50  
AAP support bracket                           £ 11.45

PIPES

Hatori 693                                         £ 129.50  
F3AUK pipe 4 stroke                           £ 89.00  
F3AUK pipe 2 stroke                           £ 89.00

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14oz tank                                         £ 8.80  
16oz tank                                         £ 9.90  
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Switch bracket                                   £ 7.35  
Black 55mm wheel                             £ 14.27  
each  
Red 55mm wheel                               £ 14.27  
each  
Angle push-rod                                   £ 3.25  
Straight push-rod                               £ 4.20

APC

14 x13     £ 9.97  
15x11     £ 9.97  
15x12     £ 9.97  
15X14     £ 9.97  
15X14N     £ 9.97  
15.5X13N                                         £ 9.97  
16X10     £ 9.97  
16X11     £ 9.97  
16X13     £ 9.97  
16X14     £ 9.97

16X16	£ 9.97	98mm spin.carbon	£ 62.50
17X12	£ 10.97	113mm spin.carbon	£ 68.00
14.5X12F/B	£ 19.95	127mm spin.carbon	£ 74.50
15.5X12F/B	£ 19.95	152mm spin.carbon	£ 92.95
<u>MK</u>		<u>PL</u>	
Gear linkage	£ 11.45	Anodised horns(L)	£ 11.50
Suspension axels	£ 44.50	Anodised horns(S)	£ 11.50
Tail wheel	£ 19.00	85mm spin.carbon	£ 47.50
Dual coupler (S)	£ 26.99		
Dual coupler (L)	£ 26.99		
55mm wheels	£ 9.95		
2.5mm BB servo-ends	£ 7.89	<u>DUBRO</u>	
2.5mm BB horn ends	£ 7.89	4-40 ball link	£ 2.96
2.5mm ball joints	£ 4.20	4-40 pull-pull system	£ 6.75
YS header mount	£ 23.95	Servo horn set	£ 10.50
OS header mount	£ 25.95	T-style horns(L)	£ 4.95
Alloy horns Plastic base (S)	£ 5.50		
Alloy horns Plastic base (M)	£ 5.50		
Remote glow plug set	£ 13.70		
<u>HATORI</u>		<u>GATOR</u>	
Silicon tail pipe	£ 7.95	Stab adjuster kit	£ 10.95
		Wing adjuster lit	£ 13.95
		Wing tube set 7/8x24"	£ 20.85
		Gator mount rubbers	£ 6.55
<u>CFE</u>		<u>TRU-TURN SPINNERS</u>	
YS 140 nose ring	£ 9.95	2.1/2" FAI	£ 25.50
OS 140 nose ring	£ 10.95	2.1/2" FAI (LBP)	£ 33.50
YS 140 air filter	£ 19.50	2.3/4" FAI (LBP)	£ 33.50
		3" FAI (LBP)	£ 36.00
<u>RETRACTS</u>		<u>BUILDING MATERIALS</u>	
Supra DX 60	£ 41.90	300mmx300mm end	
Supra DX 200 (Titanium legs)	£ 99.50	grain-carbon balsa	£ 21.00
Giezendanner	£ 139.95	300mmx300mm nomex	
3/16 titanium legs	£ 19.75	panel(glass skin)	£ 15.00
3/16 DX legs	£ 10.95	300mmx300mm nomex	
		panel(carbon skin)	£ 23.00
<u>ZN</u>		<u>LEAK-FREE GASKETS</u>	
Anodised horns (L)	£ 11.50	YS 140	£ 15.95
Anodised horns (M)	£ 11.50		
Anodised horns(S)	£ 11.50		
Pull-pull wheel	£ 15.00		
70mm spinner	£ 38.50		
76mm spinner	£ 42.10		
82mm spinner	£ 42.10		

# JUDGING NOTES BY THE CHIEF JUDGE

Judging is not just about going out and putting your chair down to watch the aeroplanes. First you need to know the rules, you then need to sit yourself in the correct place, 7 – 10 meters behind the pilot on the centre line, you need to look at the box markers and adjust them to suit your sitting position if you are on the right or left of the centre line. The parallax line makes the boxes larger one way and smaller the other if you are sitting off the centre line, so look for end box markers in the distance to compensate for the parallax line.

What you need to look for in the schedule is accuracy in all the manoeuvres, taking in the shape and size. Each manoeuvre starts with a score of 10 and is downgraded depending on the severity of the inaccuracy throughout the whole manoeuvre.

Now lets look at the P.O.1

## **1.The take- off sequence**

A very important part of the schedule. This allows you to trim your model and set up a good base line height. It is also a good point at which to set the speed at which you want to fly the sequence.

## **2. Triangular Loop, 2/4 Pt Roll on Top, Exit Inverted**

Pull to a 45-degree up line and execute a triangular loop with 2 points of a 4 point roll on top (second leg) exit inverted.

The most common mistakes on this manoeuvre are 45-degree lines too steep or too shallow and the roll not centred and equal line lengths either side of roll. Under and over rolling. Radius too tight and exit height different too entry & heading changes.

## **3. Half Reverse Cuban Eight, ½ Roll Up, Exit Inverted.**

Push to a 45-degree inverted up line, perform a ½ roll and then push through 5/8 of an outside loop to level inverted flight.

The most common mistakes on this manoeuvre are 45-degree line is too steep. Roll not centred in the up line and over & under rolling. The 5/8 loop not correct shape or size & change of heading.

## **4. 1-1/2 negative snap, 2/2 pt roll:**

On the horizontal line perform 1 & 1/2 negative snap rolls followed by a two-point roll in the opposite direction.

The most common mistakes on this manoeuvre are the snap started to late, big heading change large hesitation before 2 point roll under, over snapping, change of heading left right, up & down., under rolling, the complete manoeuvre not centred. Where is the centre? There is no reference point to indicate the centre in the rulebook, but personally I like to see the model in knife-edge on or just after the centre as this makes it look more centred.

## **5. Top Hat ¾ Pt, Roll Up ¼ Roll Down:**

Pull vertical & perform three points of a four-point roll, pull to inverted flight, fly a straight line, pull vertical & perform a quarter aileron roll then pull to level flight.

The most common mistakes on this manoeuvre are radius too tight & not of equal size, rolls not in the centre of vertical lines over & under rolling, heading changes entry & exit height different, no straight & level flight in or out of manoeuvre.

N.B The top hat and all other turn around manoeuvres should not be used as height adjustment according to Bob Skinner at the training day, saying that the base line on all manoeuvres should consistent in height and the only adjustment is in depth.

**6. 45. Degrees up, two of 2/2 pt. Rolls, in opposite direction:**

Pull to a 45-degree up line and perform two 2-point rolls in opposite direction. Push to level  
The most common mistakes 45-degree line is to steep or to shallow rolls not centred & line lengths not equal either side of rolls. Heading changes

**7. Half square loop, Full roll down, exit inverted**

Perform half of a square loop with roll on the down line. Exit inverted  
The most common mistakes are ¼ loops not of equal size, heading change on vertical line, roll not in centre of vertical line, heading change on exit.

**8 Eight-sided outside loop, Exit inverted.**

Push to 45-degree up line & perform an eight sided out sided hesitation loop, exit inverted.  
The most common mistakes are 45-degree lines to steep or to shallow; all line lengths should be of the same length; exit height different to entry height higher or lower.

**9. Figure 9. Half roll up, Exit inverted.**

Push to vertical line up and perform half an aileron roll then perform ¾ of an outside loop, Exit inverted.  
The most common mistakes are vertical line of heading, Roll not in centre of vertical line radius of 5/8 loop incorrect size and shape and heading changes, wings not level when pulling loop.

**10. Outside/inside loop vertical 8, from the middle, Exit inverted.**

Push into an outside loop on top followed by an inside loop centred under the outside loop, Exit inverted  
The most common mistakes are top & bottom loops are not of the same size, crossover points not in the same place as entry, manoeuvre not centred, heading changes in the loops.

**11. Two-turn inverted spin.**

Perform two consecutive inverted spins, Recover upright.  
**JUDGING NOTES.** SNAP ENTRY ZERO POINTS. FORCED ENTRY, DOWNGRADE.  
The most common mistakes are, Model climbing into entry and not stalling correctly, over rotating on spins, heading change on vertical down line, radius of ¼ loop to tight and heading changes. The model should have nose up attitude to enter the spin and should not be climbing .

**12. Reverse Knife-Edge.**

Roll 90-degree into knife-edge flight and fly a straight line. Roll 180-degree in the opposite direction and fly a second line in knife-edge flight, then roll 90-degree to recover upright.  
**JUDGING NOTES.** THE KNIFE-EDGE SEGMENTS ARE OF EQUAL LEIGHT AND MUST BE LONG ENOUGH TO DEMONSTRATE CONTROLLED KNIFE-EDGE FLIGHT.

The most common mistakes are under and over rolling into knife-edge legs 1&2. Unequal line lengths before and after centre. Heading changes left right, up & down.

**13. Immelmann, Full Roll, Exit Inverted.**

Perform half of an inside loop followed immediately by one aileron roll. Exit inverted.  
**JUDGING NOTES.** THERE IS NO HESITATION BETWEEN THE LOOP & ROLL  
The common mistakes are, half loop shape and size is to tight and has heading changes thou out the loop.  
The roll is not immediately after loop under and over rolling, heading changes on exit.

**14. Pull-Push-push humpty-bump, 2/4pt. Roll Down, Full roll up**

Pull to a vertical down line and perform two points of a four-point roll, push into a half outside loop, perform a full aileron on the up line then push to level flight.

**JUDGING NOTES.** THE ENTRY AND EXIT QUARTER LOOPS AND THE BOTTOM HALF LOOP ARE OF EQUAL RADIUS

The most common mistakes are all radiuses are not equal in size and shape, and the exit height is different to the entry height. The roll in vertical down line is not centred i.e. too long before roll and too short after the roll. The roll in vertical up line is not centred as in the down line, Under and over rolling causing heading changes, the whole manoeuvre not centred. Lots of points lost on a high K factor of 4 manoeuvre!

**15. Reverse Top Hat, 1/4 Rolls**

Push to vertical down line; execute a quarter roll, left or right, push to inverted flight, fly a straight line. Push to vertical up line and execute second quarter roll then push level flight.

**JUDGING NOTES.** THE HORIZONTAL LEG MUST BE INVERTED.

The most common mistakes are, all radiuses are not equal in shape and size, and exit height is different to entry height, higher and lower, quarter rolls not in the centre of up or down lines, over and under rolling, heading changes through out manoeuvre, exiting the box.

**16. Two Loops, Two Half Rolls at the Bottom**

Push into half outside loop, perform a half roll at bottom, and complete a full inside loop, perform a second half roll at the bottom then complete a half outside loop to recover in level flight.

**JUDGING NOTES:** THE LOOPS MUST BE ROUND AND SUPER-IMPOSED WITH THE HALF ROLLS INTEGRATED WITH THE LOOPS.

The most common mistakes are, Loops are not round rolls not in knife-edge over centre marker and not integrate in the loops, under and over rolling causing heading changes, exit height different to entry higher and lower. Lots of points lost on a high K factor of 4 manoeuvre.

**17. Split S**

Perform a half aileron roll followed immediately by a half loop.

**JUDGING NOTES:** THERE IS NO HESITATION BETWEEN THE HALF ROLL AND THE HALF LOOP

The most common mistakes with this manoeuvre is under and over rolling, changes of heading, and size of loop, THIS IS NOT A WIND CORRECTION MANOEUVRE

**18. Stall Turn, 3/4 Pt. Roll up, 1-1/4 Pos. Snap Down.**

Pull to a vertical up line and perform three points of a four-point roll followed by a stall turn. On the down line perform a one and one quarter positive snap roll then pull to level flight.

The most common mistakes are, roll not in the centre of up line, up line not vertical, positive snap not in centre of down line, under and over rolling and snapping, big heading change after snap needs down elevator to get back on track, Radiuses of entry and exit at different heights.

**19. Humpty-Bump With Options, Exit Inverted.**

Pull to a vertical up line and perform a half aileron roll (or alternately a quarter aileron roll) then push or pull into

A half loop (in side or out side), perform another half (or quarter) aileron roll then push to recover in level inverted flight.

The most common mistakes are, roll not in centre of up line, radiuses on quarter and half loops not of equal size and shape, under and over rolling, heading change on exit, exit height higher or lower than entry.

**20. Slow Roll Inverted To Inverted:**

From level inverted flight perform one slow roll to recover in level inverted flight.

The most common mistakes are, manoeuvre not centred correctly wing should be in knife-edge over centre marker, under and over rolling at the end of slow roll, heading changes pitch-



ing up and down coming in and going out.

**21. Half Square Outside Loop On Corner:**

From level inverted flight push up to a 45-degree up line and complete a half square loop on corner.

The most common mistakes are the first 45-degree up line is too shallow and the next 45-degree line is too steep, and line lengths are not the same, heading changes at the top of the manoeuvre.

**22. Fig. Z Push to 45-degree Inverted Dive, 2/2 Pt. Roll, Pull to Level:**

Push 135 degrees to a 45-degree inverted down line and perform a two-point hesitation roll. Pull 135 degrees to recover in horizontal flight.

The most common mistakes are 45-degree line too steep or too shallow and rolls not over the centre line, bottom radius is tighter than entry.

**23. Landing Sequence:**

At reduced power execute a 180-degree level or descending turn to a downwind heading. Fly a downwind leg, then turn 180 degrees into the wind. Fly a descending approach to the runway touching down in the landing zone. The landing sequence is complete when the model aircraft has either rolled 10 meters or comes to rest.

**JUDGING NOTES.** MODEL AIRCRAFT DOES NOT FOLLOW LANDING SEQUENCE, ZERO POINTS. IF ANY LANDING GEAR LEG RETRACTS ON LANDING, ZERO POINTS. IF THE MODEL AIRCRAFT LANDS OUTSIDE THE LANDING ZONE, ZERO POINTS. THE LANDING ZONE IS DESIGNATED BY A CIRCLE OF 50 M RADIUS OR LINES ACROSS A STANDARD RUNWAY SPACED 100 METERS APART WHERE THE RUNWAY IS AT LEAST 10 M WIDE. ONLY TWO SCORE, A ZERO OR A TEN, MAY BE AWARDED FOR THE LANDING SEQUENCE.

All manoeuvres should start and finish with straight and level flight, if this is not the case 2 points are deducted from the next manoeuvre. So therefore, it is in your best interest to show the judge these straight and level lines.

What qualities do you need to be a good judge, some would say to have your brains surgically removed for sitting out in the middle of a flying field for 8 hours a day watching models zoom around the sky. I disagree with this and think a good judge is someone that has taken the time to study the rule book and understanding all the manoeuvres which the pilots have to fly. After all, the pilots spend lots of money and time trying to improve their flying skills. As judges we need to be as good as if not better than the pilots with their knowledge of all manoeuvres.

As Chief Judge I am always looking for more judges who are prepared to listen and learn.

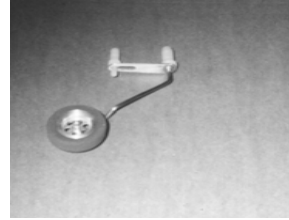
To all Senior and Standard pilots you have not been forgotten, if you read this article about the most common mistakes made in manoeuvres you will find they are very similar to the mistakes made in your schedules.

Bob Ailles  
Chief Judge

**5th Centralised Event, Cashmoor, Dorset**

Please note that the PO3 schedule will now NOT be flown at the 5th Centralised event. This was due to the BMFA not being given sufficient notice by the GBRCAA in order to publish this schedule in their handbook. Ed.

# ***M. A PRODUCTS***



## ***Price List***

### ***Exhaust manifolds***

***made to order from £22:00***

***Alloy wheels £17:00***

***Tail wheel to match £ 5:00***

***Prop nuts £ 6:00***

***Exhaust deflectors £ 7:50***

***Tuned pipe brackets £ 7:50***

***Please make cheques payable to:-***

***M.Aldous, Romila, Hilders Lane,***

***Edenbridge, Kent TN8 6JU***

***Tel. 01732 865113***



# GBRCAA Competition Entry Form 2001

Comp. Venue and date:

Name		<b>Frequencies</b> 1. <input type="text"/> 2. <input type="text"/>  You must specify an alternative frequency. ODD frequencies only allowed.
Address Tel No	BMFA Number	
	GBR/CAA Number	

**Your Car Details:** Reg. No. Make Colour Names of Passengers

Competition Entry Fees—Please tick  Sportsman/Standard £10.00  Senior £14.00  Master £16.00	Completed entry form, entry fee and a self addressed stamped envelope must be sent to the contest director not less than three weeks prior to the contest date.  <u><b>Cheques should be made payable to the GBRCAA and dated for the date of the competition.</b></u>
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**Important Notice to all Competitors and Contest Directors**

Pre entry is a requirement of all GBRCAA competitions. If you wish to submit a late entry for a GBRCAA competition, contact the CD. If the CD is willing to accept your late entry you will have to pay double fees for the competition. If you have pre entered and fail to turn up on the day, no refunds will be given.

**CD to return this part to entrant**

Your entry for .....is accepted/rejected

Your frequency is .....

Remarks :

Signed .....CD. Date .....

**Important note for MOD sites:**  
 You must bring some means of identification (Driving Licence, Passport etc) on the day.

## 2001 GBRCAA Competition Calendar - Issue 4 24th July 2001

	Weekend 1	Weekend 2	Weekend 3	Weekend 4	Weekend 5
July	<p>1 <b>3rd Centralised / Team Trial Event</b> <b>Glenrothes MAC.</b> Mast-FAI (PO1) CD: Elliot Balfour Entries to Bill Harrop</p> <p><b>Bedford</b> Std. Sen. Mast-FAI (P-01) CD: Brian Ball</p>	<p>8 <b>GBRCAA Committee meeting (7th)</b></p>	<p>15 <b>4th Centralised / Team Trial Event</b> <b>Barkston Heath</b> Mast-FAI (PO1) CD: T.B.A Entries to Bill Harrop</p>	<p>22 <b>BMFA Nationals</b> Sprt Std Sen Mast-FAI (PO1) CD: Brian Hoare</p> <p><b>World F3A Championships</b> Cork Racecourse, Ireland Details in this issue Contact David Tappin</p>	<p>29 <b>Cashmoor Sports Centre</b> <b>Cancelled</b> at Hilton</p>
August	<p>5 <b>Brian Brotherton Memorial Trophy</b> Newmarket, Cambs. Sprt Std Sen Mast-FAI (P-01) CD George Drever</p>	<p>11 &amp; 12 <b>Hastings</b> Sprt Std Sen Mast-FAI (PO1) CD: Alan Hilton</p> <p><b>Scottish Nationals</b> Fife Airport Sprt, Mast-FAI (P-01) CD Elliot Balfour</p>	<p>19 <b>Warboys: Ramsey MAC</b> Sprt Std Sen Mast-FAI (P-01) CD: Ross Donavon</p>	<p>25, 26 &amp; 27 <b>BMFA Nationals</b> Sprt Std Sen Mast-FAI (PO1) CD: Brian Hoare</p> <p><b>World F3A Championships</b> Cork Racecourse, Ireland Details in this issue Contact David Tappin</p>	

September	2		9	16	23	30
			<b>Ashbourne</b> Sprt Std Sen Mast-FAI (P-01) CD: Brian Hoare		<b>5th Centralised / Team Trial Event</b> <b>Cashmoor</b> Mast-FAI (PO1) CD: David Tappin Entries to Bill Harrop  <b>Please Note: PO1 schedule!</b>	
October	6 - 7	<b>New !</b> <b>Southern Area Championships, Maidstone, Kent</b> 2 day event Sprt Std Sen Mast-FAI (PO1) 1 1/2 entry fees CD: Keith Jackson Entries to Bob Ailles at the <u>address given overleaf.</u>	14	21	28	
			<b>Cashmoor</b> Sprt Std Sen Mast-FAI (PO1) CD: Alan Hilton			

**Spr**t Sportsman Schedule      **Std** Standard Schedule      **Sen** Senior Schedule      **Mast-FAI (\*)** Master \* indicates FAI schedule(s)

**NB:** Centralised competitions are open to all classes; with all classes flying the FAI schedule indicated.  
**Send entries to the Contest Director (CD) using the Competition Entry Form from Aerobatics News unless otherwise noted**

# Contest Directors

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Birt Caton  
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LA13 OPX  
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01606-861793 Eve.  
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briansairstrip@aol.com

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Sam Wragg  
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Burncross  
Sheffield  
S35 2SX  
Tel: 0114 2464031

## BEDFORD GBRCAA COMPETITION: July 1<sup>st</sup> 2001

Despite a very wet winter and lack practice due to closure of some sites due to foot and mouth disease, we still had twelve entries for our competition.

MASTERS - Alan Wild flew very well to come 1<sup>st</sup>, Tom Shore was 2<sup>nd</sup>, Stephen Birchall 3<sup>rd</sup> in his first Masters competition.

SENIORS – George Drever came 1<sup>st</sup> with promotion points, Brian Hoare 2<sup>nd</sup> and Ken Moss 3<sup>rd</sup>.

STANDARD – Well deserved 1<sup>st</sup> place to Bill Michie with promotion points, 2<sup>nd</sup> Alan Connelly, 3<sup>rd</sup> Roger Robbins.

SPORTSMAN – Alan Michie last minute entry who flew extremely well and gained his first set of promotion points and who is 12 years old.

Many thanks to the two judges Geoff Keen and Ross Donovan, who donated their expenses to the GBR Travel fund. We also held a raffle for the same fund which made a profit of £25 including prizes donated by members.

The weather was very kind to us as usual and everyone enjoyed their day flying. Hopefully next year's competition will be just as good.

Brian Ball CD

Masters	Round 1	Round 2	Round 3	Round 4	Total	Position
A. Wild	396.5	191.5	400	406	1202.5	1
T. Shore	300.5	345.5	342	330.5	1016	2
S. Birchall	289.5	334.5	304.5	322.5	961.5	3
<b>Seniors</b>						
G. Drever	293	309.5	348	303.5	961	1
B. Hoare	288.5	271.5	284	270.5	844	2
K. Moss	252	238.5	225	264.5	755	3
<b>Standard</b>						
W. Michie	212.5	237.5	208	222.5	672.5	1
A. Connelley	156.5	188.5	204.5	199	592	2
R Robbins	184.5	207.5	166	183.5	575.5	3
D. Brittain	163.5	160.5	165	174	502.5	4
J Farmer	133.5	138.5	143	162.5	444	5
<b>Sportsman</b>						
A. Michie	120	117	99.5	104	241	1

# September Newsletter !

Copy date: 21st September 2001

# PHIL WILLIAMS PROBUILD

12 FOREST VIEW DRIVE, STAPEHILL, WIMBORNE, DORSET, BH21 7NZ.

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WEB PAGE WWW.PROBUILD-UK.CO.UK

**PLEASE MAKE ALL CHEQUES OUT TO P. WILLIAMS**

## THE HOME OF YS ENGINES IN THE UK

YS.53 £179.00 New YS.63 approx price £210.00 YS.91 £260.00

**NEW !** YS 140 Dingo due soon Approx price £540.00

YS1.40L New price £365.00 with new up rated regulator

YS1.40L Probuild Special. £460.00

Note. Probuild special, relevant-surfaces surface ground, leak free gaskets fitted,

motor test run & regulator & air bleed set for UK spec fuel.

New. Convert YS 1.40FZ to "L" spec, increase in power output. £125.00 inc parts.

## ENGINE MOUNTS

DAVE BROWN BEAM MOUNT	£40.64
GATOR SOFT & SAFE	£41.74
HYDE 1.20 SOFT MOUNT	£115.50
HYDE 1.40 SOFT MOUNT	£125.34
HYDE COMPACT LITE .20 - .30	£21.94
HYDE COMPACT LITE .40 - .50	£26.07
HYDE COMPACT LITE .60 - .70	£32.94

## FOUR-STROKE MANIFOLDS

JOHNSON INSIDE YS.91	£35.20
JOHNSON INSIDE YS1.20/40	£35.20
HATORI INSIDE YS1.20/40	£37.40
HATORI COPPER WASHERS PACK OF 2	£1.21
AAP POWER MANIFOLD	£53.13
SPARE HEADER TUBE	£15.65
AAP SUPPORT BRACKET FOR POWER MANIFOLD	£13.75

## APC PROPS.

<b>TWO BLADE APC PROPS.</b>	
14*12 APC PROP	£11.46
14*13 APC PROP	£11.46
14.4*13 APC PROP	£11.46
14*13.5 APC PROP	£11.46
15*11 APC PROP	£11.46
15*12 APC PROP	£11.46
15*13 N APC PROP	£11.46
15* 14 N APC PROP	£11.46
15.5 *13N APC PROP	£11.46
16*8 APC PROP	£11.46
16*10 APC PROP	£11.46
16*11 APC PROP	£11.46
16*12.5 APC PROP	£11.46
16*13N APC PROP	£11.46
16*16 APC PROP	£11.46
16*12 APC PROP	£11.46
17*12 APC PROP	£16.60

## FUEL TANKS.

TETRA 14OZ	£8.80
TETRA 16OZ	£9.90
TETRA 18OZ (BLADDER TANK)	£24.14
TETRA 20OZ	£11.00
TETRA 5OZ	£6.75
IMP 14OZ	£ 9.84
MK 16OZ	£4.73
MK 520cc (YS Dingo 1.40 tank)	£5.96

### Postage rates

Minimum postage £1.50

Larger items at postage level plus £1.00

## CFE PRODUCTS

5/8" TO 5/8" EXHAUST COUPLER	£21.94
5/8" TO 15MM EXHAUST COUPLER	£21.94
15MM TO 15MM EXHAUST COUPLER	£21.94
SPARE VITON O RINGS	£3.83
1.20AC AIR FILTER	£19.74
1.20/1.40 AIR FILTER	£19.74
1.20/1.40 NOSE RING	£9.95
CFE EXHAUST COUPLERS HAVE FOUR VITON "O" RINGS PER UNIT TO GIVE A LEAK FREE JOINT. (THE BEST)	
OS "F" PLUGS	£5.50

## FOUR-STROKE PIPES

HATORI 692 ALLOY PIPE 405MM LONG	£120.50
HATORI 693 (NEW) ALLOY PIPE 555mm LONG	£130.50
PROBUILD 1.20/40 ALLOY PIPE	£29.15
PROBUILD .91 ALLOY PIPE	£26.40
PROBUILD 1.20/40 LONG ALLOY PIPE	£45.65

## DUBRO ITEMS

DUB447 IMP BALL WRENCH SET	£16.68
DUB361 4-40 TAP & DRILL	£5.61
DUB362 6-32 TAP & DRILL	£5.61
DUB391 4-40 THREAD INSERTS	£1.77
DUB313 SOK HD 4-40 BY 1.25"	£1.27
E/Z ADJ AXLE 2 BY 5/32	£3.92
DUB135 4-40 BLIND NUTS	£0.86
DUB 315 SOK HD 6-32 BY 1"	£0.99
EXHAUST DEFLECTOR 35-90	£4.40
DUB661 EZ TRIMMER	£6.56
PULL PULL SYSTEM 4-40	£6.96
SUPER STRENGTH SERVO ARMS	£9.17

## TETRA PRODUCTS.

TETRA HINGE GUIDE	£17.57
BALL ADJUSTERS	£6.54
ROD ADJUSTERS	£4.34
TRIANGLE JOINT WITH FILTER	£7.65
TRIANGLE JOINT	£6.32
SWITCH BRACKET	£7.64
ONE WAY VALVE	£8.23
FUEL DOTS	£4.95
PUSH-ROD ANGLE CLEVIS	£2.27

## RETRACT SYSTEMS

SUPRA DX 40 WITH AXLES	£42.90
SUPRA DX 60 WITH AXLES	£42.90
MK Ball raced straight legs	£42.44
MK Ball raced straight legs angled 20 degrees forward	£46.24
SPARE STRUTS FOR DX60	£10.94
LIGHT WIEGHT TITANIUM RETRACT LEGS 3/16" (ONE PAIR)	£19.74



# Probuild

was born out of the desire to establish a high quality service to British F3A fliers. We don't sell old cars, shell suits, or gold bracelets, & certainly don't perm our hair. We do however stock only accessories of high quality which we would use on our own models. Other retailers work on one theme, cheap components, cheap kits that end up lowering the entire standard of flying in the UK. Probuild is at the forefront of progressing our great hobby, even though there seem to be an element within the UK that want to pursue vintage pattern which is not a problem, you must have FUN at your hobby, but don't try and hold others back with antiquated ideas. A full line of YS engines are held along with possibly the largest stock of spares in Europe, as well as servicing & rebuilding service. The increase of other dealers in YS has necessitated an introduction of a consultancy fee be paid for repair to engines not bought through Probuild. People are buying engines with no back-up service & retailers with no or little knowledge on how these engines operate. The fee will be £37.50 payable with the engine when sent in, all repairs will be paid for in full before the engine is dispatched to the customer. Recent manufacturers price increases has necessitated a major investment in our stock so as to keep the prices we offer at a generally consistent, if not lower level than they are now.

There is a full building service available but this is heavily over-subscribed and early ordering is well advised. Many pilots book a building slot rather than a particular model, with the arrangements finalised three months prior to the start of the model being built.

All kits from the ZN line and PL Products are collected from the manufacturers by ourselves, therefore there is no chance of the mouldings being damaged in the courier system. We have found that using the couriers resulted in a large number of kits being damaged, small cracks on fuselages to fork lift truck blades through the side of the fuselage have all been experienced! Please remember this when ordering a ZN or PL kit when comparing our prices to theirs. The French companies prices have to have delivery and box prices added to them ( about £50.00). Our price included us going to France and bringing them back here to the UK damage free! In addition to this, all our kits now come with a full carbon/Nomex former kit with your name moulded into the surface of the main panel, & end grain carbon faced engine bulk-heads. A full Gator stab kit is included with the kits also, the cost of these items work out at an additional £75.00 if you we to buy from any other supplier if they had the facilities & intelligence to produce such components.

The PROBUILD / ZN and PL kits are not the same as genuine items, both French companies favor using a press to hold the skins in place whilst the epoxy dries. Here at PROBUILD we favor using a vacuum bag system, this presses around 2000lbs on each panel whilst the epoxy dries. This helps tremendously with the bonding of the skins and makes for a stronger, lighter wing, tail, rudder panel.

An additional bonus to this system allows all of the aileron and elevators to be faced and hinged prior to the skins being attached to the core. The hinge is also installed, being made of Kevlar. A reduction in building time is a trade off to you the builder as well as having a more accurate wing or tail panel. The control surfaces are made integrally when the panel is made, therefore accuracy is also increased. Why do the other companies use a press? Simply time & money. It takes many hours longer to vac a wing & it is more expensive in consumables, but the end result is a much stronger lighter wing, Christophe also uses his own built lighter wing rather than a factory unit.

We offer a second to none service, open seven days a week from 9am to 9pm, if we are busy in the workshop then an answer machine will take your call & we will get back to you ASAP.

We can now announce that we will be stocking the full range of Volz high quality servos made in Germany. These servos are typically used in wing / tail-plane applications and feature high torque / speed, metal gears and ball raced output shafts.

A new design from World F3A and TOC champion Christophe Paysant Le Roux will be revealed in September this year and Probuild have a guaranteed reserve of 10 kits for this eagerly anticipated model. See later this advert for details.

A range of high quality metal / composite flight case suitable for transporting models of all sizes are now available and will be used to transport some of the teams models to Ireland for this years World Championships. See them there!

Finally remember that our prices are genuine and not fictional, as is the case with other suppliers of F3A goods.

Phil Williams August 2001

# PROBUILD PL PROD KITS

K

<u>MODEL</u>	BASE KIT	BASE KIT ALL FOAM PANELS IN COMPETI- TION GRADE Balsa	AS PREVIOUS COL- UMN WITH AILER- ONS, ELEVATORS AND RETRACTS FITTED
KC = Kevlar/Carbon FV = Glass Fibre			
EXCELLENCE FV	£ 377.77	£ 511.11	£611.11
EXCELLENCE KC	£466.66	£600.00	£700.00
TORNADO FV	£377.77	£511.11	£611.11
TORNADO KC	£466.66	£600.00	£700.00
LARIMAR KC	£466.66	£600.00	£700.00
LARIMAR FV	£377.77	£511.11	£611.11
ALIZE KC	£388.88	£522.22	£622.22
ALIZE FV	£322.22	£455.55	£555.55
EXTRA 300 S FV		£872.22	£972.22
EXTRA 300 S KC		£1044.44	£1144.44
SMARAGD KC	£466.66	£600.00	£700.00

## SHADOW KIT FROM PROBUILD.

The shadow, further development from the world famous Desafio S, the model features plug in wing & Stab, one piece full length underbelly with access to radio installation via a carbon panel. The foam wing, tail are cut from low density foam with the CNC foam cutter for accuracy. The fuselage is a glass cloth with carbon fibre, with reinforcing panels in the rear of the fuz as well as the fin. Motor requirement is for a YS1.20AC up to the new 1.40 LM. Fuselage comes ready sprayed in a white gel coat.

### **Base kit**

Glass fuz & underbelly, foam wing & tail cores with tube holes cut, drawings, wing & tail joiner tubes.

### **Deluxe kit**

Includes all above as well as the wings & tail skinned in contest grade balsa, with integral spar system. Ailerons & elevator lined & hinged with kevlar full length system, retract & servo wells cut.

### **Hi Tec kit**

Includes all above but with all formers cut from Nomex glass & fitted into the fuz, motor installation completed. Wing & tail fitted with incidence adjusters.

Base kit. £295.00    Deluxe kit. £525.00    Hi tec kit£775.00

*ProBuild*

# VOLZ SERVOS

**Micro-Maxx XP**

Micro-Max XP (NEW)  
 Gears: All metal  
 Bearing: Ball bearing  
 Weight: 19g  
 Voltage: 4.8-6.00 volts  
 Torque: 4.1kg  
 Speed: 0.12/ 0.09s. 40degrees  
 Price: £55.95

Dimensions: 28.5 / 1.12" (width), 28.5 / 1.12" (height), 3.5 / 1.38" (total height), 13 / 0.51" (mounting hole width)

**ZIP**

Gears: Plastic  
 Bearing: plain  
 Weight: 7.5 grams  
 Voltage: 4.8-6.00 volts  
 Torque: .8 kg  
 Speed: .15 / .13 seconds per 40 degrees  
 Price: £21.80

Dimensions: 28.0 / 1.11" (width), 26.5 / 1.04" (height), 3.5 / 1.37" (total height), 11.8 / 0.46" (mounting hole width)

**Alu-Star**

Gears: Metal  
 Bearing: Dual Bearing  
 Weight: 72 grams  
 Voltage: 4.8-6.00 volts  
 Torque: 7.8 kgcm  
 Speed: .20 sec per 60 degrees  
 Price: £65.00

Dimensions: 41 / 1.61" (width), 45 / 1.77" (height), 51 / 2.0" (total height), 19.8 / 0.8" (mounting hole width)

**Wing-Maxx H**

WING MAX HP  
 Gears: Metal  
 Bearing: Ball bearing  
 Weight: 19 grams  
 Voltage: 4.8-6.00 volts  
 Torque: 3.6/4.2 kgcm  
 Speed: .15 per 60 degrees  
 Price: £65.00

Dimensions: 26.5 / 1.04" (width), 38.0 / 1.5" (height), 44.3 / 1.74" (total height), 29.7 / 1.17" (width), 48.6 / 1.92" (total height), 10.0 = 1.39" (mounting hole width)

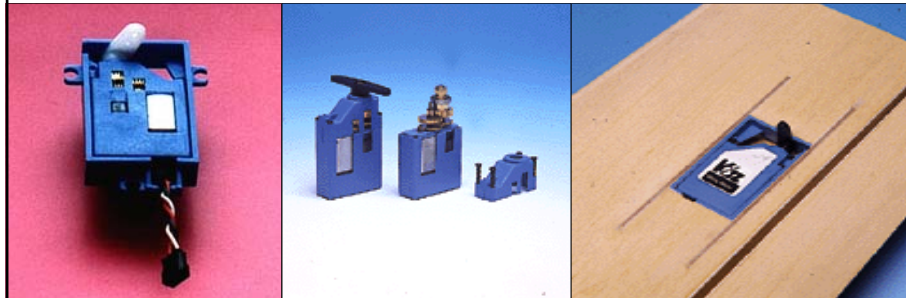
**Micro-Star 3**

Gears: Metal  
 Bearing: Ball Bearing  
 Weight: 30 grams  
 Voltage: 4.8-6.00 volts  
 Torque: 3.00 kgcm  
 Speed: .22 sec per 60 degrees  
 Price: £32.80

Dimensions: 28.5 / 1.12" (width), 28.5 / 1.12" (height), 3.5 / 1.38" (total height), 13 / 0.51" (mounting hole width)

## VOLZ 10 mm ( 0.39") sized wingservos

We are the first manufacturer who is offering real 10 mm (0.39") sized wingservos designed to be used exclusively in wings and rudders.



In the case of a 10 mm servo using **conventional technique**, it would be necessary to use smaller components. Accordingly a smaller motor would provide an inferior performance and a smaller potenti-



As neither would suit our intentions we decided to think about a **new way to build such servo**. Recesses like small windows within the new housing allow the biggest components such as motor, potentiometer and gears to get to the same level as the outer shape of the housing. Using this new technology we manage to use the well proven motors and potentiometer of our Micro-Star 3 and Micro-Maxx servos. The **newly developed gear train** using only four instead of five gears, reaches almost same gear ratio as Micro-Star/Maxx. Changing from five to four gears minimizes backlash and **increases efficiency**, with the result that the new 10 mm servos have even greater performance than our Micro-Star 3 and Micro-Maxx servos!

The high tooth flanks of the new gear train and the glass reinforced housings make our new Wing-Star and Wing-Maxx servos very robust servos which are completely **Made in Germany**. As you can imagine we do not supply our Wing-Servos with an open housing: thin stickers of only 0,08 mm strength cover mentioned recesses without measurable increase of the thickness.

The **mounting system** of our new servos is a completely new design: locking tabs and corresponding slots on housing and frame let the servo snap into the frame putting it into proper position (see photo above and photo underneath). Using 2 mm screws the servo is fixed afterwards.

## USA ITEMS

Alloy ballraced tail wheel assembly, complete with fitting kit & alloy tail wheel.	£23.10
24" carbon Fibre rods with 4-40 titanium fittings for direct servo connections to control surfaces	£17.54
Titanium fittings only (4 of)	£9.35
36" length Carbon rods (2 off per pack) 3/16" dia with 4 Titanium end fittings	£18.15
Stainless steel fittings (slightly heavier than titanium)	£4.50

## TRU TURN SPINNERS

• 2 1/2" FAI	£25.57
• 2 1/2" FAI, LIGHT BACK PLATE	£33.79
• 2 3/4" FAI	£29.65
• 2 3/4" FAI, LIGHT BACK PLATE	£33.55
• 3" FAI, LIGHT BACK PLATE	£36.43

## ZN SPINNERS

• 76MM ALLIANCE LIGHT BACK PLATE	£42.10
• 82MM CAPRISE / MAJESTIC / FASHION	£42.10
• 127MM CARBON / ALLOY BACKPLATE	£75.00
• 152MM CARBON / ALLOY BACKPLATE	£94.44

## NEW ITEMS NEW ITEMS NEW ITEMS

• PARSONS PRODUCTS SERVO PLUG SAFETY CLIP, 3 PER PACK	£4.50
• MK MAGIC BOXES, SPRUNG LOADED UNDERBELLY FIXINGS (2 OFF)	£20.13
• PL PROD SPRING LOADED CATCHES (PAIR)	£6.00
• ZN PULL-PULL WHEEL, 45MM ALLOY ANODISED (PURPLE)	£12.24
• TACK CLOTH	£1.17
• PILOT FURRED MYLAR HINGES, 20 PER PACK	£3.75
• MULTIPLEX FIELD BOX. FOUR SHELVES COMPARTMENT TOP COMPARTMENT	£55.00
• FINE LINE TAPE, 2.5MM THICK, 66 METRES LONG	£2.75
• HIGH PERFORMANCE 5/8" EXHAUST TUBE	£6.75
• JB WELD, 24 HOUR TWO PART GLUE, SUPER STRONG	£3.96
• CRC DEFLECTION THROW METER	£20.84
• OS PLUG WRENCH WITH KEEPER, IDEAL FOR YS COWLED MODELS	£5.20
• CARBON PIPE. VERY LIGHT WEIGHT. AS USED BY CHIP HYDE / BRANDON RANSLEY	£183.94
• DUBRO METAL BALL ENDED DRIVER SET.	£17.51
• ZNLINE ANODISED HORNS. (M) FOR ELEVATOR-ALIRONS	£11.72/PAIR
• ZNLINE ANODISED HORNS. (S) FOR RUDDER	£11.72/PAIR
• EZ RETRACT MOUNTING BOX'S	£5.50 / PAIR
• SERVO BOX MOUNTING SYSTEM.	£5.50 /PAIR
• VITON 2" LENGTH COUPLER.	£12.34
• 5 MIN EPOXY. 18OZ. THE ONLY ONE TO USE.	£8.25
• 8MM FOAM RUBBER WITH STICKY ON ONE SURFACE	£1.75
• DUAL NICAD BACKER/SWITCH/CHARGER ASSEMBLY (FUTABA)	£19.03
• LLM VOLTAGE REGULATOR	£22.50
• PACK "S" NIMH 6V /HR-AAA-700	£16.96
• MK SMOKE PUMP	£68.20
• MK ALUMINIUM TAPERD CONTROL RODS 100MM—110MM	£5.70 / PAIR
• MK ALUMINIUM TAPERD CONTROL RODS 120MM—130MM	£5.70 / PAIR
• MK ALUMINIUM TAPERD CONTROL RODS 130MM—140MM	£5.70 / PAIR
• MK MUFFLER BAND 35MM DIAMETER	£6.32
• MK MUFFLER BAND 35MM DIAMETER	£6.32

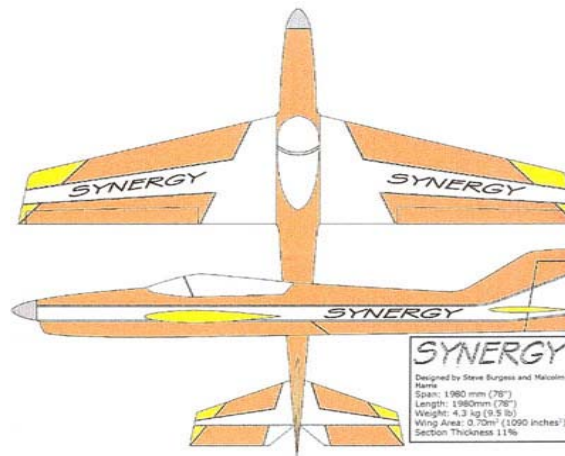


## MODEL AEROBATIC SPECIALISTS

*The UK Number One for Aerobatics*



*We don't have all the pattern pilots as customers, only the smart ones!!*



**Synergy for 2000** as detailed on November 1999 Newsletter front cover, designed by Malcolm Harris & Steve Burgess. The kit consists of a white pigment gel coated Carbon/Kevlar fuselage, with computer generated & cut foam panels, Wing & Tail joiner tubes installed. The model was designed around the 140 YS power plant. Plug in wing & tail. Std kit. Fuz, underbelly, canopy, foam wing, tail & rudder panel's. Wing & tail joining tubes. Full Nomex former kit & carbon end grain balsa F1. Steve Burgess reports that the Synergy actually flies better than his Angle Shadow, the Synergy is a fraction of the cost of a Angle Shadow!

Basic kit price £400.00

Deluxe kit POA



Evilos is the latest design from the ZN Line of F3A models. Co designed with A Poyet this model will be lighter than the Alliance design because the canopy is moulded into the fuselage. No heavy clear canopy to fit & less filler used in the lay up of the fuselage. Power provided by YS 1.40 FZ up to the latest YS power plant.

Base carbon/kevlar kit £400.00

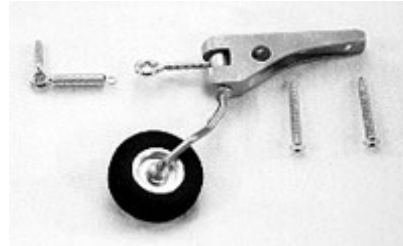


## MODEL AEROBATIC SPECIALISTS

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We are the official Central Hobbies agent for the UK, their F3A products are world renown for top quality & down to earth prices.

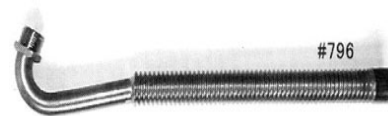


Central Alloy Ball raced Tail wheel Assembly comes complete with fixing screws & spring actuating driver. A high quality alloy wheel is already attached to the assembly for your convenience. £31.56+ P&P

The AAP power manifold has several advantages over its competition. The PTFE section of the pipe can be purchased as a separate item & as this is the item that takes all the stresses it can work out cheaper than having to replace the whole manifold. An increase of between 100 & 200 rpm is also possible due to the fact that the bore of the manifold is increased over other manifolds. We recommend the header support is used in conjunction with this manifold. The support manifold can only be used with the YS 140FZ & L engines only.

Manifold £53.13

Support £13.75



The Hatori 796 has been the benchmark of manifolds. If you prefer a conventional manifold set up then this is the one to go for. Outside diameter of the pipe at the outlet is 15mm. Spare copper exhaust washers are also included in the package.

£37.40





## MODEL AEROBATIC SPECIALISTS

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### Leak Free Gaskets

LFG120AC Gasket Set/YS 120AC **£18.95**

LFG120SN Gasket Set/ YS 120SC,NC,140FZ,  
and 140-L **£15.95**

LFG120STD Gasket Set/ YS 120SF STD  
**£15.95**

This is what it's all about, pattern is fun, & fun is available from Probuild. Pictured here is Mark Waterman from Probuild with his own Alize, Probuild Nomex former kit. This model is powered by a second hand YS1.40FZ, & 9ZAP radio guides this model through the schedule. We always have a good selection of second hand pattern goods in stock, fully checked over before being made available for sale, please ring for current stock & pricing details.







## DUBRO ITEMS

DUB447	IMPERIAL BALL WRENCH SET	£3.16
DUB444	IMPERIAL BALL WRENCH FOR 6-32	£3.16
DUB443	IMPERIAL BALL WRENCH FOR 4-40	£3.16
DUB361	4-40 DRILL & TAP	£5.57
DUB362	6-32 DRILL & TAP	£5.57
DUB359	10-32 DRILL & TAP	£6.73
DUB518	4-40 PULL-PULL KIT	£7.76
DUB352	1 1/4" CUT OFF WHEELS (2 OFF)	£4.37
DUB497	4-40 BALL LINK	£1.77
DUB304	4-40 H DUTY KWIK LINKS (2 OFF)	£1.84
DUB380	SOCKET HEAD No 2 BY 3/8" SCREWS	£1.77
DUB569	4-40 BY 1/4" CAP HEAD SCREWS	£1.01
DUB570	4-40 BY 3/8" CAP HEAD SCREWS	£1.01
DUB571	4-40 BY 1/2" CAP HEAD SCREWS	£1.01
DUB572	4-40 BY 3/4" CAP HEAD SCREWS	£1.01
DUB312	4-40 BY 1" CAP HEAD SCREWS	£1.01
DUB313	4-40 BY 1-1/4" CAP HEAD SCREWS	£1.27
DUB635	4-40 NYLON FLAT WASHER	£1.12
DUB325	No 6 FLAT WASHER	£0.81
DUB323	No 4 FLAT WASHER	£0.81
UB561	4-40 STEEL HEX NUTS	£0.76
DUB247	SPRING STEEL AXLE SHFTS	£3.80
DUB135	4-40 BLIND NUTS	£0.89
DUB391	4-40 THREADED INSERTS	£1.77
DUB309	2-56 BY 1/4" SOCKET HEAD CAP SCREWS	£0.89
DUB576	6-32 BY 3/4" SOCKET HEAD CAPSCREWS	£1.01
DUB317	6-32 BY 1-1/2" SOCKET HEAD CAP SCREWS	£1.27
DUB674	SUPER STRENGTH SERVO ARMS JR & AIRTRONICS	£9.17
DUB673	SUPER STRENGTH SERVO ARMS FOR FUTABA	£9.17
DUB670	SUPER STRENGTH SERVO ARMS FOR FUTABA (LARGE)	£12.59
DUB671	SUPER STRENGTH SERVO ARMS JR & AIRTRONICS (LARGE)	£12.59
DUB704	SCREW DRIVER & BALL DRIVER HOLDER	£5.06
DUB697	EXHAUST DEFLECTOR 45 DEGREE	£4.43
DUB302	4-40 STEEL THREADED ROD ENDS	£4.11
DUB400	GAS CONVERSION STOPPER FOR FUEL TANKS	£1.52



# MODEL AEROBATIC SPECIALISTS

*The UK Number One for Aerobatics*

## DURALITE BATTERIES



Duralite Battery packs are assembled using the exciting new 3v Tadiran Lithium-Metal cells. The 800 mAh packs use only two cells! The 1600 mAh packs are actually two two-cell packs in parallel, so you have built-in redundancy; if one cell fails you still have 6 volts. The 2400 mAh packs use three two-cell packs in parallel.

These cells have almost NO self-discharge, so you can miss a week or two after charging and still have a virtually complete charge when you go flying. (Don't try that with your NiCad packs!) You will need the special charger for these packs. You can **NOT** use your current field charger or any fast charger. You will also want to order the special tester that applies a much larger load than the loaded ESVs we usually use. All packs are 6v nominal, so you may want to order a Jaccio Voltage Regulator at the same time.

With these packs you can easily save weight of your model compared to NiCad packs.

**6V/ 800mAh RX PACK** Weight 34 grams. Two cells.

Price: **£30.33**

**6V/1600mAh RX PACK** Weighs 68 grams. Two two-cell packs in parallel.

Price: **£58.16**

**6V/2400mAh RX PACK**

Weighs 100 grams. Three two-cell packs in parallel.

Price: **£86.00**

### NEW ZNLINE SYNERGY by CPLR !

**Level 1.** £400

Base Carbon/Kevlar kit

**Level 2.** £550

As level 1 but including:

Wings, Tail plane & Rudder skinned

Carbon tows inset into TE

Retract boxes cut

Aileron boxes cut

**Level 3.** £650

As level 2 but including:

Ailerons / Elevators skinned, faced, fitted & hinged with Kevlar cloth

Retract units installed with Carbon / Nomex wheel wells installed

Aileron servo boxes fitted

**Level 4.** £700

As level 3 but including:

Leading edges fitted and shaped

Tips fitted and shaped

Tips fitted with LE and TE carbon reinforcement

Wing bolt hard fixings installed

Wing ready for joining



*ZN Line Synergy, pictured after winning the Tornado de Champagne*

**Level 5a.** £750

As level 4 but including:

Wing joined with three layers of 80g glass cloth

**Level 5b.** £775

As level 4 but including:

Wing joined with Carbon cloth and reinforced centre section

#### **Options**

1. Two part wing conversion; wing will plug together and then bolt onto fuselage: **£100**

2. Fixed Carbon gear with spats **£70**



# MODEL AEROBATIC SPECIALISTS

The UK Number One for Aerobatics



## ZN LINE KITS - ALL BASE KITS UNLESS SPECIFIED

• BIG TOC CAP - READY BUILT, READY TO COVER	£1300.88
• CAPRISE, CARBON / KEVLAR	£400.00
• EVOLIS CARBON/KEVLAR	£400.00
• ALLIANCE CARBON/KEVLAR	£400.00
• <b>NEW! SYNERGY CARBON/KEVLAR</b>	<b>£400.00</b>

## LARGE MODELS

• CAP 232, GLASS, 2.38M LONG & A SPAN	
• OF 2.2 M FOR 60CC ENGINES UPWARDS	£445.55
• CAP 232, GLASS, 2.38M LONG & A SPAN OF 2.2M. FOR 60CC ENGINES UPWARDS WITH Balsa SKINNED FOAM PANELS	£581.11

## NEW

• CPLR MADNESS 3D KIT, READY BUILT, READY COVERED.	£195.00
• EXTRA 300S, GLASS, 2.08M LONG & A SPAN	
• OF 1.90M FOR 40CC ENGINES & UP.	£361.11
• EXTRA 300S, GLASS WITH Balsa	
• SKINNED FOAM PANELS	£488.88
• MAJESTIC, CPLR DESIGN. BASE KIT IN CARBON/KEVLAR FUZ, FOAM CORES.	
• CARBON U/C WITH GLASS SPATS	£470.00

## NEW WINNER OF 2000 TOC

• CPLR EXTRA 330S, KEVLAR/CARBON FUSELAGE. Balsa VERED FLYING SURFACES. SPAN 3M LENGTH 2.85M FOR ENGINE CAPACITY 150CC.	£1070.00
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## MK ACCESSORIES (Also see new items)

LINKAGE FOR GEAR	£10.14
SUSPENSION WHEEL AXLES (MK)	£44.76
TAILWHEEL ASSEMBLY	£12.66
TAILWHEEL ASSEMBLY (heavy duty)	£13.92
55MM LIGHT WEIGHT WHEELS	£8.86
60MM LIGHT WEIGHT WHEELS	£8.86
ALLOY BULKHEAD FUEL NIPPLES	£9.99
ELECTRIC FUEL PUMP (4 AA BATTERIES)	£24.06
HAND FUEL PUMP with grip	£20.26
REMOTE PLUG WIRING KIT	£12.95
S & M ALLOY HORNS WITH LARGE PLASTIC BASE & FITTING KIT	£5.20
PUSH ROD BB END (3MM)	£6.34
CONTROL BB CLEVIS (3MM)	£6.96
PUSH ROD BB END (2.5MM)	£6.34
CONTROL BB CLEVIS (2.5MM)	£6.96
DUAL ELEVATOR CRANK (STD)	£24.70
DUAL ELEVATOR CRANK (LONG)	£24.70
MANIFOLD SUPPORT KIT	£22.16
HEAVY DUTY TRI HORN WITH STEEL SHAFT (PER PAIR)	£1.50
MK WHEEL AXLES (A)	£15.50
MK WHEEL AXLES (B)	£7.50
MK EXTENDED WHEEL AXLES	£22.16
MK MUFFLER 35MM/40MM	£7.50
YS FUEL FILTERS	£4.95
NARROW BORE TUBE BENDER	£9.95
REMOTE GLOW FOR OS	12.66

## GATOR PRODUCTS

GATOR PLUG IN WING ADJUSTER KIT	£15.35
GATOR SOFT & SAFE MOTOR MOUNT	£41.75
(SOFT) ISO DAMP RIBBED GROMMETS	£6.55
(FIRM) ISO DAMP RIBBED GROMMETS	£6.55
FEATHER LITE GLASS CLOTH	£9.85
PLUG-IN ADJUSTABLE STAB (ANODISED WING TUBE SETS)	£12.00
WING TUBE SET 7/8 BY 30"	£24.20
WING TUBE SET 7/8 BY 24"	£20.85

## BUILDING MATERIALS.

6MM ENDGRAIN CARBON Balsa 300MM BY 300MM (93G CARBON)	£21.00
3MM NOMEX PANELS WITH GLASS SKINS 300MM BY 300MM	£15.00
3MM NOMEX PANELS WITH CARBON SKINS 300MM BY 300MM	£23.00

ALL PANELS ARE VAC BAGGED DURING MANUFACTURE TO ENSURE BEST ADHESION OF THE SKINS TO THE CORE MATERIAL.

180ML COTTON MICRO FIBRES	£2.20	LIGHTWEIGHT GLASS CLOTH	£10.50
180ML KEVLAR PULP	£4.75	40 GRAM GLASS CLOTH (PER-METRE)	£5.00
180ML MICRO BALLOONS	£2.20	80 GRAM GLASS CLOTH (PER-METRE)	£5.00
180 ML FAIRING COMPOUND	£2.20	100 GRAM GLASS CLOTH (PER-METRE)	£5.00
SMALL 101 EPOXY	£6.75	93G PLAIN WEAVE CARBON	£45.00
LARGE 101 EPOXY	£13.00	62G KEVLAR	£24.00
200 GRAM CARBON PLAIN WEAVE	£35.00	200 GRAM KEVLAR	£22.50

PLEASE RING FOR ALL RC ITEMS @ DISCOUNT PRICES.

## FUTABA RADIO.

FF8 RING FOR LATEST PRICE	NEW		
9ZAP W/C II COMBO	£977.50	9250 5.5KG@.11 OF A SECOND 4.8V	£76.50
9102 SERVO	£52.00	9450 8KG@.10 OF A SECOND 6V	£76.50
9202 SERVO	£44.00	9150 LOW PROFILE AILERON SERVO	£64.00
9402 SERVO (6.0V)	£60.40		
9204 SERVO(4.8V)	£60.40		
136G SERVO	£35.00		
3101 SERVO	£21.50		
200MM EXTENSION LEAD	£2.50		
400MM EXTENSION LEAD	£3.60		
SWITCH WITH HARNESS	£5.50		
CHARGER & DSC	£4.50		
		<b>DURALITE RX PACKS</b>	
		6V/800MAH, 34GRAMS	£30.33
		6V/1600MAH, 68GRAMS	£58.16
		6V/2400MAH, 100GRAMS	£86.00
		12V SOURCE CHARGER	£33.30
		BATTERY TESTER/DESV	£41.35
		VOLTAGE REGULATOR TO 4.8V	£34.44

ALL PRICES IN THIS CATALOGUE ARE CORRECT AT THE TIME OF PRINTING. DUE TO ECONOMIC CONDITIONS PRICES MAY VARY, DOWN AS WELL AS UP !!!!!!!!!!!

ProBuild

## League Table for 2000 –2001: Final Standings

Name	1st Cent	2nd Cent	3rd Cent	4th Cent	5th Cent	Total	Team
	CVF Scotland	Barkston Mini Nats	Cashmoor	Mansfield	Warboys	3 from 5	Position
B.Ransley	1000.000	1000.000	1000.000	0.000	0.000	3000.0000	1
K.Jackson	970.335	964.882	998.474	960.821	995.290	2964.0990	2
D.Mathias	854.046	944.272	944.401	1000.000	1000.000	2944.4010	3
R.Howarth	0.000	999.964	0.000	969.675	969.201	2938.8397	4
A.Balfour	964.251	974.029	974.099	942.028	0.000	2912.3790	5
K.Caton	0.000	991.292	968.099	919.239	778.971	2878.6300	6
S.Underwood	0.000	900.456	0.000	958.497	985.254	2844.2072	7
J.Harrop	0.000	946.702	933.230	0.000	932.557	2812.4892	8
M.Balfour	904.144	911.320	937.543	932.785	0.000	2781.6480	9
R.Welch	0.000	0.000	883.555	943.251	909.371	2736.1773	10
D.Balfour	918.158	883.195	933.164	0.000	0.000	2734.5170	11
S.Wragg	870.797	874.119	858.378	838.620	464.841	2603.2940	12
J.Mee	0.000	757.091	854.360	800.708	817.026	2472.0944	13
R.Christopher	0.000	0.000	772.795	846.531	831.648	2450.9739	14
A.Silsby	776.857	572.629	763.528	0.000	755.250	2295.6345	15
R.Reid	702.534	0.000	711.847	0.000	624.399	2038.7800	16
D.Rumball	0.000	923.250	872.549	0.000	0.000	1795.7990	17
M.Harris	846.894	0.000	0.000	816.414	0.000	1663.3080	18
A.Wild	0.000	803.177	0.000	0.000	833.729	1636.9057	19
L.Shelley	0.000	856.965	0.000	0.000	0.000	856.9650	20
W.Allison	854.877	0.000	0.000	0.000	0.000	854.8770	21
T.Shore	0.000	0.000	698.456	0.000	0.000	698.4560	22
D.Owens	0.000	0.000	695.996	0.000	0.000	695.9960	23
A.Simmonds	0.000	0.000	0.000	0.000	692.126	0.000	24

*This data was compiled from the GBRCAA scoring system, based on all judges scores counting. Ed.*

## Members Adverts

Large adverts and trade adverts will be charged at the following rates:-

Double page:	£28.00
Single page (A5):	£18.00
1/2 page (A6):	£14.00
Display box:(~1/2 A6)	£8.00

Advertise in Aerobatics news and get on the Internet free!

Place a ½ or full page advert in Aerobatics news and your ad will also be placed on the GBRCAA web site at no extra charge. Anyone who accesses our home page through the Internet will see your advert – that is world wide free advertising at no extra cost.

Also, as an added service for manufacturers, distributors who already have their own web site and who place ads in Aerobatics news a link to your site will be established free from our home page.

The following conditions apply:

The service applies to the members of the GBRCAA only. The only ads allowable are those that actually appear in Aerobatics news, i.e. these which have been prepared by the editor in MS Publisher format. The ads and links will be attached to the GBRCAA home page until the next edition of the newsletter is published. Please indicate with your ad if you want this facility. For further details, please contact the editor. This service has been provided thanks to Mike and Stephanie Wood who prepare the GBRCAA home page.

## For Sale

\* Wanted OS carburettor type 86B (for OS61 RFP).  
Contact Steve Birchall. Tel. 01727 835640

\* 'Reflex,' one off original design by Jon Tappin. Full 2m model, many contest successes, including twice runner up British Nats. Used to qualify for and as reserve model for 1999 Worlds in Florida. All JR servos 321 throttle and retracts, 2235 on rudder, 2x 7000 Super Servo on ailerons, 2x 3021 mini servos on elevator. Spring air retracts, Ultra precision valve. MK ball race horns. Probuild cut, balsa covered plug in wings and tail with carbon spars and removable rudder. Set up for YS140FZ.

Offered for sale complete less motor, exhaust and receiver. Can be test flown if required. Reluctant sale to finance trip to 2001 World Jet Masters £ 1,000.00 Contact Jon Tappin. Tel. 01202 640328

## Triple Crown 2001, Bantry Ireland

This competition will be featured next edition, but in the mean time here's a pic from this great event.



### 3rd Centralised Glenrothes, Scotland. July 1st 2001

*This data was compiled from the GBRCAA scoring system, based on all judges scores counting. Ed.*

Name	Rnd 1	Norm	Rnd 2	Norm	Rnd 3	Norm	Final Total	Pos.
David Matthias	499.33	1000	481.67	992.45	496	1000	2000	1
Angus Balfour	473	947.26	485.33	1000	490.33	988.58	1988.575	2
Richard Howarth	489.33	979.97	476	980.77	489.67	987.23	1968	3
Steve Underwood	484	969.29	463.67	955.36	474.67	956.99	1926.282	4
Kevin Caton	467.33	935.91	464	956.04	472.67	952.96	1909.001	5
Malcolm Harris	452.33	905.87	451.33	929.95	456	919.35	1849.3	6
Malcolm Balfour	450.67	902.54	444.67	916.21	461.33	930.11	1846.316	7
Bill Allison	441	883.18	461.67	951.24	48	96.77	1834.414	8
R Christopher	446	893.19	445	916.9	422	850.81	1810.087	9
John Harrop	445.67	892.52	438.33	903.16	432	870.97	1795.683	10
Sam Wragg	442.33	885.85	428.67	883.24	431.67	870.3	1769.09	11
Mike Pole	418.33	837.78	438	902.47	425.33	857.53	1759.999	12
Arthur Silsby	395.67	792.39	400.33	824.86	421	848.79	1673.653	13
John Mee	419.67	840.45	398	820.05	394	794.35	1660.509	14
Peter Brett	361	722.96	377.67	778.16	32.67	65.86	1501.123	15

# 2001 MEMBERSHIP APPLICATION FORM

2001 Subscription Fees :-

Senior	£27.00 + £3.00 Team Travel Fund	£30.00
New Senior Member (not previous members rejoining)		£15.00
Junior (Under 16)		Free
Supporter only		£15.00
Overseas Supporters		£18.00
Non competing Full time Judge or Contest Director		Free

**All U.K members of the GBRCAA must be current members of the BMFA**

Full Name .....

Address .....

.....

..... Post Code .....

Tel. ....

Fax. ....

E - Mail \* .....

(\* will be added to GBRCAA Home page if included here)

D.O.B (if under 18) .....BMFA No .....GBRCAANo .....

Membership required - tick box (see membership categories above) :-

Senior	<input type="checkbox"/>	Junior	<input type="checkbox"/>	Supporter	<input type="checkbox"/>	Judge	<input type="checkbox"/>	O/Seas	<input type="checkbox"/>	CD	<input type="checkbox"/>
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Flying Class - tick box :-

Sportsman	<input type="checkbox"/>	Standard	<input type="checkbox"/>	Senior	<input type="checkbox"/>	Masters	<input type="checkbox"/>	Judge	<input type="checkbox"/>
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## Please help your Association by volunteering your services to judge at competitions

I am prepared to judge Centralised competitions if requested. Please tick box

I am prepared to judge Non Centralised competitions if requested. Please tick box

Completed form should be sent with a cheque made payable to GBRCAA together with a STAMPED ADDRESSED ENVELOPE to :-

Stuart Mellor, 84 Holymoore Road, Holymoorside, Chesterfield, Derbyshire, U.K.  
S42 7DX.



## COMPUTERS?

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