



Great Britain R/C Aerobatic Association

AEROBATICS

NEWS

Newsletter of the Great Britain Radio Control Aerobatic Association



Winter 2004/5

Pattern Ponderings

Well, here we are at the end of my last newsletter; yes, I know it's only page 3 but I put the rest together before writing this - alright? What I mean is that this will be my last newsletter since ever increasing demands on my time have forced me to give up the post of editor. Whilst Andy Meek had originally volunteered to take over, he has unfortunately had to pull out for personal reasons.

This leaves the position open so we are asking for YOUR HELP to keep Aerobatics News going. Some word processing and spreadsheet experience would be useful and access to a computer is desirable but not essential (as I'm sure something could be worked out). The most important ingredient is enthusiasm!

There are no rules on format; so please don't think that you need to maintain the standards set by Keith Jackson and later followed by me. If the post is not filled after this issue, there will be nothing but the most basic of news that the rest of the committee have time to send out.

Don't forget that the post includes a place on the committee so if you feel strongly about aerobatics as I do, then this is your chance to influence the direction the GBRCAA is taking.

If you would like to know more about the job, please feel free to phone me on 01509 267597 (after 9.00pm please).

The membership form on page 4 includes an opt-out for the printed newsletter. If a sufficient % of members choose to download their newsletter then not only could we make a financial saving but the editor's distribution workload would also be reduced. Please consider this option carefully.

BMFA Nationals 2005. As you know this year's Nats once again clashes with the F3A World Championships to be held in France. No doubt some of our members will take advantage of it's close proximity and visit France in preference to Barkston and who can blame them (I thoroughly enjoyed the 2001 W/C in Ireland). Hopefully there will still be enough entries, judges and helpers to make the NATS a worthwhile competition and justify our usual location on the main runway; I know I'll be there.

Final Word. Thanks must go to those of you who sent in contributions for during my term as editor. Many thanks to Charles for printing it to such a high quality during the last year or so and thank you all for putting up with my waffle. I've enjoyed nearly every minute of it!

Alan Simmonds

Newsletter Editor (ex).



25 Years of the GBRCAA

1988-1993

By Kevin Caton

As most of you will recognise it has been six months since the last article in this series appeared. Not for the first time I have overestimated the time I have to devote to such things! So, in an attempt to make amends, let's pick up where we left off and take a look at another five years of progress in aerobatic flying and in the GBRCAA.

The GBRCAA newsletters of 1987-1989 were produced and edited by Ken Mainstone, who ran his own printing business in Essex. They were the most impressive in terms of presentation that we had seen at the time – glossy A4 paper and with pictures, though everything was black and white – so we have got better over the years. Ken was a very keen model pilot at the time, though he later took up full time flying and diversified his printing business somewhat – ask me sometime if you don't know the story.

In a newsletter editorial from that era, Ken spoke about judging consistency. His gripe was that some judges wanted him to fly close while others wanted him to fly further out. As an experiment, he and some flying colleagues paced out 150 metres and flew a plane along a flight line at that distance. His comment – “it felt as though we were flying just above our heads”. I remember trying something similar at Finningley ten years later with John Mee and we came to exactly the same conclusion! Nowadays we (pilots and judges) seem to have settled on 175 metres as a reasonable distance, but remember the planes are bigger nowadays.

Most of the models of that time were powered by 61 2 strokes still, but the engines had been modified over the years to produce power at lower rpm, typically about 10500-11000rpm. New designs of engine such as the Webra 61LS (long stroke) and the OS 61 RFP were very popular, turning propellers of 11x10 upwards. In order to get the maximum power out of these engines at lower rpm, nitro was used in increasing quantities. 10% nitro seemed a lot in those days, but it was a departure from the 5% or so that most people had used up to then. One problem which started to affect the engines was rear bearing wear, particularly on the OS engines. Many pilots were changing bearings after only a month's use and several types of bearing were being traded at competitions. We all became experts at rebuilding engines in quite a short period. If I remember correctly the problem was that stainless steel bearings were used to resist the corrosion that could occur with the 'high' nitro fuels. Unfortunately the stainless steel was not sufficiently durable to last very long with the high loads that the engines were putting on the back bearing. No doubt some metallurgists or chemists may correct me on the reasons for the problem, but the engines certainly 'ate' bearings.

The UK team had a very successful 1988 European Championship, placing third. The individual results were Ken Binks 10th (just missing the fly-off), Terry Westrop 13th and Andy Nicholls 16th. The event was won by Wolfgang Matt flying a Saphir powered by a YS61 2 stroke. One or two competitors used 4 stroke engines – either the OS 120 Surpass or the Enya 120R in the case of Kronlachner of Austria. Interestingly, Kronlachner was one of the first people to use a 4 stroke, long before that engine type became dominant. Then, he was one of the first to return to the 2 stroke after the 2 stroke capacity limit was lifted – a man ahead of his time?

My lasting memory of the 1988 season was landing after my final practice flight the day before travelling to the Nationals. I approached just above (so I thought) an open gate between the flying field and the next field. Unfortunately I slightly misjudged the height, clipped a gatepost with the last few cm of the right wingtip and landed a dented wing, an intact tailplane and fin and an explosion of balsawood which used to be a fuselage. So, I spent the Nationals watching the flying and showing off our new baby daughter. I remember someone saying I should stick to children!

Undaunted by my disastrous end to the 1988 season, I built a new model of my own design for 1989. I had been impressed by Ken Binks' Excalibur, which was smaller than the average model at that time, to give it performance to equal that of the top European and World fliers. I opted for a smaller design too, but mainly because it had to fit in the car I had at the time! I think it was

my last own design and since then I have concluded that it's best to stick to what you are good at and to never design an aeroplane around a car. Enough said. I powered my plane with the brand new OS61 “Hanno Special” – a further development of the OS 61RFP, tuned for peak power at only 10000rpm. It certainly pulled a 7.5lb model around well and by the end of that season these engines were appearing everywhere. Over the next five years it became the standard power plant for aerobatics in the UK.

1989 was a controversial year in judging. A judges' training session held the previous year at the European Championships prompted much stricter judging of the one snap roll in the schedule. Many pilots had been flying a very fast barrel roll to avoid problems with the model pulling off heading through the snap. This practice was to be stopped by giving a zero for a barrel roll. The problem was, what is a barrel roll and what is a snap roll? Pilots had not been used to being given a zero for anything - and one zero in a flight could make a tremendous difference to your score and your final position. This approach was followed in the UK with spin entries, with the inevitable controversy. Over the next few years, the issue was partly resolved, but it does crop up again from time to time. It is true to say that things were never quite the same afterwards.

The 1989 World Championships were held in the USA, and although Hanno Prettnner won again with his Super Star design (available as an ARTF from EZ models), there were as always a few novelties from highly placed pilots. Dean Koger of the USA flew a biplane powered by a geared 61 2-stroke. The model did lack power in the fly-off however, so few were encouraged to follow this particular trend. Wolfgang Matt had changed to the YS 120 4 stroke and, according to our own Terry Westrop 'his model had just as much “oomph” as always'!

By 1990, the availability of good quality ARTFs, or ready built aircraft from (mainly) Terry Westrop, together with easy to use engines out of the box and reliable computer radios, aerobatics was very healthy in the UK. It was common to see 24 entries at Centralised events, which were flown on two flight lines. Looking back, I think that in absolute terms, aircraft were at their cheapest (certainly compared to today) and some of the other 'high-end' disciplines within model flying (helicopters, jets etc.) were still in development, so aerobatic flying was 'the' thing to do. It wasn't just FAI that was enjoying healthy entry lists, Standard and Senior events were also oversubscribed at times.

Noise continued to be a problem and even the lower revving engines were still noisier than most club fields would tolerate. In mainland Europe and perhaps surprisingly in the previously noise tolerant USA, fliers were starting to use soft engine mounts in an attempt to reduce noise transmission through the airframe. This technology had been used in model boats for several years but the arch-conservative R/C aerobatic movement didn't think the technology would transfer to aircraft because the engines would move too much under flight loads – wrong again. The first experience we had in the UK of a workable soft mount was seeing Ken Binks' Stylist with a YS61 on a Vibra Damp beam mount and nosering. When Ken started the engine, people looked as they were going to run for cover, convinced that the engine would depart from the model at any time! Once above tickover, of course, the vibration reduced and it was quite apparent that there was little loss of performance. Nowadays, hard mounting your engine is regarded as cruelty to the radio equipment.

Through 1991 and 1992, UK team performances at World and European Championships remained fairly strong, with an impressive 4th individual place for Ken Binks at the 1992 European Championships. With results like this, it was very easy to follow Ken's lead in technology. Few were convinced that the 4 stroke was the way to go, although Ken used a YS120 AC at the 1991 Nationals, held at a rain lashed RAF Fairford. On reflection, the Stylist was a little too small for the engine, having been designed to suit either a 2 stroke or a 4 stroke - the compromise was too great.

It was going to take a while to sink in over here, but the future lay just across the English Channel. The Hastings club hosted the 1991 Lowlands Cup event and invited the French to participate for the first time. A young Christophe Paysant Le-Roux arrived and showed us all a different way of

flying, with a fairly ordinary looking aeroplane (the Manchot), but powered very effectively by a YS120 AC. The following year, the event was held at Gravelines in France, and by this time all the French Team were using 4 strokes. We were intrigued, but the technology leap looked risky from our perspective – wrong yet again!

As this period ended, new designs from the USA were becoming available in the UK. Colin Fretwell started to import R/C City kits. These had the best glass fibre work ever seen – much lighter than the previous generation of chopped strand mat “sledges” from the 1970s. It was quite a shock to see bare foam cores for the wings and tailplane – and you didn’t get any wood to sheet them! One growing trend was towards plug-in wings, for easier transport. So, we were moving ahead again in technology, but maybe should have been keeping a closer eye on developments over the Channel. Time would tell, but that will have to wait until next time...



Loaded Dice, Terry Westrop 1992



Stylist, Ken Binks, 1991

WWW.AEROPAINT.CO.UK



Hurry up before that bearing fails! – Summit / OS61 Hanno Special, Jon Tappin assisted by Phil Mitchell and watched by Darryl Foster, Triple Crown, Cork, 1990



Lowlands Cup UK Team 1992 – young Pete Scoles, young Kevin Caton and young Brandon Ransley! Team Manager Ray Brotherston



Extra Manchot, Christophe Paysant Le-Roux, Lowlands Cup 1991

G.B.R./C.A.A. AGM 2004

Saturday 27 November 2004

Meeting started at 11.30am. 24 members & 10 committee attended

- 1) **Apologies for absence:-** Nigel Armstrong & Matthew Hoyland
- 2) **Approval of AGM 2003 minutes:-** passed unanimously
- 3) **Matters arising:-** None
- 4) **Officers Reports:-** These had been circulated by post
Kevin Caton: One correction, Andy Waterhouse should read Arthur Silsby
Alan Simmonds: Read out his report. A suggestion arose from Richard Hurst that the newsletter could be sent out by e-mail to reduce printing costs. Thanks were given to Alan from John Mee for all his support
Peter Brett: The Power Tech had held 2 meetings, registering judges and team.
Adrian Harrison: The clothing line was continuing and generating income. Sandown we did not attend in 2004. We have been offered a stand for 2005 but as his clashes with the Belgium competition, we may not take up the offer. Gary Peacock has offered to do Wings and Wheels again in 2005. Nationals: we shared the BMFA tent and this worked out well and would like to repeat in 2005. The schedule display boards were now available to everyone to use. Thanks were given by Ken Moss to all those that helped on the stand.
- 5) **Approval of Accounts:-**

| | | | |
|----------------------|-----------------|-------------------|------------------|
| General Account: | Income £3550.25 | Expenses £5426.89 | Loss £1876.64 |
| Competition Account: | Income £4294.00 | Expenses £3717.53 | Profit £576.87 |
| Team Travel Account: | Income £1536.89 | Expenses £1280.00 | Increase £256.89 |

Acceptance proposed by David Tappin Seconded by John Mee Passed unanimously
- 6) **Election of Officers:-**
Vice Chairman: John Harrop
Chief Judge: Bob Ailles
Treasurer: Stephen Greenwood
Newsletter Editor: Alan Simmonds standing down. Alan nominated Andrew Meek to stand seconded by John Mee: Andrew Meek elected.
RC Power Tech: Peter Brett.
PRO: Adrian Harrison standing down. Thanks given. Position remains vacant.
- 7) **Subscriptions, Competition entry fees 2005:-**
Committee propose that no change be made to subscriptions and competition fees.
Ken Moss: Are we still giving 50% discount to new members? As this had made no impact on new members it was decided to drop this.
Proposed Alan Simmonds Seconded Brian Hoare
Passed unanimously
- 8) **Committee Proposals:-**
That we amend article V.21 of the constitution bylaws to read "The team selection process shall be decided by any interested parties at a team selection meeting to be held before the end of November each year before the team selection process starts." (Month changed from June)
Reason: So we can hold the Interested Parties Meeting AFTER the team selection process

has been competed and in time to change it for the FOLLOWING year should the need arise. Proposed Kevin Caton Seconded Bob Ailles. 33 For. Against 0. Carried unanimously

9) **Members Proposals**

Proposals 1 to 4 all concern the domestic league table including no. of counting Competitions, bonus points, method of evaluating results in table, & resolving ties.

1. **Proposal from Ken Moss:**

League Table: Change from best of 4 comps to 50% of the total number of comps.

i.e. 12 comps = 6

11 comps = 5

Reason: This may stop a possible dead heat.

Proposed by: Ken Moss Seconded by: Brian Hoare

12 For 9 Against Carried

2. **Proposal from Alan Simmonds:**

That we modify the Domestic League table scoring system of Rank points from:

1st = 10 to 1st = 10

2nd = 8 to 2nd = 9

3rd = 6 to 3rd = 8

4th = 4 to 4th = 7

5th = 2 to 5th = 6

6th = 1 to 6th = 5

7th = 1 to 7th = 4

8th = 1 to 8th = 3

9th = 1 to 9th = 2

10th = 1 to 10th = 1

11th = 1 to 11th = 1

etc.

Reason: The introduction of odd numbers will help reduce the chance of a tie.

Proposed by: Alan Simmonds Seconded by: Bob Ailles

3. **Proposal from Alan Simmonds:**

That we modify the Domestic League table scoring system of Bonus points from:

Up to 40% = 2 points to Up to 40% = 2 points

41% to 45% = 6 points to 40.001% to 45% = 6 points

46% to 50% = 8 points to 45.001% to 50% = 8 points

etc. etc.

Reason: Clarity. The current rule does not stipulate the points awarded between (say)

40.001% and 40.999%.

Proposed by: Alan Simmonds Seconded by: Bill Michie

19 For, 0 Against, carried unanimously.

4. **Proposal from Stuart Mellor**

I propose that league tables for all classes (not individual comps) are normalised as the FAI system.

Reason: Normalising of the league table will produce a much fairer result since 1000 points are available from every comp and weather & judging anomalies are reduced. The existing points system 10,9, 8 etc. (without bonuses) is also a type of normalising, but still not as sophisticated or as fair as the FAI system, where fractions of a point count & can be crucial where results are close. C.D.s would still run their comps to their preferred format of scoring. The winning scores from the comp would simply be entered in the league table & renormalised to 1000 and provide a much more accurate result. The need for a more accurate

system was highlighted this year when 2 competitors achieved almost identical scores.

Proposed by: Stuart Mellor Seconded by: Neil Scratchley

Proposal 2 8 For 4 Against

Proposal 4 10 For 2 Against

Final vote on proposal 4 10 For 12 Against Defeated so no change to existing system.

5. Proposal from Stuart Mellor

I propose that the current "bonus" system be discontinued.

Reasons: The bonus system is not totally fair since it rewards high scores due to factors outside a pilots control, ie weather & judging – easy judges & calm weather mean more bonus points & vice versa. It can't be right when one competitor scores bonuses in flat calm conditions whilst a rival competitor, attending another comp in a gale does not. All comps should be equal in value regardless of conditions. The proposal normalising the league table will level out counting scores & reduce judging variations.

Proposal withdrawn

6. Proposal from Stuart Mellor:

Proposal for Ties - Look at the no. of qualifying comps flown by the tied competitors (currently 4 comps) : Add the scores together for the 2nd places & the biggest normalised difference shows the winner. Will work in every situation.

Reasons: We can't have ties after a seasons flying! If single point scoring system is used (10,9,6 etc.) including bonuses there will always be a good chance of a tie in the league since competitors do not all fly at the same comps. Normalising scores in the league table will reduce the chances of a tie to virtually zero.

The *only* chance of a tie occurs when 2 competitors win the same no. of comps, hence the above proposal.

Proposed by: Stuart Mellor Seconded by: Ken Moss

Amendment to proposal 6: Use 5 scoring competitions if level, take the average raw scores from the 5 used competitions.

24 For 0 Against Carried unanimously

7. Proposal from Nigel Armstrong:

That the FAI Class only fly the P.O. schedule at the BMFA National Championships.

Reasons:

a. With the European and World Championships continually clashing with the Nationals weekend, we must do everything possible to ensure as many pilots enter this event. With the World Championships being held in France next year 2005 could be a particularly difficult event to run.

b. Whilst I'm starting to agree with the argument in favour of using F.O. Schedules in the Team Selection process, I really don't see the necessity to use it at an event that is rarely attended by the UKs top pilots.

c. As somebody who will probably be in the judge's chair for the Nationals weekend, can I ask how many different schedules it is reasonable for one person to score before major mistakes start to creep in? There are enough complaints levelled at the judges without another set of patterns to try and sort out.

Proposed by: Nigel Armstrong Seconded by: Ken Moss

3 For 8 Against Proposal defeated

8. Proposal from Brandon Ransley

We all fly the standard class schedule at all competitions including the Nationals, the Championships and Centralised events.

Reasons:

1. It is easier than the other schedules we flew in 2004.
2. We will all be able to fly it.
3. It's not a recognised FAI schedule unlike PO5 and FO5.
4. We won't have to change it every 2 years and so it won't get harder and harder.
5. It won't challenge our top flyers.
6. PO5, FO5 and unknown schedules will be flown at the 2005 World Championships so it will be good practice for our team not to fly the schedules they will be flying at the World Championships but to fly a simpler schedule.
7. It will surely attract lots of newcomers into aerobatics instead of membership falling year on year.
8. It will be a great spectacle for the paying public at the Nationals.
9. Schedules are shorter so we will all get more flights per contest.
10. The judges will get used to the schedule and won't be able to complain about the difficulty of judging different and complicated schedules.
11. We don't cater for the top pilots now as we refuse to fly FO5 at centralised and unknowns at all and so this will make no difference.
12. It will be a real challenge for all pilots at all levels so no one at the top will drift out of aerobatics into large scale (where they do have unknowns) or 3D,
13. It will be fairer because we won't discriminate against any group of pilots. Some people seem to suggest that the Association is run for a select few – presumably they mean the Team and top flyers. This seems strange because at the moment we are pleased to cater for all levels – Sportsman to Masters – but not those at the very top who want to fly flyoff and unknown schedules. We do not prevent other pilots their wish to fly schedules suited to their ability but there is a large group who want to stop me and others flying the schedules we want to fly – why is that? Someone please explain because it seems to me that you are preventing me from enjoying my hobby.
14. The Nationals will be the best ever! It will not need a "cut" or a few progressing to the flyoff so we will all fly lots of flights and everyone will have great fun.

I'm sure there are more reasons but I could not think of them.

Proposed by: Brandon Ransley Seconded by: Stuart Mellor

1 For 17 Against Proposal defeated

10) 2005 Events

Champs – 17/18 September, CD Kevin Caton

Double fee proposed by Kevin Caton Seconded by Barry Macleod.

20 for, against 0 carried unanimously.

Nationals – CD Sam Wragg, Entry fee £25

Sandown - clashes with Belgium – Neil Scratchley has offered to help along with Adrian Harrison and Bill Michie

Wings & Wheels 26/27 June. Thanks to Gary Peacock who has offered to represent GBR/CAA in 2005

Woodvale – Brian Hoare offered to approach organisers.

Triple Crown. – 2/3 July in Isle of Man. CD Arthur Silsby

11) Any Other Business

Domestic league – The Nationals to count for all classes except FAI

Proposed. Neil Scratchley. Seconded Barry Macleod

22 for, against 0 carried unanimously

Andy Prime from the Leicester Club has offered to hold a comp just for PO5 and FO5 on a Saturday.

The 4th and 5th Centralised events to be open to all classes.

Meeting closed 4.07

| STANDARD | | | | | | |
|-----------------|----|----|----|----|----|----|
| Andrew Meek | 78 | | | 20 | | |
| Alan Connelly | 74 | | | | 16 | |
| Chris Andrews | 74 | | | | 12 | 16 |
| Geoff Ellis | 72 | | | | 20 | |
| Tom Bootyman | 64 | 14 | | 18 | | 10 |
| Keith Baker | 63 | | 12 | | 10 | |
| Stuart Turrell | 54 | | | | 7 | |
| Roger Maples | 48 | | | | | |
| Andrew Wragg | 43 | | | | | |
| Clive Grisold | 42 | | | | 22 | 20 |
| Mike Williams | 22 | | | | | |
| Chris Bond | 20 | 10 | | | | |
| Mel Garlick | 20 | | | | 9 | |
| Richard Le Mare | 15 | | | | 9 | 6 |
| Steve Walker | 10 | | | | 10 | |
| Nigel Kern | 10 | | | | | |
| SPORTSMAN | | | | | | |
| Ryan Prime | 54 | | | | 14 | 16 |
| Eugene Anker | 46 | 12 | | | 18 | |
| Paul Furze | 20 | | | | | |

| STANDARD | | | | | | | |
|-----------|----|----|----|----|----|----|----|
| | | 20 | | 20 | 18 | | 16 |
| 4 | 18 | 22 | | 18 | | | |
| | 24 | | | | | | 22 |
| 20 | 16 | | | | | | 16 |
| | | | | | 22 | | |
| 18 | 14 | | 14 | | | 17 | 7 |
| 14 | 12 | 16 | | 12 | | | 10 |
| | | | 18 | | | 18 | 12 |
| | | | | 14 | 20 | | 9 |
| | | | | | | | |
| | | | 22 | | | | |
| | | | | | 10 | | |
| 6 | 5 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 10 | | | | | |
| SPORTSMAN | | | | | | | |
| | 24 | | | | | | |
| | | | | | 16 | | |
| | | | | | 20 | | |

Members Adverts

Members may place private adverts in this section **free of charge**.

For Sale

- **“Top Star II”** MK Products latest 2m aerobatic model, MK fittings, Tetra tank, c/w YS140LM, manifold and Hatory pipe. All as new, just fit gear and fly - £1250
- **“AKUMA”** Carbon/Kevlar 2m pattern model (P.L. Prod). 2K paint and film finish, MK fittings, c/w retracts and servo - £475.
- **OS140RX**. excellent condition - £245
Contact Gerry Scothern, 01623 479422 - Home, or 01623 441114 - Office.
- **Alliance for Sale**
Everything fitted - Just requires painting and covering. Complete with YS140L, Mount & Retract Units. £1600
Contact Sam: 0114 246 9403
- **Two Dingos for Sale**
One with approx 40 flights and one with approx 20 flights. Both set up by Phil Williams and turning a solid 8500 on a 16x12. Both £200. Contact Steve Burgess on 01387 711021 evenings.
- **YS DZ 140 engine**.
Little use in 2004 and just serviced by M Technic (www.yamada.co.at) prior to 2005 season. Perfect condition. £285.
Contact K Jackson 01722 410279 or keith.jackson64@btopenworld.com

Letters to the Editor

Dear friends model makers,

Better wishes for 2005, we hope to meet you during our Criterium F3A which will be held the WE of 2005 May 21-22. You will at the proper time receive all information,

Our NEW address Internet is now: <http://users.telenet.be/aash>.

Best regards,

Pour l'AASH,

WERION Gérard.

Alan

Hope you are well.

The GBR/CAA News dropped though the letter box over the weekend and I would like to say just how good I think it looks.

I know a lot of effort is needed to produce such publication, but for the content to be accompanied with such good quality photographs is worth special mention and I am sure all members would like to be included in a vote of thanks.

Ashley.

GBRCAA 2005 Competition Calendar

| | Weekend 1 | Weekend 2 |
|------------------|--|---|
| March | 6 | 13 |
| April | 3 | 10 1st Centralised - RAF Wittering FAI P-05 Entries to Alison Harrop |
| May | 1 | 8 1st Centralised - Ashbourne FAI P-05 Entries to Alison Harrop |
| June | 5 3rd Centralised - RAF Wittering FAI P-05 Entries to Alison Harrop | 10-12 Tournoi International F3A de Champagne, Romilly |
| July | 3 Skelbrooke All Classes CD: Steve Dunning | 10 |
| August | 7 Ashbourne All Classes CD: Brian Hoare | 14 |
| September | 4 Skelbrooke All Classes CD: Steve Dunning | 11 |

Note: Please don't forget if your competition is not booked through the Alison Harrop, the Competition Secretary, it's not an official GBRCAA comp.

Issue 1 January 2005

| Weekend 3 | Weekend 4 | Weekend 5 |
|---|--|--|
| 20 | 27 | |
| 17 Southern Area Championships - Winchester All Classes CD: Richard Christopher | 24 Skelbrooke All Classes CD: Steve Dunning | |
| 15 | 21/22 Criterium International du Hainaut, Belgium FAI P-05 Contact: Gérard Werion http://users.telenet.be/aash | 29 Mansfield All Classes CD: Stuart Mellor |
| 19 | 26 | |
| 17 | 24 | 30/31 <u>2 Day Team Trial</u> RAF Wittering FAI P-05, F-05, Unknown Entries to Alison Harrop |
| 21 | 27/28/29 BMFA Nationals Barkston Heath CD: Sam Wragg | |
| 17/18 GBRCAA Championships Venue: T.B.A. All Classes Double Normal Entry Fees. CD: Kevin Caton Entries to Alison Harrop | 25 | |

CD's: Please contact me with your certificate requirements at least one week before the competition Ed.

16-28 August: World Championships - Saint Yan, France
www.world-championships-f3a.com

PRACTICE

The team left the hotel at a quarter past six the next morning in a bid to get flying before the sixty other competitors turned up. The team then experienced the sensation of going flying when it was pitch dark. Who said we were on holiday! John and Brandon both had rudder servos fail before their first flight but these were replaced very quickly preventing their practice from being hindered. Other than this the teams equipment seemed to be in perfect order allowing the team to familiarise themselves to the flying site and get focused on the competition. The flying site was very good with a massive tarmac runway used for full size military aircraft. The positioning of the flightline meant that the sun moved directly over the competitor's head so at 2pm every day the competitors would move to the other side of the runway to avoid flying into the sun. After a successful flying session the team returned to the hotel to unwind, enjoy dinner and a few beers in good company. Saturday was time for official practice with each pilot having a ten minute slot for a final practice before the competition and provides the competitor with the opportunity to check the noise reading of their model with the official noise meter; a very important check. This day is also used to process the competitors' models - this entails checking the models weight is no more than five kilograms and the plane can sit inside a two metre by two metre box. Thankfully this went smoothly for the British team allowing us to soak up the sun for the rest of the day and allowing the pilots to mentally prepare for the job in hand. Although I was not a competitor at this competition I was in the fortunate position of being allowed to be one of two "warm-up" pilots this meant I would fly the competition schedule once each round to enable the judges to become accustomed to the conditions and to get back into their rhythm. Apart from this the two warm-up pilots (myself and Juan Rombauts from Spain), would take part in a judging training session on Official practice day. This required us to fly the schedule three times each and then Bob Skinner, F.A.I Jury President, would advise the judges on what to look for. It was also very helpful from a personal point of view to have the European Championship judges giving me feedback on my flying, something which is most helpful when trying to improve your flying. After the Official Practice the opening ceremony took place on the airfield with the anthems of Portugal and F.A.I being played whilst the flags were raised. The teams then proceeded to walk out to their flag when their national anthem was played. A mini banquet was then held in the Portuguese air museum that held many interesting and brilliant airplanes including a Spitfire. A buffet was laid on by the organisers and provided competitors with the opportunity to enjoy fellow competitors company away from the heat of the competition.

THE PRELIMS

Sunday morning arrived and it was time for the pilots to put the years of practice together and strut their stuff for four ten minutes. It is interesting watching the pilots varying approaches to try and psych themselves up for their flight - these ranging from going through the schedule with their hand to reading a book or listening to music - all important things to insure your ten minute flying slot is the best you can do - believe me it's easier said than done. The main thing that hit me in the first round was the impact that electric flight has had on F3A with many of the top competitors using electric power including the Matt's and Bernd Beschoner, all having plenty of quiet power. Christophe was as you would expect flying very well with his new ZN Line Oxalys powered by a YS 160DZ swinging a 17X12 APC but definitely not flying as well as at the World Championships last year. The person who impressed most was probably Roland Matt flying his Lazulite design. Probably the largest commercial F3A plane using a Hacker electric motor swinging a 22 X 12 at 6000 RPM this plane demonstrated that electric provides adequate power for F3A. Bernd Beschoner from Germany was flying an "Impact" a top of the range ARTF kit by composite ARF which only costs £600 yes that's right £600 an incredible bargain for such a good plane and it's built for you! Bernd was another one of the competitors choosing to power his machine by electric though his set up was with a "Plettenberg" motor which is an outrunner and is even quieter than the Hacker due to not having a gear box. This again was very impressive and with Bernd's usual graceful and accurate flying helping him to secure a place in the finals. Ola Fremming from Norway was flying particularly well with his OS 140RX-Fuel Injected powered Synergy, one of a few two stroke powered planes which went very well. The general flying style seemed to be flying relatively close and using the throttle well to keep the flight reasonable compact. Pilots who flew a different

style from this in particular those who flew far away were penalised by the judges. Wolfgang Matt was flying with the same set-up as Roland and was still flying to the very highest of standards reaching the finals. It's impressive Wolfgang has managed to stay at the top of this sport for such a long period of time and kept up with all the developments.

The prelims ended four days later with France coming out top in the team event Liechtenstein second and Germany third. Great Britain ended up in ninth spot, which is pretty good for us and is two places up from the last European Championships so were heading in the right direction. Christophe finished the prelims in the lead but with Roland hot on his tail. Brandon Ransley finished the Prelims in thirteenth spot allowing him to qualify for the semi-finals, Angus Balfour finished in twenty first one place away from the semi-finals so he had the honour of performing the warm-up flights for the semis. John finished up in 29th a very good position for anyone particularly on his first attempt at the Europeans.

Thursday was a practice day for the semi-finalists allowing them to perfect the more difficult Finals schedule including a one roll rolling loop and a three roll rolling circle with the rolls going in opposite directions –not easy.

THE SEMIS

Friday saw all twenty semi-finalists performing two rounds of the Finals schedule the standard of the flying varied from pretty much perfect to some rather scrappy attempts at the schedule, it must be said the warm-up pilot, Angus Balfour, flew better than some of the competitors and had he made the semis perhaps he would have moved up a couple of positions. Stephane Carrier was flying his Quique Somenzini designed and PI Products kitted "Partner" Stephane flew very well throughout the competition and seemed to get into the groove with the harder schedules managing to secure a place in the finals. Roland Matt flew beautifully to win both of the semi final rounds to go into the finals in first place ahead of Christophe. Christophe still seemed to have not quite found his usual form and most expected him to pull it out of the bag for the finals. Brandon Ransley never found his form in the semis and slipped back to seventeenth position though still an excellent position.

THE FINALS

After the semis the top ten pilots went through to the finals. The pilots then have to fly two rounds of the Finals schedule and two unknown schedules that are chosen by the pilots who then need to perform it without any practice. This is really the only time when tactics come into it as competitors will try and chose manoeuvres that they know their competitors are struggling with. Christophe had to abandon his first round as one of his aileron servos failed during flight it now seemed more and more likely Roland would win the European Champion crown. Marco Benincasa did a wrong manoeuvre in one of the unknown schedules not helping his placing and perhaps contributing to him placing in sixth position lower than normal for Marco. Roland won the first two rounds then Christophe won the last two rounds each pilot counts their highest score for the finals schedule then their highest scoring unknown flight in the end Christophe and Roland both finished on 2000 points so the overall winner would be decided by who scored better in the semis hence Roland made history by beating Christophe to become the European Champion. Wolfgang continued to perform well and earned a deserving third place. Stephane Carrier took the unknown schedules in his stride and managed to slot into fourth place-not bad for a first appearance at the Europeans. The prize giving took place with the winners being sprayed with champagne.

The banquet was held later that night at a local hotel where everyone enjoyed good food and company to bring a superb event to a close. The Portuguese must be congratulated and thanked for doing such a good job of running the competition, next year will be the World Championships in France. Who will win this one?

GBRCAA Championships Results

| Name | Pos | Final Total | Rnd 1 | Norm | Rnd 2 | Norm | Rnd 3 | Norm | Rnd 4 | Norm |
|----------------------------|----------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| FAI | | | | | | | | | | |
| | | | P-05 Schedule | | P-05 Schedule | | P-05 Schedule | | P-05 Schedule | |
| Kevin Caton | 1 | 3000000 | 48833 | 100000 | 46767 | 100000 | 43433 | 100000 | 43700 | 971.11 |
| John Harrop | 2 | 2966728 | 62.00 | 132.10 | 46667 | 995.72 | 43300 | 996.94 | 43833 | 974.07 |
| Richard Christopher | 3 | 2947537 | 44533 | 948.86 | 46467 | 993.59 | 41433 | 953.95 | 46000 | 100000 |
| Sam Wragg | 4 | 2593425 | 43500 | 926.85 | 43333 | 926.57 | 29133 | 670.76 | 33300 | 740.00 |
| Matthew Hoyland | 5 | 2427216 | 39900 | 850.15 | 30333 | 648.60 | 34233 | 788.18 | 35500 | 788.89 |
| Masters 2004 | | | | | | | | | | |
| Barry McLeod | 1 | 2000000 | 34233 | 100000 | 42833 | 100000 | 43600 | 100000 | | |
| Brian Hoare | 2 | 1902137 | 34133 | 997.08 | 38767 | 905.06 | 38800 | 889.91 | | |
| Ken Moss | 3 | 1855843 | 33800 | 987.34 | 34433 | 803.89 | 37867 | 868.50 | | |
| Bill Michie | 4 | 1818937 | 33767 | 986.37 | 32533 | 759.53 | 36300 | 832.57 | | |
| Alistair Michie | 5 | 1679171 | 30500 | 890.94 | 29933 | 698.83 | 34367 | 788.23 | | |
| Adrian Harrison | 6 | 1677513 | 24167 | 705.94 | 35733 | 834.24 | 36767 | 843.27 | | |
| Senior 2004 | | | | | | | | | | |
| James O'Neill | 1 | 2000000 | 26267 | 988.71 | 29667 | 100000 | 33333 | 100000 | | |
| Ashley Hoyland | 2 | 1980899 | 26567 | 100000 | 29100 | 980.90 | 26767 | 803.00 | | |
| Standard 2004 | | | | | | | | | | |
| Chris Andrews | 1 | 2000000 | 22400 | 100000 | 22167 | 100000 | 26000 | 100000 | | |
| Geoff Ellis | 2 | 1904511 | 20800 | 928.57 | 21633 | 975.94 | 22033 | 847.44 | | |
| Andrew Meek | 3 | 1870332 | 19933 | 889.88 | 21733 | 980.45 | 22367 | 860.26 | | |
| Roger Marples | 4 | 1739194 | 18800 | 839.29 | 19000 | 857.14 | 22933 | 882.05 | | |
| Stuart Turrell | 5 | 1691932 | 15867 | 708.33 | 18833 | 849.62 | 21900 | 842.31 | | |
| Andrew Wragg | 6 | 1681483 | 17333 | 773.81 | 18033 | 813.53 | 22567 | 867.95 | | |
| Keith Baker | 7 | 1587179 | 14000 | 625.00 | 17733 | 800.00 | 20467 | 787.18 | | |

GREAT BRITAIN R/C AEROBATIC ASSOCIATION

Profit and Loss Accounts for Period: 16/11/2003 - 26/11/2004

General Account

| | |
|---|------------------|
| Income: | |
| Subscriptions | 2567.00 |
| Newsletter Advertising | 333.25 |
| Promotional Clothing | 644.00 |
| Donations | 6.00 |
| Total Income: | 3550.25 |
| Expenditure: | |
| AGM 2003 | 273.40 |
| Promotional Clothing | 554.19 |
| Telephone | 117.86 |
| Postage | 159.05 |
| Stationary | 106.67 |
| Website 2003 and 2004 | 100.00 |
| Bill Harrop Memorial Fund (Equipment) | 159.45 |
| Trophies | 270.83 |
| Committee Meetings | 1339.30 |
| Team Travel Levy (subs) | 258.00 |
| Raffle 2003 Licence Renewal | 17.50 |
| Newsletter Costs | 818.13 |
| Equipment (Laptop Printer) | 60.00 |
| Training Day: Bob Skinner | 155.95 |
| Display Boards | 246.75 |
| Portugal 2004 Support (John Harrop) | 200.00 |
| Promotional Clothing Surplus T/Travel | 63.81 |
| 2003 50% surplus Team Travel | 526.00 |
| Total Expenditure: | 5426.89 |
| Profit (Loss) on General Activities: | (1876.64) |

COMPETITION ACCOUNTS

For Period: 16/11/2003 — 26/11/2004

| | |
|--------------------------------------|----------------|
| Income: | |
| Competition Entry fees 2004 | 3781.00 |
| Nationals 2004 | 513.40 |
| Total Income | 4294.40 |
| Expenditure: | |
| Judging Expenses | 2109.90 |
| Site Fees 2004 | 600.00 |
| Team Travel Levy | 247.00 |
| Trophies (Domestic Comps) | 356.04 |
| Donations (Team Travel) | 171.70 |
| Nationals 2004 | 54.39 |
| 3rd Centralised (Wittering) | 15.50 |
| Certificates | 163.00 |
| Total Expenditure | 3717.53 |
| Profit (Loss) on Competitions | 576.87 |

TEAM TRAVEL ACCOUNT

For Period: 16/11/2003 — 26/11/2004

| | |
|---|----------------|
| Income: | |
| Levy from Subscriptions | 258.00 |
| Levy from Entry Fees | 247.00 |
| Donations from Judges Expenses | 100.70 |
| Donations from GBRCAA Champs | 71.00 |
| Raffle Wings & Wheels | 181.00 |
| Raffle Nationals 2004 | 84.00 |
| Promotional Clothing surplus | 63.81 |
| Transfer from General A/C | 526.00 |
| Interest | 5.38 |
| Total Income | 1536.89 |
| Expenditure: | |
| Wings & Wheels | 80.00 |
| World Championships Poland 2003 | 300.00 |
| Euro Championships Portugal 2004 | 900.00 |
| Total Expenditure | 1280.00 |
| Increase (Reduction) in Team Travel Fund | 256.89 |

BALANCE SHEET

For Period: 16/11/2003 — 26/11/2004

| | | |
|---------------------------------|--------------------------------------|----------------|
| Assets: | Current Account Balance | 4603.05 |
| | Team Travel Account | 891.30 |
| | Members ACM Dinner A/C | 924.00 |
| | Stock of saleable goods | 1.00 |
| | Portable Generator | 1.00 |
| | Sound Meter (MK 1) | 10.00 |
| | Noise Meter (2004 Version) | 120.45 |
| | Wind Speed Metre | 39.00 |
| | Weighing Scales | 30.00 |
| | Computer Equipment, Laptop, software | 650.00 |
| | Frequency Scanner/Checker | 226.00 |
| | Trophies | 998.39 |
| | PA Sound System | 50.00 |
| | Misc Equipment | 150.00 |
| Sub total Assets: | | 8694.19 |
| Outstanding invoices: | Advertising | 229.00 |
| | Advertising | 33.25 |
| | Portugal Team Clothing A/C | 26.00 |
| Depreciation: | Capital Equipment | -292.00 |
| Liabilities: | 1. Un-cleared Cheques | 332.26 |
| | 2. Members AGM Dinner A/C | 924.00 |
| Assets Less Liabilities: | | 7434.18 |

Members AGM Dinner Account

| | | |
|--|--------------------------------|----------------|
| Opening Balance as @ 16/11/2003 | | 594.00 |
| Income: | AGM 2003 (Dinner) | 176.00 |
| | AGM 2004 (Dinner) | 924.00 |
| | From General A/C Guest Speaker | 44.00 |
| Total Income | | 1144.00 |
| Sub Total | | 1738.00 |
| Expenditure: | AGM (Dinner) 2003 | 814.00 |
| Total expenditure | | 814.00 |
| Closing Balance as @ 26/11/2004 | | 924.00 |

Competitions 2004

| Competitions | Income | Site Fees | Judging Exp's | Team Levy | Donations | Trophy | Certif's | Total |
|---|----------------|---------------|----------------|---------------|---------------|----------------------------|---------------|----------------|
| Skelbrooke04/04/04 Domestic | 199.00 | 35.00 | 59.50 | 15.00 | Nil | 72.48 | 12.00 | 5.02 |
| Winchester11/04/04 Domestic | 154.00 | 35.00 | 33.00 | 11.00 | 8.00 | Nil | 9.00 | 58.00 |
| Wittering25/04/04 1st Centralised | 180.00 | Nil | 198.95 | 9.00 | 38.30 | Nil | 3.00 | (69.25) |
| Ashbourne16/5/04 2nd Centralised | 200.00 | 50.00 | 99.40 | 10.00 | 26.90 | Nil | 3.00 | 10.70 |
| Mansfield30/05/04 Domestic Comp | 204.00 | 35.00 | 21.50 | 15.00 | Nil | 61.88 | 10.00 | 60.62 |
| Bedford06/06/04 Domestic Comp | 258.00 | 35.00 | 23.00 | 22.00 | 4.00 | Nil | 2.00 | 172.00 |
| Wittering20/06/04 3rd Centralised | 176.00 | Nil | 179.45 | 9.00 | Nil | 15.50 linepaint | 3.00 | (30.95) |
| Skelbrooke27/06/04 Domestic | 255.00 | 35.00 | 59.50 | 20.00 | Nil | 86.00 | 11.00 | 43.50 |
| BBMTNewmarket 27/06/04 Domestic | 182.00 | 35.00 | 75.70 | 14.00 | Nil | Nil | 11.00 | 46.30 |
| Warboys11/07/04 Domestic Comp | 219.00 | 35.00 | 89.50 | 17.00 | Nil | Nil | 11.00 | 66.50 |
| Glenrothes11/7/04 4th Centralised | 160.00 | 50.00 | Nil | 11.00 | Nil | Nil | 4.00 | 95.00 |
| Baldock18/07/04 Domestic Comp | 132.00 | 35.00 | Nil | 10.00 | 23.50 | Nil | 12.00 | 51.50 |
| Larks 2003 24-25/07/04 | 381.00 | 100.00 | 281.00 | 18.00 | Nil | Nil | 12.00 | (30.00) |
| Ashbourne08/8/04 Domestic Comp | 208.00 | 35.00 | 20.30 | 16.00 | Nil | 67.00 | 13.00 | 56.70 |
| Skelbrooke05/09/04 Domestic | 248.00 | 35.00 | 57.50 | 20.00 | Nil | 68.68 | 14.00 | 52.82 |
| StAlbans19/09/04 5th Centralised | 118.00 | 50.00 | 36.50 | 8.00 | Nil | Nil | 9.00 | 14.50 |
| GBRCAA Championships | 507.00 | Nil | 361.50 | 22.00 | 71.00 | Nil | 12.00 | 40.50 |
| | | | | | | | | |
| Nationals 2004 | 513.40 | Nil | 513.60 | Nil | Nil | 54.39 expenses | 12.00 | (66.59) |
| | | | | | | | | |
| Total | 4294.00 | 600.00 | 2109.90 | 247.00 | 171.70 | 425.93 | 163.00 | 576.87 |

Chairman's Page

I'm sorry to have missed contributing towards the last couple of newsletters, but as many of you appreciate, events away from model flying sometimes have to take priority. By the time you read this, the festive season will be over and we will all be looking forward to a new flying season. There may still be some time to go before Winter is over, but at least the days are starting to get lighter!

I thought the AGM and dinner went well. We had some good debates about changes to the way in which we run our events and scoring systems, but managed to get reasonable consensus by the end of the afternoon. I was really pleased with the attendance at the dinner. It was very nice to see some "old faces" and of course it was particularly good to have Ken Binks as our speaker for the evening. I think I am fairly safe in saying that nobody contributed as much to R/C aerobatic flying through the late 70s, the 80s and early 90s as Ken. It seems odd to think that he has not competed for over eight years. Our loss is model yachting's gain though, as Ken now competes at the highest level in a totally different form of radio controlled modelling.

No doubt many people will have new projects under way for the coming season, whether from their own workshops, or as seems to be the norm nowadays, from the workshops of professional builders. I expect to see more electric power in 2005, even though we Cool Power addicts are at last starting to see the long overdue YS 160DZ arrive in the UK. That said, there are still many other suitable ways of powering an aerobatic model without spending a fortune. I am assembling (it seems fraudulent to call it building) an EZ Hydeaway 63 with the hope of demonstrating that you can fly serious aerobatics without having to go for the full 2m model with its associated costs. I don't expect to compete in FAI with it though - I just want to see for myself if I think it would be competitive in the entry classes.

I have the World Championship to look forward to in August, which of course is to be held in central France. This makes the event very accessible to most of us in the UK, though once again, unfortunately, it coincides with the BMFA Nationals. It is difficult to see what we can do to avoid this, with the Nationals dates becoming firmly fixed and the events attracting more and more "non-competition" flying.

Unfortunately we were unable to fill the committee posts of newsletter editor and PRO at the AGM. Until we get volunteers for these positions the committee will do their best to cover the vacancies. I would like to thank our outgoing committee members Alan & Adrian for their hard work over the years and I am pleased they will be remaining active within the association.

Please consider whether you would be prepared to help your association by filling one of these positions. The newsletter you are reading now will not continue in its present form without somebody compiling it and getting it printed and distributed. One alternative could be to rely on the website for disseminating information. Is this what we want?

Without a PRO the association won't have a voice with the rest of the modelling public and we will find it difficult to promote ourselves.

So please have a think and at least tell the committee what we should do about this situation.

Also, many thanks to Nik Middleton, who has stepped aside from the Team Manager role to start work on a bid for the 2009 World Championship.

Best wishes for 2005 and as always I hope to see many people at the events around the country (and abroad). Fly safely, keep your model quiet and of course enjoy your aerobatics!

Kevin



RC AEROBATICS

2. Leonard Cheshire Close. Heanor. Derbyshire. DE75 7PB

Tel No - 01773 770892 Fax No - 01773 770892

Mobile No - 07770921479

E-Mail - Sales@RC-aerobatics.co.uk

**Web Site - WWW.RC-AEROBATICS.CO.UK
RC-AEROBATICS BUILDING FOR YOUR SUCCESS !**

RC-AEROBATICS are proud to announce that we are the sole **UK ZN** LINE distributor.

We at **RC-AEROBATICS** treat every customer as an individual and provide a full back up and building service

We accept all major credit cards.

Opening times

9am -7pm

7 DAYS A WEEK

RC-AEROBATICS THE NEW BEGINNING !!

We at rc-aerobatics would like to apologise to all customers that had difficulty in contacting us on our new web-site. WWW.RC-AEROBATICS.CO.UK
This was due to reasons beyond our control. We are now up, running and trading. We are currently upgrading to e-commerce, to make the site easier to use, until this is complete you may order from the site by e-mail or phone.

ZN LINE

All kits come with carbon kevlar fuselage, competition grade balsa flying services ie wings, tail, rudder.

Carbon uc, balsa pack etc.

| | |
|-------------------------|---------|
| ZN Madness 11 (ARTF) | £220.00 |
| ZN Synergy 90 3D (ARTF) | £379.00 |
| ZN Suxess (F3A /3D) | POA |
| Synergy 140 3D | POA |
| Synergy F3A | POA |
| Supreme | POA |
| Enigma | POA |
| Hyde-away | POA |
| Evolis | POA |
| Alliance | POA |
| Majestic 3D | POA |

Large Scale

| | |
|------------------|-----|
| Extra 330 TOC | POA |
| Extra 330 2.5mtr | POA |

PL PROD

| | |
|----------------|-----|
| Lazulite | POA |
| Partner | POA |
| Fiesta 3D | POA |
| Flash Dance 3D | POA |
| Cyclone 3D | POA |
| Smaragd | POA |

Large Scale

| | |
|---------------|-----|
| Extra 330 TOC | POA |
|---------------|-----|

Hatori

| | |
|---------------------------------------|---------|
| 530 pipe for 48-70 4c | £55.50 |
| 692 pipe for 90-140 4c | £106.00 |
| 660 cooling pipe for 90-110 4c (NEW) | £100.50 |
| 698 pipe for 120-140 4c | £112.50 |
| 699 cooling pipe for 140-160 4c (NEW) | £109.50 |

| | |
|---|---------|
| 900 pipe for 140 2c | £100.90 |
| 902 pipe for 160 2c | £110.80 |
| 592 Silencer 'inverted mount' for YS63 | £36.00 |
| 593 silencer 'side mount' for YS63 | £36.00 |
| 850 silencer 'side mount' for OS 160 FX | £77.88 |
| 923 scale muffler 'side mount' for YS 120-140 | £75.50 |
| 924 scale muffler 'inverted mount' for YS 120-140 | £75.50 |

Headers

| | |
|---------------------------|--------|
| 577 header for YS53-63 | £32.50 |
| 580 header for YS 91-110 | £32.50 |
| 796 header for YS 120-140 | £32.50 |
| 661 header for 660 pipe | £38.90 |
| 791 header for 699 pipe | £39.90 |
| 907 header for OS 160 FX | £26.25 |
| 915 header for OS 140 RX | £27.81 |

Miscellaneous

| | |
|---------------------------------|--------|
| 143 silicone connector 4c | £5.60 |
| 158 pipe clamp for 530/674 pipe | £4.08 |
| 114 pipe clip | £3.50 |
| 196 pipe mount grommets [4c] | £3.08 |
| 175 pipe mount grommets [2c] | £3.08 |
| 186 pipe mount spacers | £2.99 |
| 162 mounting stays 35mm long | £3.60 |
| 184 mounting stays 40mm long | £3.80 |
| 163 mounting stays 48mm long | £3.90 |
| 167 Teflon coupler 91/140 4c | £12.42 |

Tetra

| | |
|---------------------|-------|
| 4425 fuel dots | £4.75 |
| 4302 fuel ts | £4.95 |
| 5231 switch bracket | £6.95 |
| 4033 480cc tank | £9.50 |
| 4034 500cc tank | £9.80 |

| | |
|---------------------------------------|---------|
| 4035 580cc tank | £12.90 |
| 2007 angled clevis | £4.95 |
| 2011 metal pin clevis | £3.95 |
| 2302 ball link | £3.50 |
| 3604 needle valve extension | £5.56 |
| 3905 ys air filter [red] | £11.50 |
| 3906 ys air filter [blue] | £11.50 |
| CFE | |
| Air filter for ys 140 | £15.50 |
| Nose ring [pre-drilled] YS 140 | £10.50 |
| | |
| Nose ring [pre-drilled] OS 140 | £12.50 |
| ZN Line | |
| Poyet mount YS 140/160 | £159.00 |
| Titanium prop nut adapter [blue] | £33.57 |
| 13mm alloy horns [red] | £12.00 |
| 20mm alloy horns [red] | £12.00 |
| 26mm alloy horns [red] | £12.00 |
| 76mm alloy spinner [light back plate] | £42.90 |
| 82mm alloy spinner [light back plate] | £42.90 |
| 82mm alloy spinner for synergy | £42.90 |
| Carbon spinner 4.5" | £72.21 |
| Carbon spinner 5" | £82.15 |
| Carbon spinner 6" | £95.78 |
| Carbon fixed gear +wheel pants | £89.90 |
| Carbon/nomex tank/servo tray | £47.90 |
| Asano | |
| 600mm carbon pipe for YS91/110 | £125.00 |
| 630mm carbon pipe for YS140 | £147.50 |
| 730mm carbon pipe for YS 140 | £153.00 |
| 970mm carbon pipe for YS 140 | £167.00 |
| Direct joint manifold for YS 91/110 | £91.50 |
| Direct joint manifold for YS 140/160 | £91.50 |
| Carbon tail pipe extension | £23.50 |
| Carbon tail dispenser unit | £35.00 |

| | |
|-------------------------------------|----------|
| Super light weight pilots | POA |
| APC props | |
| 14x10 | £11.50 |
| 14x12 | £11.50 |
| 14x13n | £11.50 |
| 14x4w 3D | £11.50 |
| 15x10 | £11.50 |
| 15x11 | £11.50 |
| 15x12 | £11.50 |
| 15x12w | £11.50 |
| 15x13 | £11.50 |
| 15x13n | £11.50 |
| 15x14n | £11.50 |
| 15.5x12 | £11.50 |
| 15.5x13 | £11.50 |
| 16x10 | £11.50 |
| 16x11 | £11.50 |
| 16x12 | £11.50 |
| 17x10n | £14.90 |
| Manford Greaves | |
| Manford greaves pipe for YS 140/160 | £79.50 |
| Dubro | |
| Tygon petrol fuel tube | £3.60mtr |
| Pull-pull system 3-16 | £6.60 |
| Pull-pull system 4-40 | £6.60 |
| Heavy duty control arms [JR] | £15.50 |
| Heavy duty control arms [FUTABA] | £15.50 |
| YS Engines | |
| Ys 63s | £229.00 |
| Ys 110 | £295.00 |
| Ys 140fz | £350.00 |
| Ys 140l | £365.00 |

| | |
|---------------------------------------|---------|
| Ys 140dz | £395.00 |
| Coming soon [first week in july] | |
| Ys 160dz | £449.00 |
| MK | |
| Mk synergy kit for ys63 | £195.00 |
| Mk alliance kit for ys 63 | £190.00 |
| Hand fuel pump [petrol] | £15.60 |
| 3mm BB end [horn] | £6.95 |
| 3mm BB end [servo] | £6.75 |
| 3mm aileron rods 80-90mm | £5.90 |
| 3mm aileron rods 100-110mm | £5.90 |
| 3mm aileron rods 120-130mm | £5.90 |
| 3mm aileron rods 140-150mm | £5.90 |
| 3mm aileron rods 160-170mm | £5.90 |
| 3mm aileron rods 110-120mm | £5.90 |
| 3mm aileron rods 130-140mm | £5.90 |
| 2.5mm aileron rods 100-110mm | £5.90 |
| 2.5mm aileron rods 110-120mm | £5.90 |
| 2.5mm aileron rods 120-130mm | £5.90 |
| 2.5mm aileron rods 130-140mm | £5.90 |
| 2.5mm aileron rods 140-150mm | £5.90 |
| Dual elevator crank [small] | £23.40 |
| Dual elevator crank [large] | £23.40 |
| 2.5mm BB end [horn] | £6.90 |
| 2.5mm BB end [servo] | £6.85 |
| 2.5mm ball link | £3.95 |
| Control horn [large black base] small | £5.50 |
| Control horn [large black base] med | £5.50 |
| Alloy horn small | £3.90 |
| Alloy horn med | £3.90 |
| Alloy horn large | £3.90 |
| Pipe band 30mm | £6.00 |
| Pipe band 35mm | £6.10 |
| Pipe band 40mm | £6.20 |
| Pipe band 50mm | £6.30 |
| Magic box fixing | £24.60 |
| Manifold support for 4c | £24.60 |
| Beam soft mount for YS 120-140 | £31.90 |

| | |
|---|---------|
| Beam soft mount for YS 91-110 | £19.90 |
| 50mm light wheels | £7.90 |
| 55mm light wheels | £9.20 |
| Tail wheel ass | £16.50 |
| Remote glow ass | £12.00 |
| Gear linkage | £9.90 |
| Hand fuel pump [glow] | £18.42 |
| 450cc tank | £4.90 |
| 520cc tank | £7.25 |
| 545cc tank | £7.25 |
| Smoke pump | £69.90 |
| Hyde mounts | |
| Hyde mount for YS63 | £64.90 |
| Hyde mount for YS91/110 | £81.90 |
| Hyde mount for YS140/160 | £118.00 |
| Hyde A R A I for YS 140/160 | £149.90 |
| Hacker electric | |
| Hacker C50-13 XL acro 6.7:1 | £POA |
| Hacker master 90-0-acro controller | £POA |
| Hacker master prog box | £POA |
| NEW NEW NEW NEW NEW NEW | |
| ZN line synergy 140 3D all composite available in five colours First models ready mid September order now ! ZN line OXALYS new model of CPLR. Available with two piece Wing or one piece wing. Kit will be in stock mid july. Order now ! | |



GBR/CAA Exclusive Offers

We are delighted to introduce this exclusive range of clothing to commemorate our 25th anniversary.

The jacket, fleece and polo shirts are embroidered with the GBRCAA logo on the front and 25 years logo on the sleeve. The baseball cap and woolly hat have the GBRCAA logo embroidery only.

Prices shown include VAT & P&P. Any profit made will go to the association.



Jacket - £29.50
S,M,L,XL,XXL



Fleece - £24.50
S,M,L,XL,XXL

Your name
embroidered onto
the garment.
Please add £1.50



Polo Shirts - £16.50
Royal, White, Navy & Red
S,M,L,XL,XXL



Woolly Hat - £8.50



Baseball Cap - £10.00

Please send your orders, stating size & colour, with a cheque made out to GBRCAA to:
Adrian Harrison, 6 Brendan Close, Coleshill, Birmingham, Warwickshire, B46 3EF.
Tel: 01675 462672
Email: marketing@pmassoc.co.uk