FlightLines



featuring: Spread Spectrum 2.4Ghz 'Cryan Air' Learning to Fly



April 2007



Members of the Tipperary Model Flying Club about to undergo the MACI "A" Cert test. MACI Examiners are Joss Carroll and Fergus O'Reilly



Padraic's very first glowplug engine model was the Thunder Tiger 'Tiger 40'ARTF trainer which he purchased from Gerard Feeney

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The views expressed within are those of the individual contributers, and not necessarily those of the MACI Committee.

M.A.C.I. Committee 2007

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Editorial

Some sterling work by P.J. Harte, the MACI Helicopter Secretary, has secured both the new 2.4 Ghz frequency and the extra channels on 35 Mhz for the use of Irish aeromodellers. We now have the full use of channels 55 to 90 to bring us in line with our UK counterparts, who have

enjoyed the use of these channels for some time.

The introduction of the 2.4 Ghz technology has tremendous potential, particularly in the area of safety, and does seem to be the future method of radio control for our models. There are a couple of articles in this edition where 2.4 Ghz is discussed.

This edition of Flightlines includes articles from most of the Secretaries of the different disciplines describing their particular branches of our hobby. This should give everyone, including newcomers to the hobby, an insight into what is involved in these separate disciplines. Want to know more? Get in touch with the relevant Secretary, they would love to hear from you. More information is also available on the website at www.maci.ie

Please note that if you have not renewed your membership, this is the last edition of Flightlines you will receive.

The deadline for the next edition is May 31st. Please, please include some pictures with any articles you have, or even just send some photos on their own with captions. Any photos posted to me will be returned with your copy of Flightlines.

Safe flying till next time.

Chris Clarke

THE FEENEY FILES

CRYAN'AIR

GERARD FEENEY PROFILES AN INSPIRING MUSICAL MODELLER FROM CARRICK-ON-SHANNON...

The truly dedicated self-taught R/C aeromodeller is a rare creature. A recent 'Feeney Zone' newcomer turned out to be just such a person, and has proved so inspiring that I've written this article about his path to R/C model-flying satisfaction.

AIR PLAY

When 36-year-old musician Padraic Cryan isn't wowing the crowds at one of his frequent acoustic guitar gigs, he's busy slaving over a



The Multiplex Pico-Cub was a good friend during Padraic's early 'fright' training! Note the non-standard colour scheme.

hot model aircraft! Padraic entered the R/C aeromodelling scene back in the year 2000, and has fought his way completely solo through several setbacks since then to become the accomplished R/C flier that he is today. He's living proof that a raw newcomer, with a gritty persistence to succeed, can use electric-powered model aircraft to achieve proficient solo radio-guided flight.

I never believed the 'electric R/C trainer' route to be a viable solo beginners' option, but it seems that I was wrong. I have subsequently heard from Norman Green that several other people have also learned solo with slowflying electric R/C models. That's good to hear, but let's examine Padraic's path to high-flying success to encourage those beginners for whom electric trainers haven't been quite so 'uplifting'.

FLYIN' AND 'CRYAN'

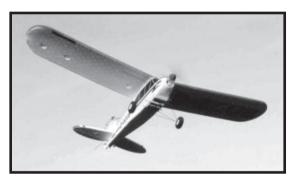


It's a treat to be able to operate one's small electric R/C model in the confines of one's back garden and front lawn! Padraic sure did a lot of 'lupin'...

As the millennium dawned. Padraic's burning desire to 'get high with aeromodelling' blossomed. Starting off with ARTF electric models such as the Speed 400-powered 'Pluton' and 'Yard-Bee', guided by his new Hitec radio. Padraic's resolve to acquire total solo R/C flight proficiency was soon put to the test.

After his umpteenth short-lived over-controlled airborne 'roller-coaster ride' and death-dive pile-in, the repetitive task of repairing those crumpled airframes and then taking to the sky again for more of the same was becoming a tad wearing. But, having endured countless midnight-oil-burning repair sessions, our man just kept on keeping on until such time as his circumstances

started 'looking up'. After a hard-fought battle, during which time he retired the Pluton and worked his way through five Yard-Bees (and many other models!), his flight times gradually increased due to a developing 'feel' for the controls. His landings also became more refined affairs that saw



Padraic's pretty Pico-Cub putters past perfectly!

less airframe carnage as the models landed right-side-up for a greater proportion of the time.

He then discovered the Multiplex 'Pico-Cub'. This scalish foamie enabled him to hone his hardwon flying skills. The model proved to docile be а and dreadfully accommodating flier, and soon Padraic was flitting funfully around his back/ front gardens - not to mention taking off and landing on his gravel driveway! Padraic enjoyed flying the little Pico-Cub so much that he bought a total of four of 'em. as each one succumbed to the rigours of a steep learning curve.



up and at it.

JET SET

Having mastered the high-

wing cabin types, Padraic craved greater airborne excitement – enter a succession of 'Pico-Jet' models. Flying first with the standard Speed 400 motors and then with souped-up brushless motors, his squadron of 'jets' certainly



One of the 'transformed' Pico-Jet models showing its revised colour scheme and canopy layout.

delivered plenty of excitement. I was amazed at how well he could manage these speed machines after moving on from the sedate Pico-Cub. Padraic flew with panache and confidence both 'high up and low down' – it was indeed inspiring to behold as I munched on my Valium sandwiches!

One hard lesson learned during his 'jet

phase' was when someone stopped to watch him fly. He got distracted for a couple of seconds and took his eyes off the model to look at the car on the road. Result: a rather rapid pile-in with a dreadfully demolished foamie to show for his distraction. Moral: concentrate on flying your model no matter what happens around you!

When Padraic moved on to the tiny 'Micro-Jet', he again tasted the 'negative' side of electric R/C flying. This model was hard to control right from the first fling. It was also over-sensitive and unsmooth, and the resultant 'first-fright' prang reduced to a pile of foam particles what had been a very sexy looking design. If anyone reading this has experience of successfully flying the Micro-Jet, please get in touch – we'd like to know more about its handling foibles.

RUNNING INTERFERENCE

Another 'shocking' aspect of Padraic's five-year electric flight tenure was airborne interference. Throughout this period, regardless of what model he flew, or where he flew it, sudden glitches and twitches plagued him. It wasn't so bad at altitude, where there was sufficient height to recover, but it was scary and potentially dangerous if he got 'all shook up' near the ground.

Before you ask, yes he did have suppressers fitted to his motors - but

they made no difference. I must ask the question: are the low-price can motors and speed controllers prone to generating sparks and interference? Model aircraft designer and magazine columnist Peter Miller has told me that. in his experience, Kontronic speed controllers are garbage. Coincidentally, this was the very make of speed controller that Padraic was using. Does anyone reading this have anything to say on the matter?



If the Micro-Jet had been more successful, that personalised airframe colour scheme would have lasted longer.

I think the important message is: buy the more expensive upper-end electric flight speed controllers and motors, wherever possible.

FOAM FROLICS

Padraic wanted his electric foamie fleet to look different to the runof-the-mill 'stickers over the bare foam' brigade. So, he got out the Humbrol matt and gloss enamel and, after a spot of artwork, his foamster family certainly stood out from the crowd! The Pico-Cub was brightened up with bold top-surface wing and horizontal tail colour blocks, which were masked off and brush-painted



individually. In addition to getting welld e f i n e d canopies and red 'highlights', his Pico-Jet/ M i c r o - J e t c o l l e c t i o n received 'Mig'/ 'Sukhoi'-type

The Yard-Bee wing that's different to all the others!

camouflage schemes. This paintwork was again brushed on using both masking and freehand techniques.

Padraic's 'star quality' then shone through when he added stellar graphics to his foamies. To do this, he cut different sizes of star-shaped stencils from stout folded paper using a scissors, and painted gloss enamel through the stencils directly onto the foam when the stencils were temporarily handpositioned as required.

He subsequently discovered that these painted-on stars could be removed easily when the paint was dry by placing Sellotape on top and pulling smartly. (Indeed, Padraic's star-

removal technique is reminiscent of my own bikini-line waxing method, but we won't go there just now!)

RETRO-ROCKET

Padraic introduced a touch of retro-chic to some of his Pico-Jet models by way of a quirky canopy modification.

He cut the front canopy portion away to leave a semi-open cockpit layout and installed a



Run Rabbit, run! More motor 'oomph' would have encouraged Padraic's air racer to perform better.

small pilot figure, which was epoxied in place to the foam interior. This unusual move combined both 20th and 21st Century airframe styling in a surprisingly attractive manner.

'BEE' DIFFERENT!

One of Padraic's Yard-Bee sportsters sustained wing covering damage when the poorly-packed kit was posted to him. He also fancied a change from the standard colour scheme, so he asked me to alter the wing décor. I tried the following bit of 'mainplane transformational trimming'...

The factory-applied transparent yellow plastic film was first sliced span-wise with a sharp

Number 11 scalpel guided by a straight-edge,

 $1/4^{"}$ behind the main spar on the upper surface only. The covering material from the main spar back to the trailing edge was then removed on both the middle and tip panels. The remaining leading edge film was now ironed down all along on the exposed rear-



Padraic's very first glow plug engine model was the Thunder Tiger 'Tiger 40' ARTF trainer which he purchased from Gerard.

facing side of the main spar in preparation for what was to follow.

I first sealed down and then shrunk tight three bright red Solarfilm panels where the transparent yellow film had been. I did the centre panel first, followed by the tip panels. This immediately changed the wing appearance!

Because there was no lower main spar to anchor the covering on, I stuck matching bright red Solartrim beneath the wing over the existing covering on all panels from the spar position back to the trailing edge to meet up with the top colour trim. The Solartrim was floated on using the soapy water placement method, then patted dry with kitchen towel and squeegeed flat with an old phone card. Once more the middle panel was done first, followed by the tip panels. This 'underside last' wing-trimming technique is not strictly correct as the overlaps end up on the upper surface. But, as the model is electric, it wasn't a problem.

Finally, a narrow span-wise stripe, added between the newly-applied red areas and the original wing covering, gave a very smart result.

Padraic was profoundly chuffed by his 'new Bee' that didn't look like the rest of the swarm!

'HARE' RACING

Our man 'P' picked up a kit for the R-5 'Jack Rabbit' at a model show. Produced by 'High End Technology' ('HET') of Holland, this is a 30" wing-span semi-scale ARTF reproduction of a 1930s Keith Rider air racer. It is one of a family of electric-powered air racer designs that includes the R-4 'Schoenfeldt Firecracker' and R-6 'Eight-Ball'.

Factory-constructed from precision-cut liteply and sheet balsa parts, with balsa-sheeted foam wings, the Jack Rabbit airframe is clad in Oratex heat-shrink fabric. A moulded plastic cowl and clear canopy, along with a goody-

bag that provides motor-fitting and control linkage accessories, plus a self-adhesive decal sheet, takes up the remaining space in the small box. The assembly process is guided by a sixpage instruction pamphlet; the instructions are the same for all three designs.



Padraic's second glow engine model, the Irvine 'Tutor 40', seen on a low pass.

The model may be powered by a standard can motor or a powerful brushless motor. In the first instance, a six-volt Graupner Speed 400 running off an eight-cell nicad, and driving a 6.5"x 4" prop, is recommended. The second arrangement utilises a HET 'Typhoon Micro-6' brushless motor spinning a 6.5"x 6.5" prop and running off a 3S1P eight-cell Li-Po battery. A three-channel R/C set-up (the rudder is non-functional) with two micro servos and a HET 'Tsunami 10' speed controller (or something similar) is the guiding force needed to round those pylons.

RABBITING ON

I put the model together, and the following constructional/finishing/ flying points are noteworthy...

Seal and shrink the covering before assembly, if needed. Remove the covering from the horizontal tail-seat edges, from the horizontal tail centresection top and bottom, and from around the wing and horizontal tail/control surface hinge slots.

To avoid smudging, leave the marking of the suggested felt-tip pen 'panel lines' until after the model is finished.

The Typhoon Micro-6 motor needs a special mount and some downthrust. A washer-thickness between the mount and firewall is fine. A prop adaptor is needed for the brushless motor.

A standard Speed 400 motor needs no down-thrust, and it's held in place on the projecting hardwood firewall beams with two tie-wraps and small dollops of five-minute epoxy.



Carrick craft! Padraic gets his new Arising Star ready for action.

The moulded plastic cowl rear-edge cut-line is unclear. Use Flair narrow-gauge flexible masking tape to highlight the cut-line and to guide the scissors.

With the cowl trimmed as recommended, the motor-mount hardwood beams had to be shortened by 1/4 to allow the cowl to fit in place.

Position the cowl accurately with the motor firmly mounted. Attach both the cowl and clear canopy with narrow Solartrim strips.

The canopy cut-lines are inaccurate. Too much material is removed if you follow the indistinct pre-indented marks.

Leave the canopy attachment until after the radio installation is complete to avoid the 'trapped debris' syndrome.

The pre-installed fuselage ply tray cut-out is too large for a micro servo. Additional liteply servo-mounting cross-beams must be fitted.



Padraic's 'Star' arises over Ballybeg!

Support the elevator linkage outer tube with an internal f i v e - m i n u t e epoxy fillet where it exits the fuselage.

The mentioned 'Bowden cable and clevis elevator link' are

not supplied. A 0.8mm wire rod with one end pre-bent is. This works just as well with an adjustable grub-screw servo connector.

The fin-fairing is not a brilliant fit on top of the horizontal tail.

Don't forget to add the dihedral brace before joining the wing panels!

The pre-drilled wing centre section bolt-hole is in the wrong position. It needs elongating with a round file to allow the wing bolt to engage through the captive nut in the fuselage ply anchorage plate.

From our experience, a standard Speed 400 motor is insufficient to

power this aircraft from a hand launch. We suggest that the model be fitted only with a powerful brushless motor, and that the optional bungee-assist launch method is also considered.

'SHOCK' MOVE!

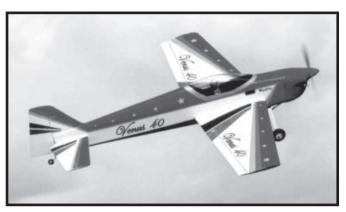
Last year, Padraic transferred over to the glow engine-powered side of R/C aeromodelling.



PC does it upside-down, despite the Arising Star's flat-bottom wing section...

His transition has been seamless and successful and he looks forward to many happy years of oily (and glitch-free) stick twiddling. More power to his glow plug, I say! He's now enjoying wringing out both his 'Arising Star' ARTF trainer and the more lively aerobatic designs with the carefree confidence that has become his trademark. And, what's more, he's proving invaluable as

mv newfound pilot for modelflying shots. It's great to h a v е someone on the tranny sticks that I а с n implicitly trust with my models, while T waggle the telephoto lens about!



With Padraic on the sticks, James Lennon's 'Venus 40' hot ship is in safe hands.

NOTE WELL...

So, the message is: with dogged determination like wot Padraic has, you too will succeed in the R/C model aircraft flying game. Truthfully, you probably won't do it completely unaided as he did, but channel your determination into finding your nearest individual or club flier and go from there.

Any comments to:- feeneyzone@eircom.net

Gerard Feeney

Scale Secretary's Report

In this issue of Flight Lines, the various disciplines and competitions sponsored by the MACI are presented.

As Scale Secretary I have penned an outline for MACI members who have an interest in building and flying scale models and what they can look forward to should they decide to fly competitively.

The majority of clubs will have a percentage of scale model flyers but often if there are no scale competition flyers in their ranks, the message about the enjoyment (yes!) of competition flying does not percolate down to them. Every year new members in clubs will master the basic trainer and often move on to a scale model. The modelling magazines are full of scale models of all sizes and shapes to suit every taste whether civilian or military types.

It is at this point that the scale competition flyer in the club can play a critical role in initiating the new scale flyer to the prospect of scale competition participation. Very quickly purposeful and discipline flying will be the reward as the "disciple" learns to emulate the characteristics of the full sized aeroplane. Just as quickly it will dawn on them that the presentation of the scale manoeuvres "out in the box" of air space in front of the flyer is synonymous with disciplined and safe flying practice. Vague and often erratic flying which can be witnessed on many flying sites will hopefully be something that scale modellers can eradicate by practicing their scale manoeuvres. The scale flyer with competition in mind approaches his days flying with presentation, safety and enjoyment uppermost in his mind.

But what I hear you cry if there are no competition flyers in your club or little or no interest from fellow club members in pointing the way to scale competition. Well, as indicated in my article on competition flying, there are a number of alternatives. Go along to the scale Fly-Ins of which there are 3 on the MACI calendar of events. While not all attendees at these are competition flyers, someone will direct you to a scale competitor who will be more than willing to help you. Go also to the scale competitions of which there are 4; no better way to find out what it is really about and not a vague perception that some detractors, (yes there are some!), will claim competition flying is about. At all these venues the Scale Flying Rules Book will be on sale and also by post direct (details/costs in the article alluded to). At the same time as your are shelling out a few shekels for the rules book, why not dig a little deeper and join the Scale Model Flying Association (details elsewhere in Flight Lines) and enhance your interest in the whole area of scale model flying.

Don't forget to check the evening before you decide to attend a Fly-In or competition to check the MACI website, (www.maci.ie), as postponement of events can sometimes occur due mainly to wet or very windy conditions.

I was saddened to hear of the passing of Eddie Linehan of the Rising Sun Club Cork, recently. He was a dedicated scale modeller and had quite a stable of models. His preferences were many from biplanes, to Extras, to the Dc3; always large, and powered by petrol engines. I met Eddie a good many years ago when he was a member of the Cork Model Club and always enjoyed his company. A keen sense of humour, understatement and an ability to prick pompous declarations made for most enjoyable sessions in his company.

Eamonn Keenan IRL1000

Spread Spectrum, 2.4GHz, Sounds Complicated?

Well what the hell is this new 2.4 giga-jiga-hertzy thing all about you might ask? Quite simply it is a new and different way for our radio gear to talk across thin air, not a million miles removed from the technology that allows computer components to operate wireless "Wi-Fi" networks around your home or office. So what's so different, it's a radio control system isn't it?

Some radio basics first! Hertz are like metres, litres, kilograms or volts, they are a SI unit of measure and it relates to the number of cycles, waves, beats or pulses per second, such as a sound wave, radio wave or electrical oscillation. In our 35Mhz radio systems, a signal is broadcast using a radio wave that oscillates at give or take 35,000,000 (35x10⁶) cycles per second. Our receivers are "Tuned" to the same frequency (oscillations per second) as our transmitters using a pair of matched crystals. In the traditional 35Mhz FM system, each adjacent channel is separated by 50Khz (0.05Mhz), that is 50,000 cycles per second. Liken this to sounds that we can hear and it basically means that each channel is a different tone, a particular tone that your receiver is tuned to hear above all the other noise and radio waves around us. This predictable radio wave pattern coming from transmitter to receiver (thanks to the crystals) allows the transmitter to super-impose the""messages" to the receiver on this predictable pattern, telling the servos what position they should be in at any given moment in time.

So here firstly, in layman's terms,'*from a layman I stress* (with sincere apologies to those more intelligent than I!) is how our existing 35Mhz transmitter talks to the receiver and hence the servos in the aircraft.

With 35Mhz systems, the "message" sent to the receiver is basically a table or sequence of analogue values (maybe visualise each of these values as a variable level between 1-100, something like a "bar-graph"). Each signal level relating to a joystick, mixer or switch position, and corresponding to an angle or position that we want the servo to go to. Once these levels have been sent from the transmitter, received by the receiver, they are then separated and reported as position signals to each servo socket in the receiver by all the electronics within. This message is updated every few milliseconds by the transmitter (in most cases about 20 or more of these "messages" per second), so you end up with a stream of messages radiating out of your transmitter one after the other with a time gap between them.

It logically stands to reason that if you block a few of these "messages" for any reason for any period of time, or you send them out simultaneously from two transmitters on the same crystal, your receiver has zero or mixed instructions. Sometimes in this scenario, the receiver will hear the next loudest radio noise that is close to or on the same predictable frequency as the crystal and send the wrong signals to the servo sockets. We know this as interference, a glitch or some Muppet switching on his transmitter in the pits!

Why is 2.4 so different then you ask. Well think of its title first, 2.4Gigahertz. It basically uses the same principal of an oscillating radio wave but at a much higher speed of oscillation, namely 2,400,000,000 ($2.4x10^9$) oscillations per second. Now as the "Messages" will be nested amidst these oscillations, it stands to reason that a considerably larger volume of messages can be sent from transmitter to receiver. The system is digital, as opposed to analogue too. This basically means that a computer processor within the transmitter takes all the instructions from the joysticks and instead of putting these positions in a long and bulky list, one after the other like described previously. The microprocessor uses complicated maths to basically generate a short and unique code that describes all of these joystick (and hence the required servo) positions.

This code is a tiny piece of information compared to the analogue "message", but none the less can be re-constructed by the receiver into the exact same information. The radio system therefore manages to compress the "message" into a much smaller piece of data, I guess like taking a nice two-paged letter, translating it to shorthand and putting it all on a postcard. The 2.4Ghz receiver can read this "shorthand" language, so the message that comes out at the other end is still your nice long two-paged letter, but it was squashed into a little postcard for the transport job. Are you starting to see any advantages yet? Well, here is where the system gets clever. Because the "message" to the servos is now so small and occupies so little of the available radio signal capacity, the 2.4 systems can include several really cool security and redundancy features.

To start with, this shorthand message that the transmitter constructs is in fact so small, it fits on the top corner of our postcard, so the transmitter piggy-backs loads more information into the postcard, remember this for a moment 'cos I am going to refer back to this again and again later.

Because the 2.4Ghz wavelength can "nest" so many of these "postcards" within the many million oscillations per second the clever transmitters and receivers can use this massive capacity and create virtual parallel channels within the 2.4 band, like an 80 lane motorway.

This is a sort of virtual motorway as it doesn't actually exist in terms of the channels we are used to (as we have with crystals in 35Mhz), again just try to visualise this 80 lane motorway 'cos I will come back to it again in a few moments.

Having sketched out these 80 parallel lanes, once you turn on your transmitter, it is clever enough to listen into the traffic across the whole 2.4 channel, sees other 2.4 radio controls, may see other traffic from wireless computer networks, blue-tooth portable devices e.t.c and then builds its own strategy on how best it might direct its millions of "Packets" (postcards, full of shorthand, let's call them by their proper name from now on, OK?) down these 80 or so virtual lanes. You can see already that all these decisions and conclusions are bits of information that might really want to go on our postcard... Oops, I mean packet!

The receivers are clever too, as these are "bound" to the transmitter. This means when you get a new set or even a new receiver, you have to go through a simple sequence to initialise (introduce) the clever bits to each other. The transmitter has a Globally Unique ID encoded within it. During the initialisation (introduction) the transmitter explains to the receiver that it will not entertain any packets (postcards full of shorthand data) that don't include this GUID, in fact, this GUID is part of the translation of the shorthand we will use, so the receiver couldn't understand an other devices packets even if it wanted to. This is in fact a critical feature as it means that the receiver is actually and completely deaf to anything but it's own transmitter. Pretty damned clever I think!

What is quite different on the 2.4Ghz systems is that because the massive virtual motorway has a high speed limit (2.4Ghz!) there is always enough space to send spare copies of the "packets" along different lanes at the same time. You could think of this capacity as lots of long spaces in between fast moving vehicles on the super-wide motorway.

So let's try and make sense of this whole lot then... The 2.4 transmitter will at super high speed, register the joystick and switch positions, mixer outputs, in fact anything that needs to go to the aircraft. It will then squash this all down to a tiny code, will put it all on a packet, will identify the packet with it's own ID, instructions detailing what other channels it will send spare packets along, tell the receiver how to recognise these packets, will add the de-cipher codes and will even put a hello and goodbye message on each end of the packet.

How precisely this is all done is unique to each of the systems on the market, as is the level of redundancy, how the virtual channels are created and shared and how "virtual motorway" traffic is directed, collisions are avoided and cleared.

The obvious advantage for us, the R/C flyer is the binding of transmitters and receivers as this means that frequency control is no longer an issue. Interference is technically not possible as every transmitter/receiver pairing has its own language. So it is safe to say that "either it works or it don't…FULL STOP!". Different systems do work differently, manage the bandwidth differently and use different strategies to "direct the traffic" so to speak. Established systems suggest that typically up to 80 sets can operate simultaneously within range of each other before the""traffic gets too heavy". I look forward to the day I see 80 models operate in the same sky (and I do fly slope combat!)

I suppose to summarise, the net result for us is a new evolution in radio control technology that whatever way you look at it is far superior to existing 35Mhz FM. Personally I am for it and will keep reading up to see which of these emerging systems looks best for me.

Garry Keogh IRL 1830

M.A.C.I. Scale Competitions

Where and when are MACI Scale Competitions held?

Scale competitions are held on a regional basis around Ireland. For dates and location, go into the MACI website – MACI.ie. To ensure that an event publicised on the MACI site will be taking place, you should ALWAYS check the site the night before the event as adverse weather can cause a postponement.

Are there different classes at a MACI Scale Competition?

Yes, there are three different classes the modeller can choose from. A maximum of two classes can be entered by a competitor at any given MACI competition. All of the classes cater for most sizes and types of models i.e. civilian, military, transport etc. Should a competitor wish to enter two classes he must do so with two separate models.

Can Aerobatic Scale Models and mildly aerobatic models compete in the same class?

Yes. To ensure that competitors have at least on paper, an equal chance, the flying schedule is so designed to allow competitors to select manoeuvres that are typical of the full size prototype.

A Pitts Special for example would be capable of executing a roll, while a Piper Cub would avoid this manoeuvre and execute perhaps a Wingover. A mildly aerobatic manoeuvre demonstrated by an aerobatic scale model will garner few marks, and an aerobatic manoeuvre demonstrated by a mildly aerobatic model, will also receive few marks.

Forget that the MODEL in the right hands is capable of most manoeuvres and remember you are trying to emulate the capabilities of the FULL SIZE prototype, from take off to landing.

Which two classes can I enter at a MACI Competition?

MACI Competitions offer three classes. The complete regulation governing these classes, the flying and static elements, the pictorial and descriptive explanations of the manoeuvres which are flown and contained in the RADIO CONTROL SCALE RULES HANDBOOK can be purchased in bound form (details at the end of this article). The classes cater for all types and sizes of scale models whether they are built from plans, ARTF's, kits, or purchased ready to go, having been built by another modeller.

There is an entry class referred to as MACI Novice Class for those who wish to enter competition for the first time. A modeller eligible for this class can compete in it at any MACI Competition for two years only and then aspire to one or both of the remaining two classes.

Is there an advantage in choosing an aerobatic scale model over a mildly aerobatic model for flying at a scale competition?

How long is a piece of string! Most modellers choose a scale model because they are attracted by the full size prototype for a myriad of reasons, too many to list. The varying weather and light conditions we enjoy during the year from bright and sunny, to windy and dull, will affect the flight performance of most scale models. Flying experience is hugely variable and will impact often on ones choice of a scale model, as will the availability of building time a modeller is willing to devote. Ultimately most competitors will choose a model or models for their intrinsic appeal and enter scale competitions for the opportunity to present a series of manoeuvres which emulate the full size prototype and of course to meet fellow enthusiasts and swap the latest scale news and lies!

To obtain a copy of the RADIO CONTROL SCALE RULES HANDBOOK contact

STEVE QUIGLEY 73 HILLCREST WALK LUCAN CO DUBLIN 01 6241209

The cost is $\notin 5.00$ which includes postage. The handbook will also be available at scale competitions and costs $\notin 3.00$.

Eamonn Keenan.

Scale Model Flying Association of Ireland

The main aim of the SMFAI is to promote interest in the building and flying of scale models. The association is run by a committee of three, whose objective is to keep members informed on scale activities within MACI and keep scale interest alive through the production of Scale News the association's magazine circulated to the membership three time per year.

Members who require help in researching any particular prototype they are interested in modelling. may avail of the help of the association in obtaining three view drawings or colour schemes etc.

The MACI Scale Secretary has traditionally had available to him a Scale Technical Committee to help with rule interpretations, rule changes and liaison with the FAI on scale matters. For the past number of years this group has been elected from the membership of the SMFAI. This group during 2005/2006 revised the scale flying rules incorporating the latest FAI amendments which resulted in the publication of the MACI Scale Rules Handbook. Copies of the rules are available through the association.

Augmenting the scale competition calendar, the association organises several Scale Fly-In events during the year where scale modellers meet for an informal day of relaxed non-competitive flying. These events have proved very popular and have increased scale interest in several clubs. The interest instilled after attending a Fly-In can lead some to venture into the more formal competition flying.

While the traditional building of scale models from plans or kits has diminished somewhat with the vast choice of ARTF scale models now available, the association welcomes all scale modellers in the pursuit of realistic scale flight. Irrespective of the pedigree of your model it can be great fun in learning about your prototype's flight performance followed by attempting to recreate this in a realistic manner.

If you think the scale bug could be for you come along to a Fly –In or scale competition and enjoy the scale flying and good humoured atmosphere.

For further information or to join the SMFAI contact one of the committee members.

Steve Quigley Chairman

Hints & Tips

Building Aids

Pop down to your local PC/laptop supplier who also does repairs etc and ask him for any dead laptop batteries. These are normally flat batteries approx 7" x 3-4" and about 1" high. A lot of them are nice and flat on all sides and if you have 6 or more, they are very useful for weighting down sheet timber that is being glued or, stacked up vertically, can help in keeping the sides of a fuselage vertical while formers and cross pieces are added.

Securing Servo Extensions

I normally use very small tie wraps to secure a servo extension lead to the servo lead. Just make sure that the wires into the servo plug and out of the servo ext lead socket are not damaged when you pull the tie wrap up tightly.

Cheap Control Horns for Electric Models

While you are down at the PC supplier, ask him for any old motherboards/network cards or anything that has a PCB (printed circuit board) in his junk area. These are normally green glassfibre boards with lots of electrical bits and pieces such as transistors and chips surface soldered to them. Use a pliers to prise off any of these items and then run the board under an electric grinder to smoothen out the PCB. Then use a scroll saw to cut the shape of the horns out of the PCB material. Be careful and use goggles especially when cutting or grinding the PCBs as they will throw up a lot of sharp bits. One old network card will keep you in control surface horns for about 20 models !!!! Is that good value or not ?

Bill Thompson

Royal County Aeromodellers Club IRL-862 www.royalcountyflyers.com

M.A.C.I. Council Meeting Montague Hotel Emo Portlaoise. 23 January 2006.

The first Council Meeting of the year got off to a good start with an excellent attendance. Even so, many clubs were not represented and missed the opportunity to have there say in the proceedings.

MACI Contest Calendar 2007.

The main business of the evening was to fix the Contest Calendar 2007. This Calendar will be published on the MACI Website.

"A" and""B" Certificate Examiners' Course.

MACI is anxious to introduce this scheme to all clubs where members are trained up to "A" Certificate level. This is just a basic test to ensure that the novice pilot is qualified to handle a radio controlled model aircraft and can take off, fly and land it safely. The""B" Certificate is a more advanced test where the pilot has to demonstrate that he can fly safely a radio controlled model aircraft at a public flying display. This particular test must be done at a flying site other than his or her club flying site.

To this end "A" and""B" Certificate Examiners' Courses will take place in various venues throughout the country to make it easier for prospective examiners to attend. These courses, which are normally two-day affairs, will be held annually.

Contest Directors Course.

The Contest Directors Courses will take place in conjunction with the above courses. Anyone who intends to run a contest must attend this course and requalify every three years. The duration of this course is approximately three hours.

Competition Entry Regulations.

The "Pre-Entry" stipulation was removed from the MACI By-Laws which means that you can enter a contest "on-the-day". This is what was happening anyway and the bye-law change regularises it.

Jet World Masters, Enniskillen – July 5th to 14th.

MACI is entering a team of three to take part in this event. It is the equivalent of a World Championships and as many members as possible are advised to attend to see top class flying of jet aircraft. This is only the second time that a world class event is taking place in Ireland. The first one was the World Radio Control Model Aerobatics Championships which took place in Mallow in 2001.

MACI Annual General Meeting 2007.

The MACI Annual General Meeting 2007 will take place at the Montague Hotel, Emo Portlaoise on 13 October 2007. The date of the AGM was brought forward to the second Saturday in October at our last Annual General Meeting to make it easier to book accommodation for the event.

MACI National Championships 2007.

These will take place on 198h & 19th August 2007 at a venue yet to be decided.

MACI FLY-IN 2007.

This will take place at Kilrush Airfield, Narraghmore, Co. Kildare in September 2007 by kind permission of the owner. This airfield is near Athy and is home to over 40 light aircraft. A bring and buy sale will take place at the same time to add interest to the event.

It is also the headquarters of the National Aero Club of Ireland where their office is manned by their full-time administrator, Ken Haslett. The NACI website address is www.aeroclub.ie.

"Flightlines" Magazine.

In order to allow the "Flightlines" Editor more time to edit, publish and circulate the magazine, it was decided that all articles, letters, photographs etc. for publication in "Flightlines" should be sent to John Molloy. He will act as "Flight Lines" Reporter and will channel them on to Chris Clarke "Flightlines" Editor. Items should be sent in electronic form, where possible, to John Molloy at jjm@iol.ie.

John Molloy.

R.I.P.

The death occurred on the 17th of February 2007 of Eddie Linehan, a scale enthusiast and a member of the Rising Sun Club in Cork.

Eddie was known for building large models, such as the DC3, Cessna, Focker DR1, Laser and many others.

He was always willing to give a helping hand in many aspects of modelling, and will be sadly missed by all members.

Condolences go to Eddie's family.

D. O'Flaherty Hon. Sec.



Leinster Scale Championships



2007 The Laois & District Model Aero Club

Clondouglas.Portlaoise

Saturday & Sunday, 30th June/1 st July 2007

F4c Scale

M.A.C.I. Scale Clubmans Scale "Look a like"

Contest Director - Des Pearson

Pilots' briefing 9.00 am

First flight 9.30 am

M.A.C.I Insurance and Large Model registration must be shown on

the day

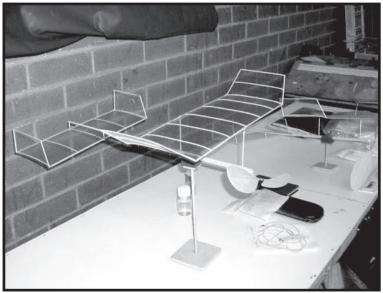
Complimentary sandwiches, tea and coffee available all day!

Entry Fee: 20 Euro

Further Details from Des Pearson (0502 8647522) or Paul Fetherstonhaugh (0502 8732535)



Howard Menary flying his electric powered helicopter



Microfilm Indoor Model



Les Gosnell & Ralph McCarthy discussing the finer points of a Eurocopter



F3A Aerobatic Models at the flightline

Model Radio Control Frequency

There has been some confusion recently regarding radio frequencies. Questions like; what ones are legal? Which are not? Why can't I use a 27MHz set? amongst others.

Much of this confusion has probably been furthered recently, by the allocation of more channels by Comreg, The Communications Regulator of Ireland. In this article, I hope to separate myth from fact and give you the up-to-date information.

What is an SRD?

From the regulators point of view, Radio control transmitters fall into a category of transmitters known as "Short Range Devices" (SRDs). This category covers a range of transmitters which have limited power output and therefore have a low capability of causing interference to other types of radio equipment (e.g. your T.V and radio etc.)

The Irish law was changed just a few years ago, so that our model transmitters may now be operated without the requirement for a licence (as was the case previously), on condition that they comply with certain criteria. These criteria are namely the frequency that they transmit on, and the power output of the unit.

Why is the frequency band so important?

The government lays down a table of different frequency bands, with different types of uses for them. These are carefully laid out so that the possibility of interference is minimised, making them safer to use.

Of particular interest to us, are the allocation of frequencies for use with models, which include the 27 MHz (Megahertz), 35 MHz and 40 MHz bands. NB Only the 35 MHz band is for use with model aircraft. The other ones are for ground-based machines such as cars and boats.

It is illegal to use the 27 and 40 MHz bands in model aircraft in The Republic of Ireland, even though they may be allowed in some other countries. Likewise, it is illegal to use ground-based models on the 35 MHz band.

I would make a serious request to all members, to kindly notify MACI with details, if they should see models on sale or being sold on an illegal frequency, as they constitute a serious potential safety hazard.

Ok, so let's get down to the ones that we need to know about:

Since 22^{nd} of December 2006, our permitted FM band covers from 34.945 MHz to 35.305 MHz. This band is divided into 10 KHz spaces, which is what we know as channels, with 5KHz spaces at either end. Your radio set will, no doubt, be sold to you as being on a particular channel. The crystals concerned will have the channel number and/or the frequency marked on it.

Modellers using such transmitters should check the crystal and make a note of what frequency they are using. Note also, that even if the radio set is new and it states on the box what channel it is, you should still check it to be certain. Quite frequently, the model shop attendant is requested by customers to swap crystals with others in order for the customer to get the desired channel number and therefore, what is printed on the box, is not necessarily the channel that you get! For that matter, also check that the receiver crystal is on the same channel.

Your transmitter using this band should display an orange pennant, preferably with the channel number displayed on it in white.

Below is a channel number / frequency conversion chart

<u>Channel</u>	Frequency
55	34.050
56	34.060
57	34.070
58	34.080
59	34.090
60	35.000
61	35.010
62	35.020
63	35.030
64	35.040
65	35.050
66	35.060
67	35.070
68	35.080
69	35.090
70	35.100
71	35.110
72	35.120

<u>Channel</u>	Frequency
73	35.130
74	35.140
75	35.150
76	35.160
77	35.170
78	35.180
79	35.190
80	35.200
81	35.210
82	35.220
83	35.230
84	35.240
85	35.250
86	35.260
87	35.270
88	35.280
89	35.290
90	35.300

Synthesised channels

There are a number of transmitters available now that do not use crystals. Instead they use a synthesised system, enabling the user to select their preferred channel. This can obviously lead to confusion at club sites regarding frequency control and careful procedures need to be followed in order to avoid conflict. Even though some of these radios will not transmit if they detect another one on the same channel, changing channels can cause confusion for your clubmates as well.

The best option is to pick a lesser-used channel number and stick with it as much as possible. Note also that when selecting a channel, you should pick one from the above table because even though the unit may offer more frequencies than these, they would be illegal to use in the Republic. Please also display an orange pennant as with the fixed channel sets (though do not put a number on it if you frequently change channels).

2.4 GHz radio sets

Only legalised this year, this, the latest in available model radio technology, is a totally different system from what we're used to. Unlike the 35MHz sets that I have been talking about, the 2.4GHz (Gigahertz) system does not use specific channels or numbers, as we know them.

The receiver is paired with the transmitter (rather like pairing a Bluetooth device to your mobile phone). Once this is done, you can then just switch on the transmitter followed by the receiver and they will only talk with each other and will not be interfered with by other users. There are some critical things that you must do in setting up and range testing that you will not be used to with other sets, so make sure to read the instructions carefully if you decide to go this route.

From a frequency control point of view, you should display a black pennant form your transmitter when using this system, and if your club operates a 'peg-on' control system, then you should have your own peg with both your name and "2.4 GHz" on it to display on the board.

I hope that this article has been of use and interest to you. If you are hungry for more information on this, you can access the Commission for Communication website at http://www.odtr.ie where you can find the regulations on the full radio spectrum.

Safe operating!

Gary Hooper MACI Safety Promotions Officer

MACI COUNCIL MEETING

27 February 2007 The Montague Hotel, Emo, Portlaoise.

Attendance & Finance.

There was an excellent attendance of 30 with 17 clubs represented. The current membership is 835 and the finances are in a good state with the insurance premium due for payment in the near future.

Flightlines.

It is planned that the April issue would contain information that would be useful to beginners and sports pilots. These catagories form the vast majority of the membership. An appeal was made for the contribution of articles and photographs from all the disciplines.

Radio Control Helicopter.

P.J. Harte reported on a successful Fly for Fun in Waterford on 6 February 2007. A Judges' Course is planned for the 31 March 2007 at the Montague Hotel.

Competition Calendar.

This is now published on the MACI Website only.

Radio Frequencies.

P.J. Harte announced that 2.4GHz band for model flying has been signed into law and it is now legal to use in Ireland.

He said that the additional 35 MHz channels 55-90 were also allocated to model flying by the Department of Communications and should be approved for use in the near future.

Important Notice.

Some shops sell radio controlled cars and boats using the 35 MHz band; this is illegal in this country and the proprietors should be advised accordingly. The 27 MHz is for land & water based models and, of course, for the citizen band.

RC Scale Jet World Championships, Enniskillen 2007.

MACI have three entries managed by John Beasley. Seamus O'Donnell, Andrias Balsiger and John Beasley himself are the pilots. MACI was unable to field a full team of four.

FAI Model Specification Certificates.

John Molloy said that he has a supply of the newly designed FAI Model Specification Certificates and Model I.D. stickers. It is compulsory to use these for models entered in continental or world championships from this year onwards.

John Molloy.

CONTROL LINE FLYING

Control line flying gives the flyer a direct feel of his aircraft's response. Twin steel lines about 50 feet long connect the aircraft to a control handle which the pilot uses to manoeuvre the aircraft. Four main types are flown: Aerobatic, Team-Race, Combat and Speed models.

Over the years since its introduction in the late '30:s, control line flying has developed into a high level competition sport.

The advantages of most control line models is that they are cheap to construct, easily transportable and can be flown in a small area e.g. half a football field. They are very suitable for beginners to the sport where the following skills can be learned: model building, model repairs, engine starting and tuning, flying, aerodynamics and awareness of weather conditions.

John Molloy

Control Line Secretary.



Kevin Barry & Josh Carroll with F2B Control Line Models

Learning to Fly.

First of all, I would like to state that this article will not teach you how to fly a radio controlled model aircraft – the intention is to highlight a few of the stages everyone goes through when learning, and to reflect on some of my own experiences.

How long will it take?

When I started flying radio controlled model aeroplanes (not that long ago, in 2002), the big question on my mind was "How long will it take to learn to fly?" I asked a few people and generally got the same answer — "It depends" Since this was a bit vague, I determined to keep a log of all of my flights, so that in the full course of time, if anyone were to ask me that same question, I could at least tell them how long it took me. In fact I have kept up the logging exercise, so I can look back over my flying career to date and see the when progress was made, and possibly understand some of the problems that have occurred along the way.

The one thing I have definitely learnt is that the "It depends" answer is correct. People learn at different rates, have different levels of expectation and different levels of commitment. I can say that in my case, it took 5 or 6 flights before I was in any way comfortable with controlling the model in any way. To begin with, we all tend to use massive amounts of control inputs, and expect our models to turn like a formula 1 car in a hurry – the normal result of this is that the model ends up in spiral dive, and the ground comes up awfully fast!

Making turns.

Anyway, after about 6 flights I was able to make simple turns without losing too much height, but at this stage I had no real idea of where the model was in relation to the rest of the world. You have to concentrate so hard on making it point in the right direction that there is no brain power left over to notice whether the plane is flying over the car park, or wherever else it shouldn't be. The trick to getting over this stage, for me at least, is to make a conscious effort to draw the attention back from the model itself and to become aware of its surroundings. You still need to keep your eyes on the model, but you also have to notice the runways, other models, the clubhouse and so on.

Flying a rectangular circuit.

After a while then (some 10 flights in my case), you get to the stage where you can fly the model around in rough approximation to a rectangular circuit, without the model flying away or trying to bury itself in the ground, but you still need someone to take off and land for you. For a while, it seems like you will be stuck at this level for ever, and you begin to wonder if you will ever be able to really do it your own. Here is an interesting entry from my log, dated 7th August 2002 —"I seem to be getting the hang of this now, but cannot imagine being able to land the plane".

First landing.

During the very next flying session I started doing some low passes, closing the throttle to let the model descend over the runway area and then opening up the power to climb away again. After a few of these I found that I was quite close to the ground, and my instructor said something to the effect of "Just keep the wings level now and you can land". I did just that, and to my almost incredible joy, watched the model make a near perfect landing on the runway. Actually it was several weeks before I managed another one as good!

First take off.

By now I was really getting comfortable, and looking forward to the glorious day when I could take off, keep the model under control and land it again without anyone taking the transmitter off me because I had got it all wrong again. There is no doubt that the first take off is a scary moment and a major milestone in the learning process. I remember mine very well - make sure the model is pointing into wind – check the control responses – make sure the engine is running well and responding to the throttle - make sure the model is pointing into the wind (again) - eventually it becomes impossible to delay the inevitable any longer, so open the throttle, keep it straight with the rudder (not the aileron, you idiot!) - let the speed build up - pull a very small amount of up elevator— and suddenly the model is flying – take a few deep breaths to calm down and concentrate on flying in a straight-ish line until well clear of the ground. My first take off was just as I have described it, except for the multiple zig-zags on the take off run and the fact that I pulled up so sharply at the end of the runway that the nose shot vertically into the air, and I almost stalled the model. Even though it was on the untidy side, I had successfully taken off for the first time – I was almost overjoyed, but there was still a job to do and at this point you have to really concentrate on controlling the model and saving the celebrations until later.

Flying solo.

Once you get to this point you will be flying solo, but still under the guidance of an instructor, and practising the manoeuvres for the 'A' certificate test. It is at this stage that over confidence can creep in, because although a certain level of proficiency has been reached, there is still a lot to learn. At this stage, I was flying as much as I could, and the instructor was doing less and less of the flying.

Doing the 'A' Certificate test.

One gloriously sunny afternoon, I had flown several times and everything seemed to be going well, when the fun was spoilt by the suggestion that "perhaps I would like to do the 'A' cert. now". As it happened, the 2 club examiners were both at the field, so I couldn't very well refuse. I took (and passed) the 'A' certificate test on my 52nd flight, roughly 11 months after starting flying. This is some kind of answer to the question of how long it takes to learn, but it really depends on what level of proficiency you are aiming at. I was talking to someone last summer that had gone from ab initio to competing in the Masters aerobatics class in less than 18 months – that is impressive. I also know people that have taken years to pass their–'A' cert. test. In the end, just about anyone that tries to learn will make it to some extent, i.e. very few people are actually unable to learn to fly'– unfortunately some give up before they get there, and I have heard of one pilot that gave up as soon as the–'A' cert. was achieved!

Don't do it on your own!

If there is one piece of advice that should be given to each and every model pilot when starting out it is this —"Do not, under any circumstances, attempt to fly your model without the assistance of a competent pilot". I would say that the chances of anyone, with no previous R/C flying experience, being able to take off, fly a few circuits and land again without crashing are virtually nil. I know that some try this approach, especially if they have their own land, but it will inevitably result in a broken model"— the lucky ones crash on the take off run and might not do much damage — the unlucky ones will get the model in the air, and the crash will be much harder when it comes, usually just a few seconds later.

Joining a club.

The best way to learn is to join a club, and get the more experienced pilots to teach you to fly. In the early days, the instructor will do all of the take offs and landings, letting you fly the model for short periods when it is a safe height from the ground. During this phase the novice pilot will frequently get into difficulties and the instructor will take control of the model and get it back under control for you. Most people can expect to be at this level for several months, as it takes time to get used to dealing with a variety of conditions and situations.

Patience is a virtue

One of the most necessary attributes for a novice flyer is patience. There are two types of patience required; short term and long term.

We need long term patience to cope with the inevitable delays caused by the weather, instructors going on holiday, problems with equipment and so on (actually, it's usually the weather!). It is also important to be patient with yourself. Some phases of the learning process take longer than you might imagine, and trying to force the pace is not always the best thing to do. Flying a model is an acquired skill, and it takes time and practise to become competent.

Short term patience is often required when flying - it takes a certain amount of time to turn a model through 90 degrees, it takes a certain amount of time for a model to accelerate when you open the throttle, and to start to descend when you close the throttle. Novice pilots often expect all of these things to happen instantly, but reality and physics do not work that way.

Do your training on a Trainer

The second most important piece of advice, apart from "Don't do it on your own", is to make sure that you are learning on the right kind of model. There are several good trainers on the market, and although they aren't the best looking models in town, you really must start with one of these.

The attributes of a typical trainer are:

1. High wing, with a moderate amount of dihedral

- this will give good stability, and allow the model to fly itself out of some situations.

2. Tricycle undercarriage (2 wheels behind the centre of gravity and a wheel at the front) – much easier to control during take offs and landings than aircraft with 2 main wheels and a small tail wheel.

3. Rugged and simple construction

- chances are that some repairs will be necessary along the way.

4. The right size – very small models are often very responsive to the controls, and can be quite 'skittish', especially in a breeze. Large models are heavy and need lots of space to take off and land. Most people learn on a 40 size trainer, i.e. one powered by a .40 cubic inch 2 stroke engine. Such a model will have a wingspan of about 60".

5. Generous tail and fin area - this will give greater control and stability.

6. Four function control (aileron, elevator, rudder and throttle). In the old days, most trainers had fewer functions

- typically there would be no ailerons, and all turns would be controlled with the rudder. This meant that you would need to move on to an aileron trainer after you had completed basic training with the 3 channel job. Most modern trainers have the full 4 functions, and you learn to use the ailerons right from the start.

7. Almost Ready to Fly (ARTF). In the old days (by the way, you must learn about the old days, as this is what people talk about when sheltering from the rain), you had to build your model from a kit (often no more than a box of balsa wood and a few bits of hardware). These days, many ARTF models are available, and I would recommend that your first model should be an ARTF trainer. This will get you flying with the minimum of time and effort. If you are attracted to the idea of building your own models, I suggest that you pursue this part of the hobby once you have learned to fly. It is certainly more satisfying to fly something that you have built yourself, and most experienced pilots will own a mixture of ARTF and home built models, but start with ARTF and it won't hurt so much if it gets written off!

Stick to a model that is being marketed as a trainer, and you won't go too far wrong – consult members of your local club for advice if you are unsure of the model you need.

Buddy Box Leads

It is possible to buy a lead that connects 2 transmitters in such a way that they can both be used to control the same model. This allows an instructor to instantly take control of the model if (when) it gets out of control or if the trainee is flying too low or too slow. There are limitations to this arrangement, in that generally the 2 transmitters must be from the same manufacturer, and there is a bit of work in setting up the trims and so on so that the model can be switched from one to the other without causing any problems.

I learned to fly without the benefit of a buddy box lead, which resulted in several undignified scrabbles to hand over the transmitter. Since then I have taught my son to fly using the buddy box system, and it is much easier for the instructor this way - I would recommend it if your instructor has a transmitter that is compatible with your own.

The 'A' Certificate and beyond

Always remember that the learning experience never stops, and the fact that you have passed the 'A' cert. does not mean you know everything there is to know. In fact, the 'A' cert. is aimed at a fairly basic level of competence, in that it does not require any aerobatic manoeuvres, or recovery from extreme attitudes. There is much still to learn, and many more challenges on the way.

Some pilots are attracted to competition flying, attempting to fly set manoeuvres as precisely as possible, whereas others want to fly just for fun. Whatever your approach to the hobby is, you should always attempt to improve your level of skill and competence, as this is the best way to ensure that your models keep flying and accidents are avoided – as one famous golfer said "The more you practise, the luckier you get".

Safety

No article on learning to fly would be complete without a word on safety. Model aeroplanes are not toys, and can cause serious injury or death if they crash into people. They can also cause considerable damage to houses, cars and other items of property. Make sure you are aware of the safety rules in your club and stick to them religiously. In particular, always make sure that your frequency is clear before switching on your transmitter (most clubs operate a peg board system for frequency control), and take great care when starting or adjusting engines.

Notes from the log

I will conclude with a few quotes from my flying log, illustrating some of the highs and lows of our fascinating hobby:

Flight number 2, 10th July 2002

—"I got the model into a semi spiral dive and Fergus rescued me. Ran out of fuel and handed the transmitter to Fergus to land the model"

Flight number 3, 17th July 2002 —"Still losing altitude in the turns but not getting so badly disoriented. Ran out of fuel and handed the transmitter to Des to land the model" Note: I still run out of fuel more often than most pilots do – it was a habit right from the start!

Flight number 5, 25th July 2002 —"I seemed to be in control more of the time, but lost control going downwind and Des had to steer it back up to the field."

Flight number 6, 3rd August 2002 —"... the engine mount had sheared, the engine was hanging on by the throttle cable and fuel lines"– lucky not to have lost the model."

Flight number 7, 7th August 2002 — "Still a long way from having the confidence to attempt a landing or take off."

Flight number 10, 18th August 2002 — "Landed the model on the last 2 flights."

Flight number 12, 1st September 2002 —"I misjudged the approach and landed in the bushes. Broken undercarriage and damaged tail plane."

Flight number 15, 15th September 2002 —"My first flight without anyone else using the transmitter. The landing was not good, but nothing broken."

Flight number 20, 13th October 2002 —"Time to start thinking about the A test."

Flight number 28 17th November 2002 —"First flying for a month due to bad weather""– another recurrent theme!

Flight number 29 17th July 2002 —"Crashed on approach damaged the model quite badly – thinking of giving up""– I didn't give up of course, but that's how I felt at the time, so that's what I wrote in the log.

Flight number 30, 17th March 2003 — "First flying session since the 5th January – very rusty!"

Flight number 38, 30th March 2003 — "Did a few loops and a couple of very barrely rolls."

Flight number 52, 15th June 2003 — "Passed the A test."

Flight number 55, 21st June 2003 — "First competition flight in the scale 'lookalike' class – very nervous. Saw some great flying in the competition proper and realised how much there is to learn"

Flight number 106, 16th November 2003 —"First flight with my new model, a Ripmax Xpression. It is very different from the trainer and will take some getting used to."

Flight number 120, 15th February 2004 — "6 landings today, all of them a bit hairy. No damage done so I guess they weren't too bad."

Flight number 134, 12th April 2004 —"Tried a little inverted flying, but couldn't keep control and had to roll out."

Flight number 144, 15th May 2004 — "Flew the Xpression in the Novice class of the Leinster aerobatics competition – could get addicted to competition flying!"

There is more (much more!) but I won't inflict it on you as long as you promise to behave.

Safe Flying,

Steve Elster IRL 3944

Safety Matters

Safety Promotion, and MACI.

Background

One of the main aims of MACI is to promote the sport of aeromodelling. But more than this: to promote the sport of aeromodelling, to be practised in a safe manner. This means that flyers should conduct all aspects of the sport/ hobby with safety in mind, from the design and building of their models, the flying of their models, their behaviour on flying sites and also their guidance and attitude to less experienced members and visitors.

Aero modelling is a very rewarding - hobby to some / sport to others, with its different aspects. But it must be remembered that no matter what its discipline: whether under the guidance of radio control, control lines or even free flight, the common factor remains: that it involves machines - many of them with a large mass and momentum, moving at speed through the air. Add to this fact, a nylon or wooden blade spinning around on the front at a few thousand RPM, (as there is in many cases) and you have what is potentially, a lethal weapon! "Stating the obvious!" you may say"– maybe, but it seems to be an obvious fact that is all too often forgotten or at best, treated with disregard or complacency.

By the nature of models, particularly in recent years with the 'Almost Ready To Fly' models becoming ever more popular, they are frequently regarded as "just toys" by many people. This generalisation does not, unfortunately, do anything for people's respect for the potential danger that the models can possess. In this country, thankfully we have had an excellent record for safety with no major accidents (touch wood!). However, some other countries have not been so lucky, and there have had some serious injuries with even the loss of life as a result. We certainly don't want to be added to this category.

So what can we do to stay lucky?

Well, to be blunt, luck has little to do with it. To coin a phrase, "*Safety is no accident*!" and everyone needs to play their part in making it happen. Anyone can advocate the practice of safety to other members, but unless they choose to take and use the advice, then no one is any better off for it.

Structure

The MACI Safety Promotion Officer.

As some of you will be aware, the title of this position was changed over the last couple of years, to better reflect its role. It was previously known as the 'MACI safety officer', implying that the role had some kind of policing capacity to it. It doesn't. The way I see it, the job is to promote safety in model flying, through the affiliated clubs and through the members of MACI. This is being done in the main though the Flightlines magazine and the MACI website. It is also to help solve any related problems issues or questions that members may have, by getting them resolved within the council of MACI. The MACI Safety Promotions Officer can be contacted directly by members if they wish to request help or information.

The Club Promotions Officer.

This more important position involves all the clubs (and groups of flyers even if they don't consider themselves to be a club). The role of this member is to promote safety within their club or group. This involves passing on information gained through MACI or other sources, identifying any safety issues local to their own sites, working out ways of dealing with them and generally encouraging members to do things in a safe manner.

This officer should also work with the committee to produce a code of conduct or rule book for the club. This will contain not just MACI rules, but also rules relative to the particular site. The MACI Safety Promotions Officer can supply a guide document to clubs, which will help with the production of these rules. If a member continually refuses to co-operate with the rules, then this may require the safety promotions officer to liaise with the committee of the club to work out a disciplinary action.

MACI members.

Yep - you, me and every other member of MACI. It is also our responsibility to conduct ourselves in a safe manner. If you see someone doing things unsafely or presenting a hazard, either correct it yourself, or pass on the info to the club official who can deal with it. Don't just take on the "That's not my job" attitude. Maybe the Safety Promotions Officer isn't there or hasn't noticed the said hazard. Many potential hazards are just simple things that people forget to do. For example - failing to keep the starter battery leads out of the way when starting an engine. It's a simple thing to speak up and have this fault corrected without causing any offence to the culprit – much better than saying nothing and then seeing them have an accident causing injury to themselves, equipment or other people.

Other problems may seem to be more serious and may need the intervention of the club Safety Promotions Officer or committee member. For example - If someone persists in flying in a dangerous manner, or over no-fly zones. This type of offence may require club disciplinary action.

"So what can I do?"

Firstly, you can make safety a 'practice' rather than just something someone else talks about. Read the documents and articles and then put the advice into action.

Make sure that you check your model on a regular basis. I have previously written an article on this, which was published in the April 2005 issue of Flightlines. If you don't have a copy of this, you can access it on the MACI website: www.maci.ie or for those without the necessary technology, send me an S.A.E., and I will send you a hard copy.

Encourage your club to promote safety. Does your club have a safety promotions officer? MACI recommends that all affiliated clubs do so. If it does, do you know who he is?

Make sure that you use the legal radio frequencies. If you don't, you may invalidate your insurance and also run the risk of getting interference from other devices, as different frequencies are allocated to different uses by the government.

If your equipment comes with instructions – read them! Sounds basic enough, and sure you've seen it all before; but maybe there's something about this piece of equipment that's different from the last one you had. One thing in particular that's on my mind as I write this is PCM transmitters and their failsafe features. Most PCM sets come with a fail-safe feature, which has a default to 'hold' the last position known if the signal is lost. However, this should be changed to a 'preset' setting, with neutral control sticks and the throttle set to 'tick-over' (or' off' in the case of electric powered models). If they are left in the default 'hold' mode, then it is possible that the model can lose signal while the throttle is open wide and the model is screaming down the field.

This very situation was a contributory cause returned by a coroner's inquest in England recently, investigating the tragic death of an eleven-year-old boy who was hit and killed by a radio controlled model aircraft.

Does your club or group use a frequency control system? Again, it is recommended and an article on the subject is also on the website: www.maci.ie or send me an S.A.E., and I will send you a hard copy. Aside from the obvious safety aspect of using frequency control, it could save your precious model from re-kitting itself due to being 'shot down' by an unaware flyer checking or preparing their models.

Get yourself an A-Certificate. If you don't already have an A-cert., make a point of talking to your club instructors about attaining one. It only involves a basic flight test with approved testers and verbally answering a few safety related questions (the answers to which are all contained in the MACI Code of Conduct (also on the website or available through your club secretary). If you have a B-Cert, then do your bit by encouraging and helping other members to achieve the A-Cert.

Send in reports. Let's not have to 're-invent the wheel'. If you have experienced problems or accidents and have learned something from the experience, then don't keep it to yourself, share the lessons leaned and you may save someone else from befalling the same misfortune. If you send me an accident report, I can pass it on for publication in Flightlines and promise to keep anonymity if requested. You may send things to me by email: safety@maci.ie or post: 44 Kiltipper Close, Dublin 24.

Safety is mostly common sense and experience. So let's share it.

Remember: Safety does matter.

Gary Hooper MACI Safety Promotions Officer.

MACI Registered Flying Sites

COUNTY	LOCATION	CO-ORDINATES	CLUB	CONTACT NAME	TELEPHONE No
LARE	CARRAHAN, TULLA	5253 N 0843 W	ENNIS	PAUL NOONAN	031-368764
CLARE	INNISCULLEN HILL, SHANNON	5241 N 0851 W	SHANNON	RICHARD O'NEILL	061-327262
CLARE	SPANISH POINT, MILTOWN MALBAY	5251 N 0925 W	SPANISH POINT	TONY DARCY	087-9854019
DORK	CASTLELYONS, MIDLETON	5243 N 0810 W	CORK	DIARMUID O'MAHONY	087-9404755
ORK	HORSEHILL, DUNDERROW, KILSALE	5144 N 0835 W	RISING SUN	DAVE OFLAHERTY	021-4891718
ORK	CLASHAFREE, BANDON		SOUTHERN	BARRYLEACH	021-4871047
DONEGAL	KEADEW, BURTONPORT	5501 N 0825 W	WILD WINGS	RAY CONNOLLY	074-9532375
DONEGAL	DONEGAL AIRPORT	5503 N 0820 W	WILD WINGS	RAY CONNOLLY	074-9532375
DONEGAL	CLOUGHGLASS, BURTONPORT	5500 N 0827 W	WILD WINGS	RAY CONNOLLY	074-9532375
DONEGAL	BALLYEDEROWEN, BURT	5503 N 0724 W	EARHART	PAUL BENHAM	048-71357689
DUBLIN	HARAP FARM, MAGILLSTOWN, BALHEARY		BALHEARY	DECLAN WARD	01-8339312
DUBLIN	PHOENIX PARK, DUBLIN 8	5321 N 0620 W	LEINSTER	PAT GREEN	01-6241585
JALWAY	CORRUNDULLA FIELD	5322 N 0859 W		PAUL HOULIHAN	091-585437
BALWAY	GORTCLOOMMORE, CLAREGALWAY			RONAN FLANNERY	085-1414019
KILDARE	DAWNINGS SOUTH, PROSPEROUS	5317 N 0647 W	-	JOHN KELLY	045-868313
JILDARE	THE LITTLE CURRAGH, NEAR NEWBRIDGE	5310 N 0653 W	NEWBRIDGE	MELVYN INWOOD	045-433050
CILDARE	CUPIDSTOWN, CROMWELLSTOWN	5314 N 0631 W	THREE COUNTIES	TONY RYAN	087-2500850
AOIS	CLONDOUGLAS, PORTLAOISE	5301 N 0720 W	LAOIS	STEPHEN ELESTER	0502-25549
EITRIM	LURGANBOY	5419 N 0812 W	MANORGLEN	TREVOR LINDSAY	071-9161549
ONGFORD	LISDUFF	5342 N 0747 W	LONGFORD	DAVID FURNEAUX	043-42578
ONGFORD	GOWLAN, KLLASHEE	5342 N 0751 W	LONGFORD	DAVID FURNEAUX	043-42578
HIUO	KILLIN, JENKINSTONW, DUNDALK	5401 N 0613 W	BOYNESIDE	GRAHAM MILLS	042-9357810
MAYO	LACKEN STRAND, CARROWMORE LACKAN	5417 N 0915 W	OSPREY	NEIL BOURKE	096-70517
MAYO	CLOGHANS, BALLINA	5404 N 0914 W	-	NEIL BOURKE	096-70517
MAYO	CLOONKEE, CROSSMOLINNA		OSPREY	NEIL BOURKE	096-70517
MAYO	TULLABAWN, CO MAYO	S338 N 0953 W	WESTPORT	ANTHONY CONWAY	098-21095
MAYO	LISCARNEY, CO MAYO	5339 N 0955 W	WESTPORT	ANTHONY CONWAY	098-21095

	GORMANSTOWN AERODROME	5338 N 0614 W	DROGHEDA	ANTHONY FLANAGAN	041 9838869
	BLACKDITCH, LONGWOOD	5328 N 0656 W	LONGWOOD	PETER SCHWEPPE	01 8728134
	ARDSALLAGH, NAVAN	5337 N 0638 W	MEATH	DAVID BRTLEY	087-2438787
	NEW GARDENS, COOLRONAN, BALLIVOR	5334 N 0702 W	ROYAL COUNTY	HUGH CULLEN	01-4565449
	BOORA, KILLCORMAC	5312 N 0743 W	MIDLAND	ALAN HUMPHREY	067-21214
	BIRR AIRFIELD, BIRR	5304 N 0754 W	TIPPERARY	LIAM GLEESON	062-61567
	3RD STRAND, LOWER ROSSES POINT	5420 N 0835 W	SLIGO	MICHAEL DURNEY	071-9162126
	KELLENA, MANORHAMILTON	5417 N 0815 W	MANORGLEN	KAREN KENNEDY	085-1018080
	ANNAGHMORE ESTATE, COLLOONEY	5411 N 0833 W	SLIGO	MICHAEL DURNEY	071-9162126
	LISCHEEN, CLLINGAMORE	5415 N 0835 W	SLIGO	MICHAEL DURNEY	071-9162126
	CARRON HOUSE	5230 N 0811 W	CARRON	GORDON JAMES	062-55895
	DERRYHOGAN, LITTLETON, THURLES	5238 N 0743 W	-	MAURICE WALSH	051-640359
	KILLAVILLA, ROSCREA	5257 N 0745 W	TIPPERARY	MAURICE WALSH	051-640359
	CLOUGHABREDA, CAHIR	5223 N 0755 W	TIPPERARY	MAURICE WALSH	051-640359
WATERFORD	BALLYVALICAN, PORTLAW	5216 N 0728 W	WATERFORD	JOHN CORCORAN	086-8493462
	GARRYLOUGH, SCREEN, ENNISCORTHY	5225 N 0626 W	CONICOR HILL	JOHN JOE ROCHE	086-8183839
	TINCURRY RD, BALLYCORNEY, ENNISCO	5523 N 0632 W	MODEL COUNTY	PAUL FITZGERALD	0402-32906
	EDERMINE, KILGIBBON, ENNISCORTHY	5227 N 0634 W	WEXFORD	IAN FINLAYSON	053-9131690
	SPRINGMOUNT, GOREY	5239 N 0618 W	IRISH JET MODE	JOHN BEASLEY	021-4885387
	NEWCASTLE AERODROME	5304 N 0600 W	BLACK SHEEP	ROBERT FINLEY	01-2835950
	EIGHT PADDOCKS, BALL YFOLAN, BRITTAS	5312 N 0626 W	DUBLIN KESTREL	JOHN McCLEAN	01-4514606
	BALLYFOLAN, BRITAS	5312 N 0625 W	DUBLIN KESTREL	JOHN McCLEAN	01-4514606
	LISHEEN ROAD, MANOR KILBRIDE	5313 N 0628 W	KILBRIDE	JOHN MORIARTY	01-2833530
	MULLINA VEIGUE, ROUNDWOOD	5305 N 0614 W	ROUNDWOOD	OLIVER O'REILLY	01-2982328
	FOXES FIELD, LOWER CALARY, KILMCANO	5308 N 0609 W	SHANKILL	GARY KEOGH	01-2810816
	MOYLEY HALL, RED LANE, BLESSINGTON	5311 N 0631 W	THREE COUNTIES	TONY RYAN	087-2500850
	BALLYROGAN LOWER, REDCROSS	5252 N 0607 W	WICKLOW	CON HOGAN	0404-68429
	RIAINROF	5257 N 0603 W	WICKLOW	CON HOGAN	0404-68429

MACI Club Secretary's

CLUB SECRETARY

PHONE NUMBER

BALBRIGGAN BALHEARY BALLYMORE BOYNESIDE CARRON CONICAR HILL CORK DROGHEDA DUBLIN KESTREL JOHN McCLEAN EARHART ENNIS GALWAY GALWAY HELI HANGAR 45 LAOIS LEINSTER LONGFORD LONGWOOD MANORGLEN MEATH MIDLAND MODEL COUNTY NEWBRIDGE OSPREY PHOENIX RISING SUN ROUNDWOOD ROYAL COUNTY SHANKILL SHANNON SLIGO SOUTHERN SPANISH POINT THREE COUNTIES TONY RYAN TIPPERARY WATERFORD WESTPORT WEXFORD WICKLOW WILD WINGS RAY CONNOLLY

SHANE ROBINSON DECLAN WARD MICHAEL HALPIN GRAHAM MILLS GORDON JAMES JOHN JOE ROCHE DIARMUID O'MAHONY ANTHONY FLANAGAN PAUL BENHAM PAUL NOONAN PAUL N HOULIHAN RONAN FLANNERY JOHN KELLY PAUL FETHERSTONHAUGH 057-8732535 PAT GREEN DAVID FURNEAUX PETER SCHWEPPE KAREN KENNEDY DAVID BARTLEY. ALAN HUMPHREY PAUL FITZGERALD MELVYN INWOOD NEIL BOURKE JOHN MORIARTY DAVID O'FLAHERTY OLIVER O'REILLY HUGH CULLEN GARRY KEOGH RICHARD O'NEILL MICHAEL DURNEY BARRY LEACH TONY DARCY MAURICE WALSH JOHN CORCORAN ANTHONY CONWAY IAN FINLAYSON CON HOGAN

021-4621057/01-8461751/021-4978528 01-8339312/086-8163715 090-6472437/090-6495462/086-8062397/8584143 042-9357810/087-9834139 062-55895/086-8269840 086-8183839/086-8183839 087-9404755/087-9404755 041-9838869 01-4514606/01-4517342 048-71357689/0044-7732702535 061-368764/061-475901/087-6439047 091-585437/087-2359558 091-790207/085-1414019 045-868313/087-7974444 01-6241585/086-1833322 043-42578/043-50692/086-8205232 01-5210192/01-8728134 071-9176489 087-2438787/087-2438787 067-21214/061-469009/087-2487354 0402 32906/087-2394329 045-433050/045-874466/087-9557087 096-70517 01-2833530/01-2885068/087-2833530 021-4891718 01-2982328/01-2930055 01-4565449/087-8132252 01-2810816/0404-66433 x221/086-4067684/2530 061-327262/061-471632/087-8849719 071-9162126/087-7990846 021-4871047/021-4326606/087-934405 065-7084483/065-9051655 x60510/1/087-985401 01-6241716/01-4515211/087-2500850 051-640359/086-8552631 086-8493462/086-8493462 098-21095/098-21095 053-9131690 0404-68429/0404-20100/086-2788032 074-9532374/074-9532374

MACI Council Meeting

The Montague Hotel, Emo, Portlaoise. 27 March 2007.

Radio Control Scale.

New competition for the National Championships was proposed for beginners called "Novice Scale".

Novice Scale .

Radio Control Helicopter.

The Heli Judges Course was a great success. The presentations by English experts were made at the Montague Hotel, Portlaoise and the practical flying took place at the Laois MAC flying site.

"A" & "B" Certificate Achievement Scheme.

Fred Harno gave an overview of the modified scheme. The emphases is on the safety aspect of flying. Hard copies will soon be sent to each club secretary while the full text will soon be available on the MACI website.

John Molloy.





The Laois & District Model Aero Club Clondouglas, Portlaoise

In conjunction with the Scale Association

Sunday, 15th July 2007

10.00 am

M.A.C.I Insurance and Large Model registration must be shown on the day

Strict frequency control will be in operation.

Further Details from Steve Quigley 01- 6241209 or

Steve Elster 0502 8625549 elster@eircom.net

In case of inclement weather please phone to confirm whether the event is to go ahead.

Leinster Aerobatic Championships



The Laois & District Model Aero Club

Clondouglas, Portlaoise

Saturday 23rd June and Sunday 24th June 2007

F3a

Masters

Novice

Contest Directors: Denis Lowry / Steve Elster

Pilots' briefing 8.15am

First flight 8.30am Sharp.

M.A.C.I Insurance must be shown on the day

Complimentary refreshments will be available throughout the day

Entry Fee: 20 Euro

Further Details from Denis Lowry 057/8627007

Model County Scale Gala



Hosted by: The Model County Flying Club Saturday 9th June

COMPETITION (This is a M.A.C.I. sanctioned competition.) Competition Classes: F4C Clubmans Scale M.A.C.I. Scale

> Starting time: 9am Food available on site all day. Just bring appetite.

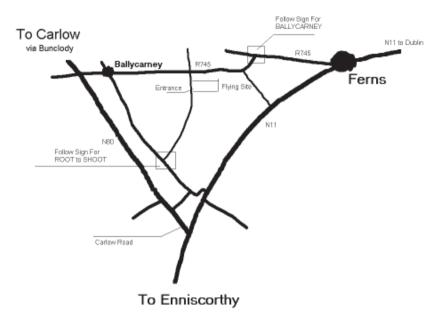
Competition Entry: €15 Food: €5

Contact: Dessie Owens 087 2220824 mail@aimtechltd.net

See directions to new flying site on opposite page.

This will be a great Event and flying will continue OFF THE PEG until sunset with food/Barbeque all day so bring along a model to compete/watch

and fly.



Model County Flying Club Site



A new club has been formed and is active in Co Meath.

It is called the Royal County Aeromodellers Club and our flying site is outside of Ballivor, Co Meath.

Our club website is www.royalcountyflyers.com and the Map co-ordinates of site are

Latitude 53° 34' North Longitude 7° 02' West

The address is "The New Gardens, Coolronan, Ballivor, Co Meath"

Bill Thompson Chairman - Royal County Aeromodellers Club 086-2622089

P.S.

I am trying to track down a plan for a small control line stunt model called the T-Tray. It was published as one of a set of 4 plans called the Quartet in the Aeromodeller during the mid-50s. I thought it may be still available from the X-List but cannot see it there. It only uses a .5cc diesel and is only 12" in wingspan. It was always on my list of models to build and I got a new spark of interest in it as it is featured in the March RCMW magazine by a contributor.

Bill Thompson



Steve Elster preparing to take off assisted by his son Ciaran.



Dave McIntyre's Pitts Special

7th Jet World Masters The Pinnaele of International Jet Modelling

5th - 14th July 2007

F4.J

For competition information and online discount ticket reservations visit www.jwm2007.com



Trade requests welcome, contact: enquiries@jwm2007.com