COURT CIRCULAR

Winter 2005

THREE KINGS
AERDMODELLERS

The Newsletter of The Three Kings Aeromodellers
London, United Kingdom

Affiliated to the BMFA

Cockpit Comment

This issue of the Court Circular is the first for 2005, a new year and a new beginning for a rejuvenated Three Kings.

Membership is on the rise and members, peers and the public's interest in the Three Kings, the Patch and all the activities that go with that has never been higher.

Whilst the rise in interest and membership is wonderful news, the downside is that because of the nature of our sport and the technicalities that are required of it; coupled with the rise of the instant gratification society, skate-boards, computer games, TV advertised nitro cars, and ARF models is the natural wastage of the years.

Ours is no longer a seemingly youth friendly pastime but appeals to those who are currently part of it and those who built and flew models during their younger days. These people have grown up, got married, had families and careers and are now remembering the enjoyment that they got out of aeromodelling and have now re-turned.

But finding a like minded bunch of aeronauts can some-times be a thankless task, as I well know. But the rewards for those that persevere are incredible and provide a wonderful outlet for the energies of retirement. Feel-ings at seeing a model fly off the boards and the joy of mentoring younger people in the basically affordable and mentally invigorating pursuit of aeromodelling excellence are incalculable.

Whilst the $64 million question as how do we encourage young people into the sport, one which resonates around the world remains!

The other major problem is how we and others see our sport, how we explain ourselves when dealing with local authorities and communities local to our flying sites, an ignorance of the different disciplines, a misunderstanding of relative danger and the perceived problems of noise.

Generally a lack of understanding of the reasons behind a particular issue and a basic understanding of another will end in an authority tending to favour the seemingly better or more popular situation.

E.g. Model aeroplane noise v's the noise made by quad bikes. One is seemingly better known and possibly therefore more socially acceptable, or 'cool'. For instance popular rocker Ozy Osborne and a number of other celebrities have been nearly killed riding quad bikes. In most cases a celebrity becoming the victim of their own stupidity, but the call to ban quad bikes goes unheard.

Unfortunately on the other hand is the situation where a person dies as the result of the failure of the control sur-faces of a Radio Controlled model over Dartford Heath. The result is a strenuous call in the press and local au-thorities to ban our sport.

The safety record of aeromodelling is generally consid-ered by the CAA to be exemplary. You may think that my response maybe somewhat polemical and emotional, but when the possibility that what you hold as an important part of your life may be taken away; sometimes it pays to be concerned and emotive.

Therefore in an attempt to preserve our sport and our enjoyment of it I would like to urge all of our members and friends to positively promote and talk about our sport to anyone and everyone who will listen and even those who won't at face value. Tell them that a Phantom, a Flitestreak, a Nobler, a Team Racer and a combat model provides as much if not more tactile fun and education than a quad bike or Nitro car ever could and is dare I say it, a darn sight cheaper!

Everyone should take all available opportunities to ex-plain and wherever possible demonstrate to any official, member of the public, Mum, Dad, Gran and Grandad the joys and benefits of our amazing and rewarding sport.

The Three Kings must thank our PRO and Comp Sec; Mike and Steve Waller for their Herculean efforts to this end over the last year, even getting on the tele!! Is an ap-pearance on Richard and Judy in the offing guy's???

Under their guidance the Club has undertaken a compre-hensive 'Risk Assessment' review and as such are one of the few and possibly one of the first BMFA clubs to do so. With this in mind we can only go onward and upward or go fast and turn left!

Whatever your preference!

I would like to thank all the members for their efforts at lo-cal, national and international levels this year, we did well and had some major successes, lets keep it up in 2005. I would like to thank my fellow committee members for their unending hard work.

A special mention should go to SAM 35 Chair Lindsey Smith whose words inspired me to write this polemic.

But please try and understand these words; for too long now aeromodelling has been underground, no longer hide your light under a bushel. When your mate at work, down the club or pub says "What did you do this week-end?"

Tell them "I went flying, it was great, the best fun since Orville and Wilbur flew at Kittyhawk, its great mate you should come along and check it out!"

Believe me; you will be surprised at the response that you get! Not all of it will be negative. Let us stand up and be counted, aeromodelling is great, the best fun you can have with your clothes on!

So I wish all members and our community of local and international aero friends, a full and fruitful year of per-fect overhead eights, fast heats, good bouts and lots of maxes and may hope for better things by our own efforts in 2005.

iLet us think of the future of the Three Kings in the words

of the great American architect and urban planner, Daniel Burnham

“Make no little plans; they have no magic to stir men’s blood”

So lets think, dream and do large and make the Three Kings the UK’s Premier Control Line Club.

Cheers to this month’s contributors.

Enjoy ***your*** Court Circular.

– And don’t forget Let me know what you are up to.

It’s your newsletter. Remember help in the form of pictures, stories and even dare I say it gossip is always gratefully received.

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The Court Circular

The Court Circular is the Newsletter of the Three Kings Aeromodellers, and is produced by the Club for the members and selected affiliates and aeromodelling contacts, the views and opinions expressed are those of the correspondents only and do not necessarily represent the official view of the Three King Aeromodellers. Any comments or questions should be addressed to the specific author.

The Editor accepts no responsibility or liability for any loss or damage incurred or suffered by anyone as a result of this publication or in reliance upon or as a result of acting upon anything contained in this publication.

Copy is welcomed by the Editor from members and readers. But please don’t forget that it is your newsletter, so remember that I am always on the lookout for interesting items for the newsletter, so don’t be shy.

If you want your name in print remember it is your club and your newsletter.

I am particularly interested in photos of people’s models, Engine and Product Reviews, Comp Reports, etc anything is very welcome.

Copy Deadline

As the CC has now become a Bi Monthly newsletter, send any contributions, photos, ideas, letters, etc, send them when you can, when you have written, built, flown, crashed the article or model to me at the address above, by fax or by email, duncan@east-two.co.uk as an attachment in Word for PC, or send it on disc with a hard copy or in the last resort, as a paper copy if you have no computer.

News and Views

Hats Tshirts and sweatshirts

These are still available as follows: -

T Shirt

M	L	XL	XXL
£3.76	£3.76	£3.76	£4.00

Sweatshirt

£8.82	£8.82	£8.82	£9.23

James will bring along to the next club meeting which and events at the patch.

Monthly Flying Days at Croydon in 2005

If you look at the members list you will quickly realise that our club membership is spread far and wide.

However the common denominator is the fact that we all like to fly and the added bonus of belonging to a club that still has a very good flying site.

For info on flying dates call Mike Waller
T 020 83106101
Email: - SWSE20DW@aol.com
Or James Parry
020 8647 6021
Email: - james.i.parry@tinyonline.co.uk

Let’s get out and use it.

Sport Flying at Croydon: -

All are welcome to bring along any C/L model and fly over the tarmac or grass but all are subject to any competition taking precedent.
In the past this has not been a problem with at least one tarmac and one grass circle being available for sport flyers at any time.

All are welcome, the more the merrier.

Any queries please to James Parry 020 8647 6021 or email: - james-i.parry@tiscali.co.uk

Club Meeting dates for 2005

It was decided to continue the re-established evening meeting but on a bi monthly basis, therefore dates were set at the 1st Tuesday in the month;

DON'T FORGET NEXT MEETING

1 March 2005

Stanley Park High School
Stanley Park Road
Carshalton, Surrey

8.00 p.m in the Canteen at the school.

Follow 3ks sign in grounds.

Please contact Brian Cordwell on 020 8669 3021 for directions.

Comps at the Patch

For 2005 I am helping Mike and Steve out and putting on some competitions for Racing.

Come along and support your club, who knows; You might even become enthused and decide that Racing is your thing...

22 May 2005 F2C BMFA Centralised

17 July 2005 Vintage Team Race ½ A and A class

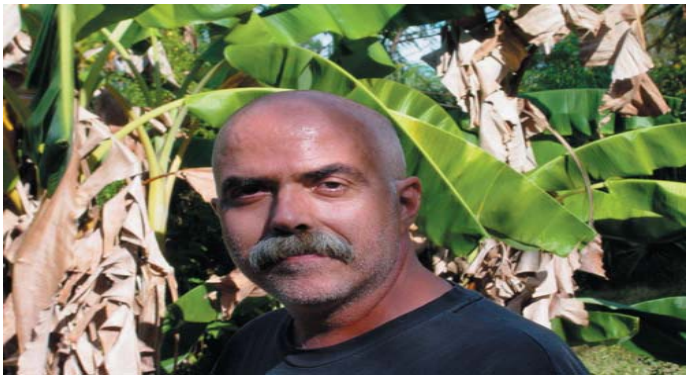
16 October 2005 F2CN and British Goodyear Training Day

Round & Round

Duncan Bainbridge

In aeromodelling there has always been a feeling of international comaraderie, even more since the invention of the internet and as a result modellrs the world over have been able to form strong links and longterm friendships. as a technological innovation the internet has been key to maintaining the longevity of our sport. one such person that was keen to share his knowlege and experience with other enthusiats was an American modeller from Florida; Wayne Trivin, his website http://www.nclra.org/WayneTrivin/Actualindex.html and his contributions to the Court Circular and his visits to Julio Isidro's events in Portugal allowed him to talk to and help a huge number of modellers. It is very sad to let you know that wayne died recently.

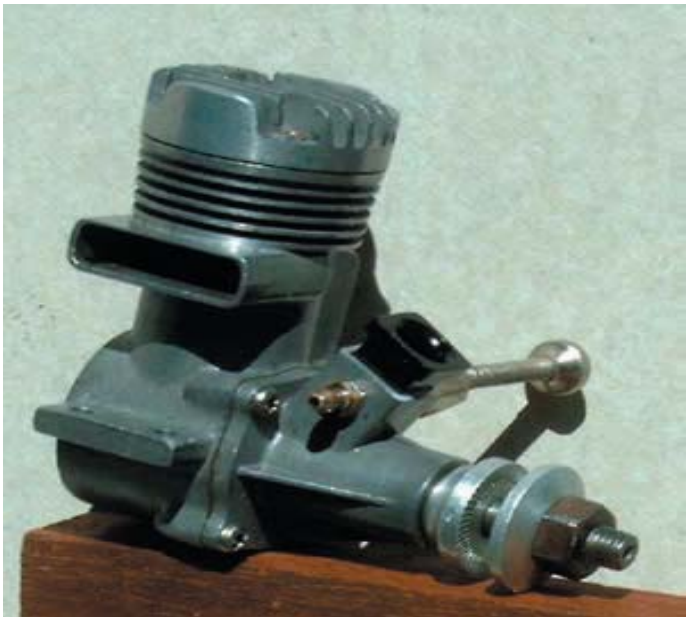
I never met Wayne in person, only over the internet, but his advice and support were unbounded. It is a great shame that he is no longer with us and my heartfelt condolences and that of the Three Kings Aeromodellers here in London, some of whom had the good luck to meet him in Portugal. It is always sad to lose a fellow modeler especially one so renowned in the USA and latterly in Europe for his skill and friendly competitiveness and support. I am sure that he will be truly missed.



More on Enyas Everywhere

The ENYA 29 (and 35!)

Courtesy of Bob Allan



In the world of model aeroplane engines, the 29 and 35 size has long been a favourite, particularly for flyers of control line models.

There is no argument about which is the most famous 35 – that title, of course, belongs to the venerable FOX 35, which has been manufactured now for something like 5½ decades with little change

The title, however, of most famous 29 is open for debate, and in the following few pages, I would like to present the case for ENYA's 29 which has also been around (in not that many forms) for half a century or so.

The name of ENYA was first associated with model aircraft way back in 1930, when the older ENYA brothers (Ichiro and Jiro) were making rubber powered models, encouraged by their father Hachiro.

Hachiro Enya owned a small machine shop where he produced medical instruments, and it was in this small workshop, just after WW2, that Saburo, Yoshiro and Jiro Enya first experimented with producing a model engine of their own design (Saburo having majored in mechanical engineering at Tokyo University). Ichiro Enya was sadly, not involved at this stage, having been killed in a car accident just prior to the war.

When the first ENYA 29 was released in April 1952 (about 2 years after the 19), it was an instant success, both in Japan and America where modellers found that it possessed both excellent durability and great performance. It must be remembered too, that at that period of time (just after the bitter conflict of WW2) a lot of resentment was still felt towards the Japanese people. To make matters worse, for the Enya brothers, Japanese industry did not enjoy the peerless reputation that it does today, and the words “Made in Japan” were often viewed with scorn and contempt by the average Western consumer.

After the initial success of the sand cast, red head 29, the Enya brothers were sufficiently encouraged to produce a die-cast model ll which appeared around 1953. This new 29 was called a Model 5002 and sported a very attractive exhaust stack, which was shaped just like the section of a C/L stunter’s wing – a marketing ploy perhaps, for the huge popularity of control line flying at that time, especially in the United States.

If the ENYA 29 was a success in the U.S., where it had to compete with the likes of Fox, K & B, etc., it must have been an absolute revelation in England where modellers were forced to accept wheezing diesels of indifferent quality (I still fondly remember the story told by a famous Australian aeromodeller who was working in a well known hobby shop back in the 1950’s – seems his main job was sorting through each shipment of British made diesels to determine which ones would actually run!).

High import tariffs however, ensured the ENYA and others like it, were only sold in small numbers in England, while modellers in Australia and the U.S. grabbed them with both hands, eager to embrace these powerful new arrivals.

The real turning point for ENYA though, especially in acceptance by the modelling public, came with the release in 1956 of the fabulous ENYA 29 – lll, an all new design called the Model 5103. This was a small, lightweight, high power and speed 29 aimed specifically at the ‘B’ class team racing market, which probably explained the prominent transfer passage bulge (in Peter Chinns words “of truly massive proportions”).

The well made 29 – lll, earned great praise from all engine testers of the day, with glowing statements like “one of the most impressive 29’s we have tested” and “The peak output realised as a consequence of this high torque – 0.69 bhp at close to 16,000 rpm – is, needless to say, phenomenally good.” In his Oct. 1959 AM engine test, Ron Warring stated simply, “ The new ENYA 5cc glow motor is a superb power plant in all respects “. Here was an engine weighing only about 6.8oz, putting out the kind of torque (for size) only matched by the likes of McCoy 60’s and Fox 29R racing engines and unlike the latter (which was a real bear) the ENYA remained a pleasant, easy handling engine, which even a novice could operate with confidence.

One of the features which contributed to the 29 – III’s very high performance was it’s intake system, or to be more specific, the shape thereof.

Previously, most engines of that era featured an oval or round intake hole in the crankshaft, but the 29 – III had a large rectangular port matched to a similarly shaped venturi aperture. This had the same effect as a quick lift or“ lumpy “ camshaft in a hot rod engine, in that the intake remains open for alonger effective period of time, allowing more fuel mixture to be admitted.

Bycontrast, the corresponding stunt orientated 35 had a similar rectangular portin the crankshaft, but coupled with a circular hole through the bronze bearingthis set up gave a less abrupt opening and closing of the shaft valve.

This new ENYA also established the qualities that, even today, are synonymous with the brand – that of build quality (especially the piston/cylinder fit) and sheer longevity. The stories of ENYA’s just refusing to wear out are legendary, with some flyers complaining about the length of time required to run one in.

The Company in the U.S. that used to market ENYA’s (MRC) called them “The Hand Lapped Engine” and used this as a slogan on their clear plastic engine boxes. Whilst it is true that ENYA did indeed, hand lap all their iron piston motors, a first hand witness report and consideration of the millions produced over the years, suggest that this process was more of a cursory one, and less of the time consuming, laborious one so frequently imagined.

I suspect that care and attention to fine tolerances in the initial machining of the metal parts had more to do with it, than the (necessarily brief) lapping procedure, but regardless of whether it took 5 seconds or 5 minutes, the fact remains that no other mass produced engine in history can better ENYA’s consistently good piston fit (and this last bit is for the Cox enthusiast) over such a wide range of sizes from 09 to 60. I exclude the V series 29’s & 35’s from this claim, because as mentioned elsewhere, they were much looser.

How ever you look at it, the ENYA 29 – lll established new standards for a quantity produced engine with performance akin to a hand built “Special”, and in 1959 ENYA released the almost identical 29 – lll B.

This motor still came with the popular and convenient option of 3 different size venturi inserts, but also included for the first time, a spare higher compression cylinder head enabling the owner to give his nice new ENYA an easy couple of hours running to bed things in before fitting the H/C head and going racing.

Price in Australia in 1960 was 137 shillings, and fierce rivalry developed between the ENYA and its nemesis, the OS Max lll 29. Indicative of just how good both these engines were, is the fact that even now (45 years later) they are still highly prized and sought by T/R enthusiasts. If any stunt fliers still remain un-convinced that the ENYA 29 wasn’t intended for them, just read Peter Chinns July

1964 MAN test report of the 29 - IV where one of the headings reads – " Big First in Racing Engines ", referring to the large number of combinations possible with 2 cylinder heads, 3 venturi inserts and pressure or suction feed. If my mathematics are correct , a theoretical maximum of 16 different set upswould be available for use on the later 29, but some of those would be entirely impractical eg. no venturi insert with no pressure (incidentally, with the ENYA pressure tap being underneath the shaft housing, the available pressure is much higher than that derived from a backplate tap).

The company always intended the 29 to be the racer, whilst the 35 was aimed at the stunt flyer, and for the next 30 years, the 29 was rated at the same power as the 35, indicating a higher state of tune in the smaller engine.

This however, didn't stop modellers from fitting the 29 into their new Nobler, and the result was that ENYA got a bad reputation as a stunt engine, probably even to this day (give a dog a bad name….). One credible report I've heard even had one hopeful trying to stunt with the ball race 29 Racing Special !

As an aside, probably the best ENYA 35 for stunt flying was the Model 6001 of 1961, which is hardly surprising as it was produced concurrently with the great ENYA 45 6001 plain bearing, one of the best stunt motors ever. These two engines represent the zenith of ENYA stunt technology, conceived as they were in a time when model engines were primarily designed for the C/L flyer, and the R/C throttle was added later as an afterthought. That process would be reversed in years to come, but back then the ENYA 35 was pure stunt.

Designated the 35 – ll, it replaced the earlier 5001, but suffered from a very short production run of only some 3 years (making it one of the hardest to find of all ENYA's) before the company embarked on a marathon 2 decades or so of producing the familiar 5224 series. Those wishing to confirm the 35 – II's cred as a dedicated C/L stunt engine should contact a certain West Australian propeller maker.

The ENYA 35 – ll had very steady and torquey running characteristics and was both heavier (only by about 0.75 oz. though) and physically bulkier than the 35 – lll which replaced it in 1964. Some idea of the grunt that the 35 – II was capable of, is apparent when it is compared with a FOX 35 Stunt from the same era. The FOX produced 0.45 bhp and 46 oz. in. of torque at 7,000 rpm, as opposed to the ENYA's 0.52 bhp and 54 oz. in. oftorque at 7,000 rpm – nothing remarkable until you consider that the ENYA 's figures were obtained (both Peter Chinn) from the choked down R/C model.

The racing Special mentioned above appeared in 1960, and was based on the standard 29 – IIIB but modifications were minimal and the engine was nota great success. Employing a new and heavier front housing for the single rear 11.5 x 24 mm chrome moly ball race, the main visual cue was the FOX 29R style "ashtray" intake designed of course, for pressure feed although the engine did come with 2 venturi inserts. Timing remained the same as the standard 29 but the shaft had both a larger gas passage and intake opening than normal. Like the 15D – II, this 29 Special had a hard chromed bore, but the speed flyers for which it was designed had trouble with the piston, which (like Topsy) just kept growing, requiring constant lapping.

By this point in time (at the end of 1963), some staff changes had occurred at the ENYA factory. President of the company, Hachiro Enya passed away and was succeeded by the eldest son Jiro (then 46 years of age). A younger brother Goro Enya, had joined the firm in 1956 (after graduating from St Paul University in Tokyo) and by 1968, he was in charge of final inspection and sales. Of the two other brothers (who all apparently enjoyed tinkering with BMW and Moto Guzzi motorcycles in their spare time) Saburo was managing director in charge of engine design, whilst Yoshiro handled flight testing and the design of the smaller ENYA engines, eg. 049 & 06.

Mention of the 5224 series leads me into the next chapter of this ENYA fanatics ramblings, the ENYA 29 – IV which appeared in early 1964, and for me at least, the IV is the definitive ENYA 29 and a real classic. Yes, weight had crept up to around 7.7oz due to all new and heavier castings, also a bigger shaft, but the factory claimed an increase in power to 0.80hp. Now sporting a 6 bolt head and provision under the front housing for a pressure tap, the 29 had also lost its distinctive appearance from the 35, both 5224's being visually identical apart from the 29 or 35 cast into the bypass bulge.

On the plus side, these twins had an advantage over the previous, far from shoddily built models with superior fits and finishes, and this beautiful standard of workmanship would continue right through the 60's and 70's until a slight drop in quality (mostly in the piston / cyl. fit although some would claim this resulted from the manufacturers desire to reduce running-in time) became evident in the 'V' 5225 series, indicating the age of the basic design, compounded by the declining interest in C/L flying.

Radio control flyers were now calling the shots and archaic, loop scavenged, iron piston technology was outdated and redundant, Schnuerle porting being all the rage.

To ENYA's eternal credit though, the factory continued to produce standard venturi engines for the C/L flyer (by that time an endangered species) long after their accountants probably told them to, and the 5224 series of 29 and 35 size engines must rate as one of the best ever made on a quality / reliability / performance / price basis. The modelling equivalent of a stone axe.

About 10 years after production of the square venturi Model 5224 commenced, both the 29 & 35 engines morphed into the 29 – IV B & 35 – lll B Models, now with a round, turned alloy venturi insert in place of the previous square, black plastic inserts.

This made it easier for stunt flyers in particular, to tailor make a venturi size to their own requirements (square lathes not having been invented at that stage) and by adding a head shim to lower the compression, and resisting the temptation to use the largest available insert, a decent stunt run could be obtained. While an ENYA (particularly the 29) could never hope to match a Fox for the perfect aerobatic characteristics, the 35 however did a better job at stunt than the Fox 35 did as a team race motor.

Horses for courses, and anyway Duke Fox himself would probably admit that the 35 was just an engineering fluke – how else do you explain a piece of machinery which was basically perfect for its intended use, right from the

start. That's akin to the Wright brothers building a 747 to fly at Kitty Hawk.

Along the way, both ENYA's were available (from the early 70's) with a twin ball race crankshaft and although a lovely engine in its own right, most modellers stayed away because of the extra cost (most being notorious pennypinchers!) and added weight. These BB models incidentally, had smaller threaded portions on the shaft than did the plain bearing models, so prop nuts are not interchangeable.

The early BB's had a radiused front on the prop driver; later ones were stepped, and while they were rated at 0.05 more hp than their bronze bushed brethren, they also weighed an ounce heavier and had around 6mm more overhang. Still supplied with dual heads, the spare one in the BB box gave half a point extra compression over the plain bearings 9:1 ratio.

In the 1980's the last of the line appeared and this was the 29 – V Model 5225 (35 same designation) which looked very similar to the earlier 5224, apart from bumps at the rear of the crankcase, deeper head fins and one less cyl. fin (6 instead of 7). The 5225 BB had a noticeably smaller front race than the previous model, but weighed the same, due to extra metal mentioned above plus an exhaust bridge.

Other distinguishing features of the last ball race 29 & 35 were the round venturi and the parallel sided prop driver; less visible was the fact that these final models were not supplied with a spare H/C head, but instead used a (cheaper) metal head gasket for the first time, removal of which provided the higher compression. Factory specs for the 5224 and 5225 29's and 35's are identical, apart from higher peak revs in the earlier models, both plain and ball raced.

So in the final analysis, the ENYA 29 distinguished itself by its record breaking production run for a 5cc motor, and the fact that it was never emasculated like, for example, the OS Max which (like the ENYA) started off in a builders labourers T-Shirt, but ended up in a lilac coloured suit, with a limp wristpin.

Sadly, these fine engines are all now out of production, but as vast numbers were produced over a long period of time, new in box examples are still fairly easy to obtain at reasonable prices. My advice? Buy one, and enjoy a genuine classic while you and they are both still around.

Post Script
To demonstrate to yourself how good an ENYA's lapped piston/cyl. fit can be, try this experiment –

1 Select a new unrun ENYA (09-35 size) which is free turning & well oiled – remove glow plug and prop.

2 Turn engine slowly and gently by gripping the shaft threads.

3 On the downstroke, take particular note of how close the piston top is to the exhaust port before the seal is broken, also how the piston will pop back up again when released.
4 Now install a glow plug, and on the upstroke, the compression should not leak away, even when the turning force is continuous.

This is known as the " Excellent , Not Your Average " compression test or E.N.Y.A. for short.

More Racing and Stuff

This year will hopefully see a concerted effort on the part of the racing fraternity to encourage a greater involvement in this exciting branch of our sport.The starting point is the establishment of a series of "Training Days" to be held at various venues throughout the country.

This season the 3 Ks are hosting an F2CN event as well as FAI TR and Vintage, what is F2CN I hear you chorus? Well read on dear friend and find out, come one come all, join the party, it is the best fun you can have with your trousers on!!

Lets ROCK!!

Barton, Oaks, Dishforth and Croydon are all hopefully to host these schools for Brit GY and F2CN, where the current experts will impart their collective knowledge upon those new to racing, and those whose skills may have become a bit rusty.

To help you get in the mood, I have obtained at great cost the secret holy grail of one of the greatest European Team Racers, the Metkemyer Brothers from Holland.

OK, OK I just scanned it from an old 1973 Aeromodeller, but whilst it is over 20 years old, the infornation it includes is still very valid today and for those of us who enjoy racing, it is a good guide to how it is done - winning races that is!

There is no replacement for Practice, Practice, Practice, but in this day and age of ever decreasing leisure time anything that helps add to your knowlege is useful in ensuring that you will never become the weakest link!

So sit back and read and enjoy the benifit of someone elses hard work and hopefully it will teach you something.

What the hell is F2CN and what do you use to fly it?

F2CN is designed to be a competitive serious racing event that will introduce people to the concept of fuel based engine management, effectively it is a low cost equivilant to F2C, which may lead to a desire to compete at a higher level in F2C.

People are using old Goodyear models, and slab sider FAI Wings, there are also a number of RTF versions, which can be obtained from Tomas Mejlik in the Czech Republic which runs a RI MVVS and Mike North 01283223375 also does an ace model, which I have obtained to campaign this year using a Nelson. I know that there are a number of 3K's who are going to race F2CN this year, so come and join n the FUN!

The Rules

4.3.12 F2C N (Profile)

4.3.12.1 Introduction
The purpose of this category of Team Race is to encourage control line aeromodellers to participate in Team Race competitions, less complicated than the FAI T/R regarding construction, tuning, and cost. These rules are written to mimic similar competitions flown throughout Europe as an introduction to team racing.

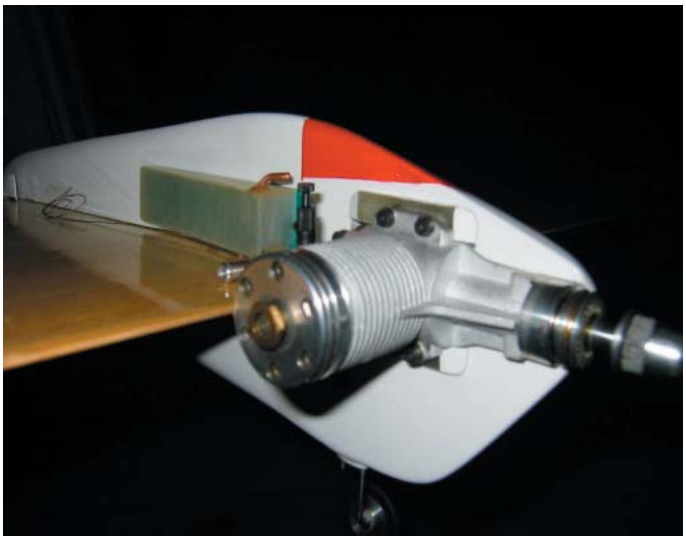
4.3.12.2 Technical Characteristics
(a) The models must have a profile fuselage with a shape representing a real aeroplane, with a compulsory vertical rudder and a canopy (at least a drawn one), with a pilot, and must he at least 100 mm deep at this point. The maximum width shall be no more than 50 mm.
(b) The engine and tank shall not be enclosed and the maximum swept volume for the diesel engine shall be 2.5cm3. The engine shall be side mounted and have a safety spinner nut fitted as per normal T/R regulations
NOTE: The use of integrally finned liner motors is prohibited.
(c) The landing gear may be of one or two wheels. 'Wobbly Wheels' are permitted.
(d) The total projected wing area, or wing and tailplane, is to be a minimum of 12 dm2
(e) The tank Is to have a maximum of 15 cc. There is no restriction on the type of refuelling system.
(f) The models are to carry the National sporting licence number and the national identification letters on the wing (GBR - United Kingdom).

4.3.12.3 Competition Regulations
(a) Everything not specified in these regulations is to be governed by the normal FAI F2C team race regulations.
(b) The model, lines and handle are to be submitted to a pull test of 2OG (20 times the weight of the model) for 10 seconds. The model must be fitted with an effective cut out for safety.
(c) All mechanics (pitmen) must wear a safety helmet with chinstrap.
(d) Teams for each model consist of two persons - one pilot, one mechanic. (The pilot is the entrant)
(e) The number of laps for each race is:-
Heats and Semis 100 laps (10 km) Finals 200 laps (20 km)
(f) The models must make at least two pit stops in each heat/semi and 3 pit stops during the final.
(g) Before each race 90 seconds are given to warm up the engines and 30 seconds for final preparations.
(h) The starts of each race are the same as F2C with the pilot crouching at the edge of the piloting circle and the mechanic standing up at the start.
(i) During the flight the pilots are obliged to walk around the central point of the circle and the models must fly at a normal height of 2 -3 metres in an anticlockwise direction.
(j) The mechanics can only refuel at the normal pits, in every way proceeding according to the FAI F2C rules.
(k) The length of the lines shall be 15.92 m from the axes of the model and the handle, the minimum diameter shall be 0.3mm with a minus tolerance of 0.011mm. If stranded line construction is used, these shall have a minimum of three strands and all strands shall be of equal diameter and the stranded combination shall have a minimum width of 0.34mm with no minus tolerance allowed.
Any other specification appertaining to lines is to be applied as per paragraphs 4.3.(1).5 (a) & (b) for F2C models.
(l) Only commercially available propellers are permitted. Composite propellers (carbon or glass fibre with syn thetic resins are not allowed).

4.3.12.4 Eligible Models
Modified Goodyear models will be permitted i.e. with 15cc tanks but wing area and fuselage depth regulations shall not be enforced for these models.

So there you go fellow and propective racers.
Get some in!!

The Bainbridge F2CN model built by Mike North



They came, they saw, they conquered . . . so now let's learn just how the Dutch do it!

GET THE BEST FROM YOUR FAI RACER

explains British Nationals winner ROB METKEMEYER

IT IS A WELL-KNOWN fact that newcomers to team racing need several years of practice to obtain reasonable results in competitions, and sometimes, even after three or four years of contest flying, success is never really achieved. Last year I took a hard look at this phenomenon to see if there were any clear reasons as to *why* success is sometimes eluded. One important fact which I did discover was that most of the less successful teams (in Holland, Germany, Belgium, etc.) had reasonably good models and motors, often better than my own! However, my brother and I never had to worry too much about most of these competitors as they were always performing far below their true ability, due to varying kinds of 'bad luck'. Often we won against potentially much faster teams just by flying our racer without making stupid mistakes.

Our approach to team racing is basically to achieve consistent, reliable, contest results – the technical development of team racing is not improved by this approach. If everyone started team racing in our way, then in a short time England would have 30 teams flying a consistent 4:45. That would be very dull! Do not expect to find spectacular developments in the technical field from me – I leave that to Paul Bugl and others. I have neither the ability nor tools to be a successful engine modifier, and I believe only a few persons in the world can *really* improve standard diesels (for instance Emil Rumpel's Super Tigres). I mention this because for us it was quite possible when flying only with carefully run-in Super Tigres (G20D and G15 diesel conversions) to succeed pretty well in the International contest field. They were just as fast as most so-called 'tuned' engines! As for models, I think that any proper design, if it is lightweight (500 grammes – 17½ oz. – or under) and well finished, it is capable of achieving good times. Our design, the *Turtle*, will be published and described in the November issue of *Aero Modeller*. . . .

But, like I said before, the object is to gain optimum results in competitions with more or less standard equipment. I have nothing against those people who try to get super performance from technical developments, but think it is more useful spending time on training.

Heat times in contests

Although many people think that a heat time of 5:00 has no importance nowadays, it appears when looking at results of Dutch, German, English and other competitions, that such a time is good enough to get into most semi-finals. Also, in the semis, a time of 5:00 is usually fast enough to qualify for the final. Even at the well attended International (Continental) '72 meetings in Bochum and Utrecht, 4:54 was fast enough to qualify for the semis. Only at World Championships do you really have to go faster than this: in Namur '70 – 4:47, in Pecs '71 – 4:47 and 4:40 in Helsinki '72. But as most of you will not be flying in the World Champs, then a time of between 4:50 and 5:00, flown consistently, will lead to a large number of wins.

How a heat time is achieved

In team racing there are, in general, two time-consuming factors: flying and pit stopping. The *total* flying time is the time the model takes to fly 10 laps, multiplied by 10. For a pit stop, we take an effective loss of 10 seconds (pit stop time = 10 laps timed with a pit stop, minus 10 laps timed without a pit stop).

Ten seconds is pretty fast, but even without an engine cut-off (but with a C.G. wheel) certainly possible after some practice. A light model (500 grammes or less) is required for this as you need the fast acceleration and deceleration. For the initial race start and acceleration we take five seconds, which is realistic for a 2-4 flick start. Table I shows some typical theoretical times.

These calculations are rather surprising, as it appears that a really good time of 4:35 can be flown with a 90 mph racer achieving 34 laps per tank. And a time of 4:50-5:00, that in most cases is fast enough, can be achieved with a racer that has a speed of 86 mph for 25 laps, or 83 mph for 34 laps, provided that the pit stops aren't too slow. Team race flyers will agree that every racing 2.5 c.c. diesel (Super Tigre, ETA, Oliver, Webra Mach II, etc.) in standard form is able to achieve this performance easily, and mostly much better. The reason for not breaking the 5:00 barrier lies not in the lack of technical refinements, but apparently in the inability of the pilot and pitman to let everything function like it should! Only when they do their work well will the theoretical time, as calculated, become a reality.

The team

Firstly, the pitman. He is responsible for making sure that the engine runs as fast as possible and achieves enough laps. Most teams have several engines at their disposal, one of which will be noticeably faster. This one they

Table I – Theoretical times possible

Start	Time/10 laps	Laps per tank	Time	Total
5 secs	24 secs (94 mph)	34	5+240+20	=4:25
5 secs	24 secs (94 mph)	25	5+240+30	=4:35
5 secs	25 secs (90 mph)	34	5+250+20	=4:35
5 secs	25 secs (90 mph)	25	5+250+30	=4:45
5 secs	26 secs (86 mph)	34	5+260+20	=4:45
5 secs	26 secs (86 mph)	25	5+260+30	=4:55
5 secs	27 secs (83 mph)	34	5+270+20	=4:55
5 secs	27 secs (83 mph)	25	5+270+30	=5:05
5 secs	28 secs (80 mph)	34	5+280+20	=5:05

Looks easy, doesn't it? When you can catch a model from a fast landing cleanly, without fumbling or wasting time on each and every occasion, then we will allow you to agree! Until then, watch the experts and practice hard. Here, our author catches his Turtle racer for a pit stop. In the lower picture, note how the refuelling valve is still nearly connected as he checks with his brother/pilot Bert before releasing. If necessary he can give a quick 'squirt' of fuel to prevent the motor from cutting on take-off.

Left: the rule book states that the controlling hand must be kept on the chest except when overtaking, taking off or landing. Here, Bert Metkemeyer takes full advantage of the situation as he pulls hard during take-off. Not only does this maintain live tension on take-off, it also aids acceleration up to 'normal' speed, saving valuable seconds. Above, another Dutch competitor, Buys, checks the amount of time (left) for the warm-up period – an important point.

will use at contests, but is this a sensible choice? That depends. Generally, fast and/or economical engines are critical to set, while slow engines are conversely mostly tractable, less critical.

The principal problem with fast and/or economical motors is this: their operating temperature is higher, and with the greater power they deliver on a lean needle setting, they overheat easily. Another problem is that on the contest-field there is often very little opportunity to find the correct setting by practice-flying, mostly you have to establish this in one or two flights. Frequently, teams make this (wrong) choice and take a chance that they will get a good setting with their fast, critical motor and when it goes wrong they simply call it 'bad luck', but they forget that – in these circumstances – they made the wrong choice! It would be better to choose a reliable non-critical and (probably) slower engine. Five minutes is usually enough in the qualifying rounds, you know!

So, if you have to make a choice between a reliable motor, which turns in 26 sec/10 laps for 25 laps, or a very critical one that can make 24 sec/10 laps with 35 laps, but only achieves this result after practising for half an hour, then *take the first one*.

The purpose of test flying is, in my opinion, to get to know your equipment thoroughly. It is no use flying all day with a certain model to find its maximum through a prolonged setting-period, but you do have to find out what time you can make without any, or after just one, practice-flight. When you've finished a flight put it aside, then try it again in 15 minutes, timing yourself for 100 laps with a normal 90 seconds warming-up period. It is probable that your 'fastest' engine won't give the best results now – it will be beaten by your spare, slower but more reliable one. This will also give you the best contest results, but at the same time it will be more difficult to better 5:00 under these circumstances. If you succeed on one out of three attempts, particularly when there has been a greater time lapse between each attempt, then you are well on the right path! Only by practising with your contest racers in this way, will the day come when you can make a 'cold start' and produce a top time for nine out of 10 attempts with your fastest, critical engine. *Then* you can take it with you to a contest and it will give its full advantages.

Warming-up engines needs special attention. If a pitman is able to predict the air-run during the warming-up period then he won't need practice flights any more! There are three main points to be borne in mind:

(a) From the time the engine takes to reach its operating temperature from cold, one can conclude whether or not the compression setting is right. In training we measure this time when the compression setting is right. If the compression is right for the contest, then the warming-up time will be equal to that in training.

(b) Nearly every team race motor with a good 'air' setting overheats when it is running on the ground for some time. We have to know exactly the time the engine takes from running on full rpm until it overheats (in the last part of the warming-up period). In the contest's warming-up period you will have to check this time: when it is too long, then the compression will be too low, while if shorter, then either the compression is too high or the needle setting is too lean.

(c) The way in which the engine stops when you close the fuel line gives a good indication as to whether the needle setting is correct. Again, the pitman has to recognise any deviation from the normal pattern. Does the engine cut immediately, or does it gain rpm before stopping or whatever? It does not matter *how* it stops, only you have to know when it is wrong, and when it is right (normal).

Points (a), (b) and (c) all show that the whole warming-up pattern should be regarded carefully, so that any deviation will be recognised immediately. Newcomers to pitting will, in particular, have to practice this warming-up of engines, and that is why it is necessary to take so many 15-minute breaks in training. This way you will have plenty of opportunity to watch the warming-up pattern with good engine settings. It is also very important to keep compression and needle settings in mind. When using the same fuel and propeller, these settings will vary very little, mainly due to changing weather conditions. If the settings change

Team-race flyers frequently develop new ideas to perfect their equipment, some complex, some simple. Here, Werner Siggard of Denmark has come up with a very neat sprung mono wheel undercarriage for his Bugl - powered racer. Strong and light the unit is machined from titanium.

completely from one day to another, do not blame the weather, but investigate everything to find the cause. Often one overlooks these seemingly inexplicable variations, which are, in fact, symptoms of faults either in the engine, tank or model. Table II gives a list of typical symptoms and their possible origins.

Now for the pilot's duties! Up until now I have given details of the pitman's work as far as it concerns care of the engine, and many teams think only he is responsible for the engine. However, the pilot too has a great degree of responsibility for the results of the engine/model combination, and his way if practicing has to be adapted to this. It is very important that he obtains the necessary contest experience and learns an economical style of flying – I mean he must not be slowed down by his opponents. Only flying in many contests will help him to learn this. When practising, the pilot must concentrate very hard – he has to listen to the engine just as well as his pitman, and take action if something is going wrong: for example, 'holding back' the model if the engine is too cold, and whipping if (preferably before) the engine is overheating. If the model has a fuel cut-off the pilot can prevent seizing if his reactions are quick. Preventing a seizure is in my opinion very important especially in my experiences with Super Tigre G.15 diesel conversions, which showed that piston/liners that had seized many times during the running in period, were worthless for team racing. Only the fitting of a new piston and lapping-in would correct this situation.

A pilot who acts in time during practicing will also adapt his flying style to the engine-run in a contest, and can save the flight in this way. Of course the pitman has to recognise this adapted flying style – if the pilot has prevented a seizure at the cost of a warning for whipping, then the pitman will have to change the settings at the next pitstop, or else a disqualification will result.

The pilot also has to examine the contest usefulness of an engine in practising and then he has to learn how to simulate contest circumstances. Practising is pointless when the pilot gives the pitman the impression that everything works fine when he just flys the model standing still, hands on his chest and whipping it a little. Contest circumstances are much more difficult in most cases – often the pilot will walk (sometimes big) circles, especially when the opponents are difficult to fly with. If one of the oponents has an airspeed that is less than 5 km/h. slower than your own, then overtaking without whipping or crossing lines is impossible and your speed decreases to that of your opponent. This can give overheating troubles, unless you tried it out in training. One of the best ways to simulate contest conditions is to fly with your arms stretched out while walking in three foot diameter circles. In this way you can hold back or whip the model as you like (simulating respectively three-man heats and solo flying). Advantages of this style of practice flying, which I first saw done by Herb Stockton, are:

1. The flight circle is increased artificially, so in the race you will achieve the same number, or even more, laps
2. You can easily study the behaviour of the engine than in practicing.

under different loads. An engine that overheats after hold-

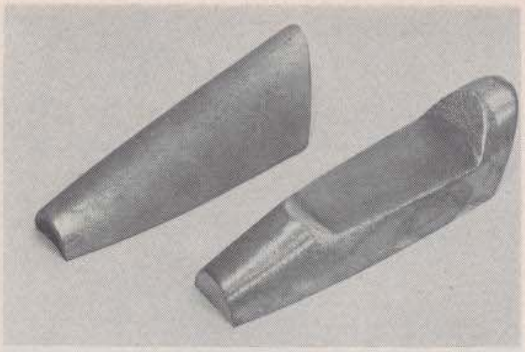
Table II – Differing needle valve settings

Symptom	Possible causes
Needle has to be opened more turns than normal.	1. Dirt in spraybar or fuel tubing. 2. Leaking tank or tube. 3. Leaking crankcase seal. 4. Pinched-off fuel tubing. 5. Engine cut-off is half closed when it should be open. 6. Air vent of tank is blocked. 7. Too large a size of venturi mounted accidently.
Needle needs to be closed more than normal.	1. Dirt in engine air intake. 2. Too small venturi mounted accidentally. 3. The point of the needle has broken, or something else is wrong with the spray bar assembly.
More compression than normal.	1. Too little amyl nitrate in fuel. 2. Bent conrod. 3. Broken gudgeon pin.
Compression less than normal.	1. Too much amyl nitrate in fuel. 2. Carbon on piston and/or contra piston. (turns up gradually).

John Daly runs up his diesel-converted K&B 15 Schneurle port engine prior to a heat. Protective head-gear is both compulsory and sensible – John's stylish 'titfer' being originally designed for ice-hockey players!

Above, Malcolm Ross 'at work'. With his pilot Derek Heaton; they must form just about the fastest pair at pit stops. To see Derek land the model at incredible speeds without bouncing, and in exactly the same place each time, and then to see Malcolm catch it in one easy movement, is to watch perfection in team work.

Tony Harknett is another very fast performer of pit stops. Pilot Steve Smith really 'bangs' the model on to the deck hard, but keeps it there to run along the ground at high speed, straight into Tony's waiting hand.



A rigidly mounted motor is essential for top performance – this is normally achieved by bolting the unit to a metal crutch or pan. At top is a Rossi and below a Rumpel pan, both cast in magnesium. Very rigid, and weighing under 2 oz. in this 'rough' state – available from Irvine Engines.

ing back the model for five laps either has a wrong setting or is useless for team racing. When a motor has become very hot after being held back for ten or more laps it'll have to come in tune within two laps of normal flying (arm stretched out right forwards). If the engine keeps overheating, then it will also do this in the race after being 'bothered' for ten laps. Such an engine is not a good team racing engine. In general a good usable engine (with the right propeller fitted, see Table III, will keep on running well whatever the pilot's style of flying. A well-trained pilot after a few flights should be able to determine whether an engine will keep going or will give problems in a race. This requires a very critical attitude and a great deal of attention by the pilot during practice and contests.

Choosing the correct propeller

When referring to judging an engine, I really mean the combination of engine, model and propeller. Table III gives a few hints on how to determine if the prop is well suited to the model and motor. Let us suppose that the engine has been set optimally when flying normally (no whipping or holding back, arms straight ahead) then we'll see what happens when we whip, or hold back the model with their effects on the speed and the rpm of the engine, and conclude what's wrong with the prop.

Generally you need more 'pull' in a contest so you need more diameter and less pitch. One further point in choosing the prop depends on the opposition. When they're both faster, then you can use a little more pitch (Bartels props vary a bit you know). You do not need very much 'pull' in this case, as you do not have to overtake. If one of the opponents is flying a little slower (a difference of less than two seconds for 10 laps) then you need a 'low gear' prop, with less pitch to have more 'pull' to ease overtaking and prevent overheating. It is therefore useful to watch your opponents in training, to know what you can expect.

Using your equipment efficiently

To achieve good results over the whole season one good model and motor plus an average spare one for emergencies is not good enough. To be sure that you always have enough models and motors to choose from, keep the following points in mind.

(a) Although it is great fun flying with your super-fast equipment, do not do this too often – fast engines are also worn out fast! Do not practice with this more often than you need without losing the feel for it.

(b) Keep on repairing old models. Though not good enough for contests, you can still use them for testing and running-in engines. Do not wear out new models doing this.

(c) Constantly fly and develop new things, or try old things again, from these models and engines, that are still 'spare'; your future contest equipment will have to come.

It is a good idea to use less important contest flights for testing new or spare equipment so by doing this you will soon have two or three equivalent contest combinations at your disposal. If you have a choice, they all have their pros and cons. For instance: quick, but only 25 laps, or slower but 34 laps, etc. When the opponent's ability is not too high it is better not to fly very fast yourself, but to be very reliable, winning this way. If the jury is very 'hard' on overtaking then take a slower two-stopping model so there is less overtaking. With very fast opponents take your fastest, 25 laps range machine and try to keep pace with them or, possibly, block them a little. With a slower model in this case you'll be too easy a target for them while overtaking you.

Table III – Propeller choice

Holding back	Whipping	Comments
Speed decreases badly without much loss in rpm.	Speed increases greatly, little gain in rpm.	Prop is too small in diameter.
Speed decreases badly with great loss in rpm. Engine sounds overheated.	Speed and rpm increase greatly. Engine gets too cold.	Prop has too much pitch.
Little change in speed or rpm.	Little change in speed or rpm.	This seems good, but probably too much diameter and/or too little pitch. By changing this you may gain airspeed.

Conclusion

Summarising, it will by now be quite clear that in our style of team racing the most important thing is handling and being familiar with motors and models. Our stopwatch plays the second fiddle. The 'maximum' speed is not so important and depends a lot on the pilot's flying style. The speed in *contest traffic* is the one that counts.

If you start practising in this way, you will find that your contest results will be equal to, or even better than, training times, though the latter will be slower than before or rather more realistic. Then, if someone asks you what results you are getting, you will never again have to say that they're not so good in contests still, but that practice times are nearly all under four minutes!

At left, Steve Smith (bottom left) crouches during a refuelling stop while Derek Heaton returns to the fray after a similar stop, joining Gunther Schwarz (right) in the Goodyear final at the Nationals.

Varying standards of flying here – mostly illegal! At left, Geoff Haycock whips slightly as John Dixon, hand way-off chest, prepares to overtake – rather too soon. . . . Meanwhile, Stevie Smith (right) is flying high, pulling hard and seems about to pass both the others. All highly improper – a strict jury would massacre them!

BEHIND the LINES Wal

I am starting a new era in computer use, for me anyway. This means that my Son has given me a new [second hand] part that my book [or books] says is called a systems unit. Thats the big bit that has a couple of draws in it that are not big enough to take any papers etc. The change is because you may remember that I keep losing anything that I have typed whenever the screen 'freezes' which was quite often. Hopefully this new part will put a stop to this malfunction, so forwards we go again into the unknown.s

The last club meeting at the beginning of December was not so well attended as the previous because the hall was not available for indoor flying, which proved very popular, and in the words of all the makeover programs on TV has' potential '.

In spite of this we had a good evening, it was like being back in the early days of the Three Kings with talk of the maintainance of the patch for it seems the grass is begining to enroach on the flying surface again, and what can we do about it????. I suppose at this time of the year very little, unless you take a spade with you whenever you go there and at least tackle a small bit at a time, every little helps, and then later on in the year try to have a clear up meeting with some flying and some digging.

We touched on the subject of electric power and its possibillities and with the advent of new generation batteries and motors they may well be the salvation of many flying sites, including our own but a lot more needs to be understood about them, also at the moment they are quite expensives.

The letter that was sent to our editor by Paul Eisner was discussed and generally the feeling was that it was unwarrented and if one wanted to draw attention to theirselves in a particular event then by all means write and tell us about it, we do not 'employ' correspondents to monitor the various events at competitons, and in any case Paul always flys under the Elmbridge flag!!.

I watched with interest the program on Christmae Eve entitled "the mystery of the Three Kings" because I wondered how they had heard of us, could they have viewed us on Steve Wallers web site !!. But it all turned out to be about a "geezer" called Jesus who apparently has a lot to do with this time of the year, and not a single model aircraft in it. But I did learn that January 6th is known as 3 Kings Day and for a moment I thought that it was the same day as our A.G.M. now that would have been a coincidence !. But of course the AGM is on the 11th, and in retrospect I hope that it was a good one. And also in retrospect I hope that you all had an excellent Christmas and in time to wish everyone a happy and crash free New Year.

And on the subject of crashes I heard on the grapevine recently that Ron and Betty Moulton both had car crashes in the last quarter of 2004, but happy to report that both are getting on OK and we wish them the best of luck, and take it easy, there are not too many of us left Ron. It was ironical that Ron had his "shunt" when returning from a short stay with his good friend Cesare Milani who tragicly died the same month.

And so on to 1980. I have already covered four years and nobody has said stop--- in fact nobody has said anything !!. But I will carry on just in case anyone is interested in the bygone years, but if your not, well tough it gives me an excuse to re-read and re-live some very enjoyable years,so here we go then with

AEROMODELLER SNIPPETS FROM 1980

And on the first page of January under the Letters heading is a picture of Stan Perry standing by the full size replica of his model the Fairy Flycatcher that I mentoned earlier

in the 1979 revue, also in this issue lots of info on converting co2 motors by "you know who" also in clubnews there is mention of a young lady, the daughter of a club member Alan Fritz. Angela who won a plaque and a vast number of sweets in the "sleek streak" competition

February contained good scale drawings and pictures of Betty Skeltons "Little Stinker" by Pat Lloyd of the Pitts Special but not a lot more of particular interest and the same goes for March, apart from a rebuke from Clubman about a complaint from us that we wer'nt getting "our due share of publicity" from the column. As if we would!!!.

The next month brought a really good article by Claud Maikis on profile bi-planes with some very good tips on design and in the May issue an excellent report from Alan Callaghan about indoor models and meetings around the area. And the colour front page of the June issue will be of particular interest to one of our members, its the BA.Swallow in Old Warden colours. And this issue also has scale plans and drawings for two versions one for C/L with 2.5--3.5 by Charlie Essex and the other for F/F 5cc--8cc by Bill Dennis--the original was by John Coasby in the 1945 Aeromodeller Annual. Also Clubnews tells of a unlikely "limbering up" program by the club in readyness for the season ahead, he seems to think that all our models are heavyweights and we need special exercises to fly them!! July not much to grab attention but in the August issue there is an unusual picture of a clockwork F/F model, as you can imagine it has a very short duration--A good plan and pics by Pat Lloyd of the Stampe SV-4 b to c

Also in this issue were the results of the F/F Nats held in May 24th-26th. And Clubnews had a picture of us at a club meeting also displaying the permanent trophys that we then awarded. At least I think it was of the club they all looked a bit young I thought!!!!!!!

And more pictures in the September issue at Old Warden Aeromodeller Scale Day showed a really good turn-out--its a bit different now and the event is also spoilt by the organisers allowing any type of model to be flown. Clubnews tells of really succesfull event at "the patch" on the occassion of the 50th anniverary of Amy Johnsons flight to Australia, although I feel that this was a CAS event that we assisted in, but it got us a "mention"

October haad the 1980 World C/L Championships as its main topic, taking place in Poland, they had all C/L persuasions [except scale] and in team results the UK came 12th in F2A....6th in F2B....1st in F2C and 7th in F2DS.

Then the results of the August Nats followed on in the November issue ==

F A I Team Race		Aerobatic Gold Trophy	
1st	Smith/Brown 7.39.3 22 flew.	1st	B.Robinson 6085. 48 flew
2nd	Wilson/Gardner 7.52.0.	2nd	P. Tindal 6034.
3rd	Longworth/Broadhead 7.57,1.	3rd	C.Draper 5990.

Goodyear Team Race 34 flew.		Knokke No 2 Trophy 6 flew	
1st	Green/Cunningham 8.58.9	1st	D .Bird S.A. Bulldog.
2nd	Allcock/Chambers 8.39 7	2nd	M. Staples.Bristol Bulldog.
3rd	Jarviss/Needham 9.00.4.	3rd	W.Cordwell Bristol Blenheim IV

FAI Combat			Carrier and etc
1st	N. Gill	Peterborough	No carrier results this issu
2nd	J.Highton	Urmston	At the A/M vintage day at O/W Aug 17th
Tony			
3rd	P Wyke	" "	Penthall won the Fireball Trophy. "Black
Magic			

Club news tells how we gave a scale demo on the cricket pitch at Bolton House at the front of the house and he went on to describe the mysteries of "down the line"signals to operate Flaps,retract u/c's, Throttle all done by transistors in those days. But r/c close circuit was begining to take hold . And on the cover of the Dec issue two handsome young men with their carrier models.The two Alans, Fritz and Church taking an imposing stand by the carrier.
And inside the "gen" on the ZLIN 250L. It dosent say but it has all the hallmarks of the master plan man "Pat" Lloyd. And next a very informative article by the late Stan Perry on the original "official" carrier deck Flycatcher which was made by the Royal Navy [out of an old "ship of the line"!!!!] if the weight was anything to go by and donated to the SMAE. But Stan tells us that the first one was made by the Cheltenham club in 1954. Obviously a U boat got that, anyway lost without trace then Flycatcher came along and it was stored at RAF Chessington [now a housing estate] The Three Kings under the command of John Perry set to and made a bespoke trailer to transport this monster to its various destinations and on one of these trips it went to the Wolves club and for some reason it stayed there !!. And they stored it at nearby RAF Cosford where the whole lot mysteriously vanished,even down to the trailer which did not please "our" John in the least. Can anybody add some more details to that story???.
The present carrier is a lot lighter and can be carried on the car roof, it was made and designed by our old club mate Geoff Burkett now living in darkest Devon.
Also since perusing many pages of A/M I discoverd that the Bainbridge model club is really the Banbridge M.C. so I take back all I said earlier Duncan..

James P's Bits and Pieces

James Parry

Meeting Sunday 20 February 2005

The weather was the all important factor for the day. When I got to the patch at 08.45 for the gate opening ceremony it was sunny, bright but cold. Within an hour it was overcast, very windy and very cold and things did not improve as the day went by.

Still a few hardy individuals turned up including Mike, Steve, Peter Last, Keith, Marsh, Dave Harle, John (a visitor from Basingstoke area), Alan Jupp, a spectator whose name I don't know from Chatam, Nigel Etheridge down from the far North, Tony Saunders and anyone else who I've forgotten?

Keith was brave enough to fly the F2B schedule for practice but the wind overpowered his efforts and the tarmac proved to be stronger than his profile model.

Steve had a go at mini speed and managed just over 60 mph, Dave Harle with AJ flying had a go and were timed at 92.58 mph.

Other than that it was random flying of wings although earlier in the day Keith (he doesn't stop flying for anything) flew an acquired (Watford?) bi plane over the tarmac. He took that one home in one piece! Marsh was seen flying a Marsh Mellow, model aeroplane not confectionary and between him and Keith also flying a natty stunter over the grass, the name of the model escapes me.

By about 13.00 cold and wind won the day and mass departure ensued.

We used this meeting as a test for anti moron measures. First thing in the day we put up the metal posts around the Northern side of the flying area and linked with black and yellow tape. Whilst not a real barrier as such but looked very effective as a keep out warning and along with strategic parking of cars to make meetings look bigger than they perhaps are we are getting the better of the situation. Whether this will act as deterrent to the mopeds, quad bikes, gopeds etc etc only time will tell. We will be taking other simple measures such as putting up signs on the entrance gate and the flying area with details of the clubs permission etc to exclusively use the area for model flying.

How long the sign by the gate will last is a matter of debate, we may even hold a sweepstake! Still with such measures, Croydon security being only a phone call away and mass gatherings of modellers we hope that the incidents of recent will not be repeated. I must add that 95% of those illegally using the whole site including that area in L B Sutton are happy to keep away from us, a few others, perhaps one every now and then try their luck and only rarely has a "situation" arisen, twice in the last 18 months.

The metal posts and tape will remain a feature for all meetings apart from anything else we have to look towards a sensible safety aspect for our activities and cannot afford for a dog walker to walk over the tarmac and through the flying circle while a model is in the air as has been known many times in the past despite verbal warnings and not have ample signing etc. Two of us can surround the site in ½ an hour. The tape costs about £5 for 500 metres and metal posts are a £1 or so each so expense is not really a problem. We've actually got about 40 posts.

Weed clearing and repairs will continue and play and important part of the meeting on 20 March with some of us going for clearance of the 13 March also. Steve and Peter said that they would be prepared to have a day off midweek to repaint the circles, which will be great and further stamp our "authority" on the site.

On a different not we have some more T and sweat shirts, £4 and £9 respectively if anyone is interested give me a ring. 020 8647 6021.

Club Combat

Nigel Etheridge

Greetings from the frozen north – I've not written for the Court Circular since handing over the reigns as comp sec several years ago, but have been persuaded to write a few words about this new version of Combat that the Combat Flyers Association (CFA) is introducing this year.

Let me first give you some background. Combat flying has been in decline for many years and is certainly never going to reach the dizzy levels of participation seen in the sixties & seventies – not that I was there of course (I'm far too young !) - The only exception to this was the early days of Vintage combat when Frank Smart (and probably a few others, but I'm not sure who they were) gave us a new formula that fired the imagination of ex-combateers, who were lured back by models that didn't explode on impact with the ground (early foam models were notorious for this !). We are hoping that 'Club Combat' will light some fires – let me explain why.

Firstly, there is no restriction on the models that can be used. Benefits are that there are quite a few options to buy good quality modern (F2D & F2E) models that are cheap (Circa £25), fly superbly and are extremely strong. Many ex-combat flyers and even the current bunch have commented about the continual need to build models. This 'off the shelf' option will no doubt drag in a few new comers who've always fancied having a go, but couldn't be bothered, or didn't know how, to build a competitive model.

Secondly, there is no knock out competition. Everyone fly's four bouts and the points scored during these are added together. The highest scorer on the day wins. There is also pilot matching after the first round, so experienced flyers will be pitched against experienced flyers and vice versa. This should ensure that the winner of the day has truly performed well against his (or her !) peers.

Thirdly, the models must do ten laps in more than 32.5 seconds (approx 73 MPH) Compare this to an F2D model with a Fora at circa 22.5 secs per lap it is considerably slower ! Also, anyone that has tried flying a 1/2A combat model in a bout will know that they are extremely fast too. The idea of the speed limit is to keep the speed sensible and this should also deal with the engine fettling problem that has plagued Vintage. Club Combat has initially been limited to one engine, which is the ASP 15. This is a very nice and cheap engine – around £40 and is supplied by Just Engines. They will be sponsoring the 2005 Nationals and requested the one engine class for the first two years.

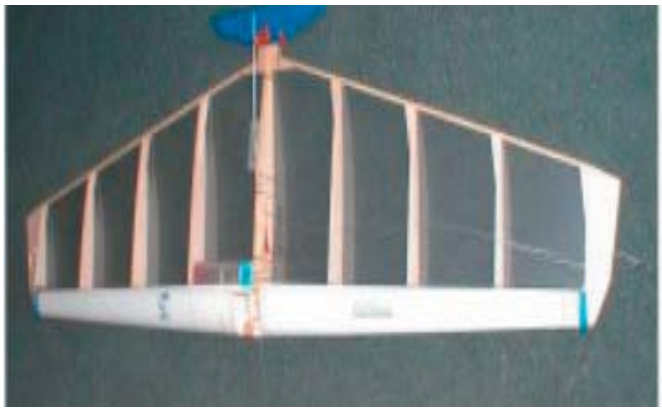
Fourthly, if a midair collision occurs such that one of the models becomes unflyable, the bout ends. The benefit of this situation is best understood by flyers who have been whacked when several cuts ahead and who subsequently lose on ground time. Ask Richard Evans – one of our best ever flyers - about this. This has happened to him more times than I've had hot dinners !

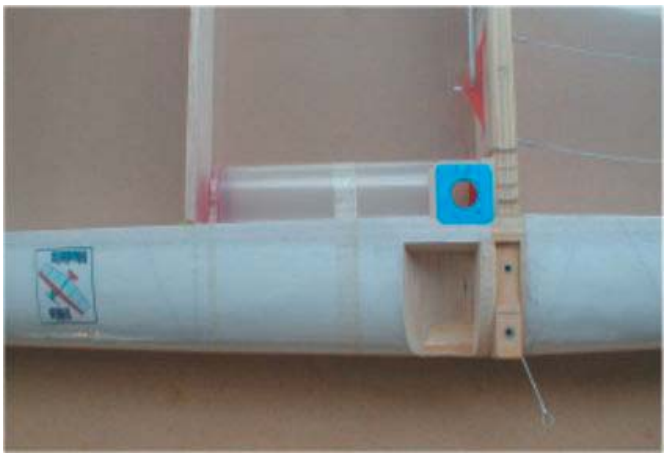
So, to conclude, I believe it is worth giving this a go. It is a new and fresh approach to combat that will allow the average club member to fly good models for a fraction of the price of other combat classes at sensible speeds. There are two events planned for this year so far, which are the 24th July at the mini Nats and also the full nats (August Bank Holiday) I hope to see some beginners or some ex- combateers coming to the fold.

Mike Waller's Russian Combat models from Viko

I have a model supplier, (VIKO models) models are £23 (F2D type, diesel version price on request) , lines RTF are £2.50 per set, handles are £5 and tanks are £1.50. These prices may change with market, etc. They are trustworthy I ordered 30 models, they came in 4 weeks.

http://www.zigaryusha.narod.ru





The Waller Report

Mike Waller

Well things have gone well for the three kings club in 2004, new members, the site being used for once, in 2003 the patch wasn't used for 4 months!! I am glad that the club is going from strength to strength again and I hope that it will be going as well as it did a few years ago when I joined the club (actually 12 years now!!).

It is also nice to see the patch looking a lot better after a few months of hard graft clearing the site and we hope carry on the clearing and matenance for a few months to come, so if you're up there take your spade. Thanks those who have helped so far.

The only problem this year is that people using motor bikes has overtaken the patch, this became a real problem in Januarys fun fly and several of the bikers becoming very aggressive. Luckily we have the councils backing, who wish to stop these people so if you're up there and you get problems please ring the security guards. Could you also please have your membership cards handy as you may be asked to produce them.

L B Croydon security number is 02086881700
Purley Way West Playing Fields. Model aeroplane tarmac flying area

I was disappointed that a 3 Kings member had to slag of the efforts of Duncan and his newsletter, if you have some thing to say then write to Duncan and he will add it. Because we don't know what happens in other types of control line we don't know what has happened!!

Anyway hears to another year and hopefully this year we will see the club getting stronger, so dust off that model and get flying the winter months will be over soon!!

Mike

THREE KINGS Fun Fly
Three Kings Site, Croydon

20th March 2005
17th April 2005
15th May 2005
19th June 2005 Cancelled
17th July 2005
21st August 2005
18th September
16th October 2005
20th November 2005
18th December 2005

A good chance for a get together and meet new people while flying CL, all are welcome. Please contact Mike/Steve Waller to confirm or for more information on 020 8310 6101 or email Controllineuk@aol.com. See advert on Web site http://members.aol.com/ThreeKingsClub/ which also has a link to the relevant Steetmap to locate the site. Naturally BMFA Insurance is required. Sorry but NO R/C flying at all.

THREE KINGS
Winter Combat Practice and 1/2A Combat League
3K Site, Croydon

To Be Held On The

20th March 2005 TBC

These are practice events are for 1/2A, Vintage Combat and Club Combat. A 1/2A League will run depending upon numbers. All levels are welcome even if you are a beginner or are just interested. A good chance for a get together. See advert on Web site http://members.aol.com/ThreeKingsClub/ which also has a link to the relevant Steetmap to locate the site. Naturally BMFA Insurance is required. Sorry but NO R/C flying at all. Please ring before hand to confirm.

Combat 2004

This year has been a bit hectic for me, I am going to do a round up of this years comps. Sorry for the hazy recollections!!

Winter Combat Practice,
This is an event organised by the Three Kings Club, its really a good place to get down to do some practice for next season. We had a couple of people turn up for these events but it was mainly Martyn and I getting to grips with our F2D stuff, we spent hours flicking a FORA and hopefully now have got the hang of it!!

Scratch Wood, March 04

This was the first comp for vintage combat, it was very wet and wild, bikers had turned up the mud to it was very muddy, it was supposed to be very windy but this never transpired. Flying was good, I managed 3rd with the help of Martyn and Brian pitting, the comp was over by two because of the rain and every one beat a retreat home to hot food and a bath!!

Barkston Heath

This was to be our first comp in F2D, and it did turn out as bad as I thought it might have, we drove up the night before and stayed at a local hotel. This allowed us to turn up nice and early to practice, nice idea? I let the side down a bit by not sorting my kit out the night before meaning that I had to fit engines and stuff, not good, I just got a test flight in before my first bout.

My First bout was against Mervyn Jones, he was surprised by the speed of my models and took my streamer in one. I then was free to attack but after losing control my model did a wing over and went straight through his model, my streamer hook had broke and I was disqualified before my second model had a chance to get up in the air.

Martyn had his first bout, and a lead out snapped, he was suffering from a bad headache and retired from the comp. My second bout was against John Crabtree, it was a good bout, I saw two cuts that I had taken, but these were not counted, I lost the bout. Later it seemed that some people had questioned this result, but I was happy with the progress we both made. We both made good a show for our selves and people were impressed with our progress. When we first go there we meet Martin Coe and his father, this was his first competition in any class of combat, and after watching him fly, we were very impressed he won some bouts straight out. And this continued through out the year, its only time before (perhaps next season) he starts winning major comps.

I also was please to see Tim Hobbins return to combat after a short layoff.

Old Warden

Given a pass to fly I set off for the day, this was the first time Martyn had flown vintage combat, after a late night phone call, we decided to take along my old models for him and he would provide the engine. Not much sleep later I was driving up to the comp.

Old Warden was the same as last year, very packed with modellers of allsorts, it was very hot and we were lucky to be flying next to the only shade on the airfield. Engines bolted in and we both had a test fly, my engine still played up a bit but after some twiking from Roger it was all systems go. First bout, (I think) I flew Steve Tromas, who beat me, I ended up with a smashed model. It must be noted that Steve has been flying very well, and it was my own fault (Steve's flying continued to improve all season), on later inspection my models control systems failed. Martyn flew some one (sorry can't remember) and beat them, with ease.

In the losers round, I was drawn against a beginner and after the first 30 secs I quit the bout, as I feared for my life, Richard Evans had the same trouble and nearly lost. After being knocked out I was content with enjoying the day and helping Martyn. Martyn came up against Roger Fisher, again he beat Roger, a bit of frantic pit work to get his model in the air. In the next round Martyn was beaten by Bob Payne (another who had a very good season), Martyn was well pleased with his first comp and we enjoyed talking combat and watching some great flying.

Milton Keynes

Having come down to my last good model, I cobbled together some old models and made our way to Milton Keynes, we were allowed to use the old site, although now they have started making the football club, so that's no longer available. I had big problems with models and engines, later traced to a loose needle valve. Martyn flew and did well using his MVVS engines, which raised a few eyebrows, they did just keep up!

We started to play with our new toy, a dital video camera, see more later.

The Nationals

After burning the mid night oil, I was all set for the nationals, I made 8 new Ironmongers and 5 new F2D models, booked into a hotel and stuffed the car with loads of gear and models.

We arrived early and set about trimming the models and flying when a official came across and told us to move because we were flying F2D. By this time Martyn had started his engine so I went to launch it, planning to pack up and move after Martyn had a fight. The man in question came running over F'ing and Blinding and saying that he was going to stamp all over our models if we F'off. I hope that this isn't going to become a regular theme of the nationals.

Getting back to the flying, I was drawn against Mick Tiernan who got a cut and then had a mid air, with a smashed inboard wing I was unable to continue the fight. I then was flew in F2D and had a first bad engine run and then a good run ending in a mid-air, my second bout was against Dave Spears, it was an ok bout, but time didn't allow me to test my models fully. On the second day I was drawn against Stu Holland, I always enjoy flying Stu, it's always a master class. I lost, but did give him a good run for his money.

After the first day the wind increased beyond what I would call safe for combat, the 1/2A was just freighting and Martyn retired because of this, a good choice.

I was pleased with the performance of my Ironmongers, they seem to out fly any model they are put against, I look forward to next year!! If you would like a plan then I have one available, see later.

I have to say that I enjoyed the nationals, but it seemed too much flying both Vintage and F2D, next year I am afraid that Vintage will be dropped.

Round Up

After the nationals, things in the Waller house became unsettled so we stopped most of our flying which meant missing the last of the comps.

Martyn and I leant a lot about combat this year and made lots of new friends. We have started training hard for next year, we have been studying footage of flying and thinking of ways of improvement. Next year will be interesting, we have a few tricks that we have been developing which challenges the conventional way of flying a bout.

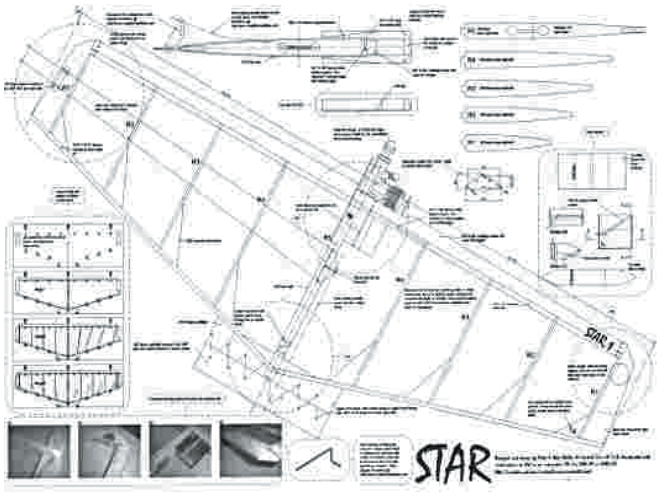
We hope that Brian will join us next year he will be someone to watch out for!

I am sure that I may have got some points mixed up, I am sorry it all seem such a long time ago!!

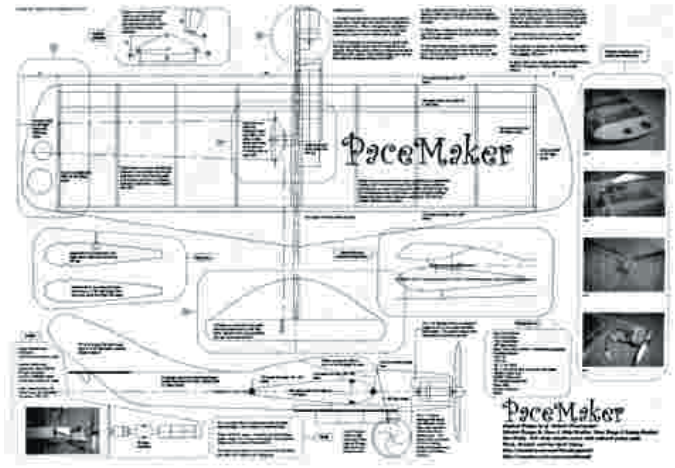
Plans and DVDs

On my Website (which is due for an update soon) I publish some plans and at the moment a DVD. Shown below are the details. If anyone is interested please give me a ring or email. All plans are printed on 80gsm paper and CAD drawn. Postage is £1.20 for plans and 1.50 for DVD, we will post world wide, postage upon request.

Star MK1,
1/2A combat model, good beginners model, but can take on the best, easy building and flying! For a 1.49 engine size £2.50

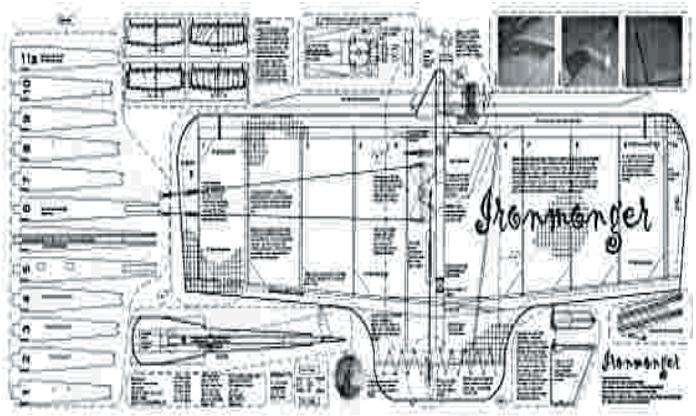


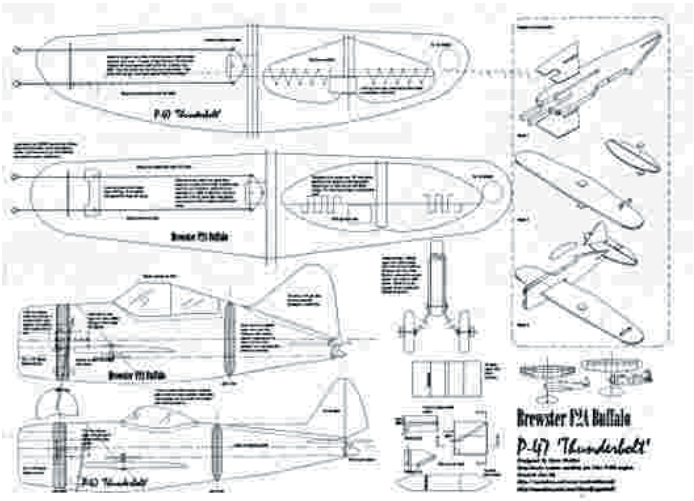
Pacemaker
aptly named from its granddad (the Peacemaker), electric stunter for 400 size motors and on-board battery pack. It does loops, eight's and inverted and lots of new things!!
Great fun, ideal for local parks, no noise, no problem!
£2.50



Ironmonger
(designed by Richard Evans), fly this vintage combat model to the top, modifications by Mike and Steve Waller developed over 4 years. Complies with vintage combat rules, uses PAW 19 CT3. £3.50

Thunderbolt and Bewster F2A Buffalo,
two plan double whammy, take your first control line laps with these semi-scale trainers. For a 1.49 engine size.
£2.50





Nationals 2004 Combat Smash,

Watch the best UK combat pilots flying in the biggest competition in the UK! Also with bonus extra footage of the prototype 'Pacemaker' and Gary Church flying his amazing 400 electric stunter (plans to come soon).

You must have a multi region player, £3

Contact

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020 83106101

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Models from Far and Wide - Down Under

Top to bottom,
Dalesman - Norm Kirton, WA
Double Dice and Paw Print - Ray Fairall, NSW
Time Profile F2CN - Keith Baddock, VIC