

New Beginnings.....2009!

I've been building model aeroplanes ever since my cousin gave me a rather battered KeilKraft Playboy to fly when I was 7 – and let's face it you didn't fly anything for long unless you were prepared to repair it. From there it was a very small step to a lifetime's hobby! I'm now 62 – so I've done my bit to deplete the balsa forests! In that time I've flown most things, but as an adult it's mainly been slope soarers and large scale power.

This is a short account of last year (2009) when I mothballed an almost complete ¼ scale Jaskolka glider and built a few indoor models instead.....

In truth I'm not a total newcomer to indoor; back in the 60's I was inspired by the exploits of the likes of Max Hacklinger and Joe Bilgri flying for almost 45 minutes at Cardington – it all seemed highly improbable given my experience flying a KK Senator. I built a few models culminating in a 35cm duration model covered in microfilm which did get to fly (for about a minute I think!) in the school hall.

So why return now?

- Being honest I was a little bored with the Jaskolka build. I needed new radio equipment and the 2.4GHz gear available didn't have the features I wanted.
- I've always harboured a desire to return to indoor but was put off by the difficulty of handling microfilm – the new plastic films (OS Film) are brilliant to use.
- From the BMFA magazine calendar I could see that indoor meetings were becoming more popular – both at Sports Hall venues and also at Cardington.
- Being aware of the history and also actually working about a mile from the Cardington hangars I really "fancied" the experience of flying at this unique site.
- Early retirement had been mentioned at work so I wanted a new challenge.
- My wife was working away from home so I had the time.

What to make?

A Catch 22 situation – I had no idea of which classes were popularly being flown and didn't know anyone to ask - at the time there was no upcoming local indoor meeting. So being a member of the BMFA I went to their web site and found talk of "Crickets at Cardington", a plan for the Gyminnie Cricket and a few "How to" articles by the top flyers. So I started there with a standard GC, Pennyplane film covered and a simple sheet balsa propeller. It was simple stick and tissue construction with just a nod in the direction of the more sophisticated models. The GC rules say it has to be built to the standard platform and weigh a minimum of 3 grams. Since I wasn't intending to compete in anything this didn't bother me much and it came out a little under 2 gr. It flew nicely and was quickly returning flights of 4 minutes or so in 25ft ceiling Sports Halls. Of course it does have a few quirks that present challenges – like flying straight ahead when fully wound or maybe even a power stall or both!! Needless to say there was always help at hand for a newcomer.

Whilst waiting for this first indoor meeting I decided to build another "proper" duration model. Most information on the web seemed to be centred around the EZB models (US rules) with many plans and "how to do" articles; it looked a simple build with a sheet propeller and motor stick/boom. In the US this class has no weight restriction, in Europe it is known as F1L and has a minimum weight limit of 1.2gr. and a span of around 45cm. I now started to need a few more bits and pieces (!) in order to progress – a thickness gauge, scales, some light/thin balsa and lighter covering film. It's about this time that you feel the hook sinking in.....

Once again this model (It was a Hobby Shopper EZB - mine weighed 1.5gr) flew very well though it still had a number of performance quirks that you become aware of when you increase the number of turns. Oh yes - I could talk the torque but not walk the walk! More advice and guidance was needed. Definitely challenge on.

It was about this time that I first got to fly at Cardington. I have to say that this was, at least for me, quite awe inspiring – the hangar is very long and high (150'). Width is also far, far more

than is available at a Sports Hall but perhaps because of the extreme length and height it feels less. Of course the old hangar has seen better days but amazingly if it's not raining (if the forecast was not good the meeting would be called off in advance via e:mail by the organizer Laurie Barr) or too windy then the flying is remarkably good. It took me a couple of meetings to get somewhat acclimatised to the site, gradually increasing my times until reaching around the 17 minute mark with the F1L – when the model is right up in the roof it's quite some feeling, not the least of which is whether or not you'll ever see it again!! There's an awful lot of girders in a hangar!

Of course by this time I'd got to know many of the active indoor duration flyers, all of whom have been incredibly friendly, supportive and helpful.

By the middle of the year I had taken a decision to pursue flying the International F1D class, these are 55cm span 1.2gr, models – they fly at less than walking pace and present many an interesting challenge. Notice I did not say impossible, sure there are lots of new building techniques and even high tech. Materials used, but all within the capability of a determined modeller. I readily admit that I have not yet managed to build one of these beauties down to the minimum weight, and I'm just getting to grips with the vagaries of making a Variable Pitch prop. hub, but my basic model flies well so you can get used to handling it (ie. SLOWLY!!) A couple of weeks ago I even flew it at the Team Trials for next years World Championships – well it was good experience! The top times are about 50% higher than mine so there's plenty of room for improvement!

Many people fly GCs and F1Ls but there are many different routes to go with several other classes being regularly flown – eg. Mini Stick – a small model that punches way above it's weight in sheer fun – great performance too! F1M (similar size as F1D but 3gr min. weight so “easier” to build), 35cm(F1R) – no weight or constructional restrictions so a real open class – lovely models but as you can imagine quite difficult because of the light weights – and hence small wood dimensions - involved. There is also the odd Pennyplane (US Class), No Cal and Hand Launched Glider too. In fact you can fly pretty much anything light and rubber powered in Cardington – loads of space.

So what problems did I encounter getting started again?

- Choosing the right “class” of model initially – you don't necessarily understand what the problems or limitations are going to be.
- Finding information – it's in quite a few locations out on the web. Some information is out of date. Once you know the people involved this problem diminishes. I now have an A4 binder full of useful articles.
- It was a bit daunting going to the first few indoor meetings. No need to be but that's just the way we are!
- Gaining a feel for the “right” wood – its not just weight and grain! Stiffness matters too!
- Getting hold of the right equipment initially.
- Building to a low weight whilst retaining adequate handling and flying strength.
- My eyesight! Fairly quickly realised that I needed more magnification than my reading glasses – especially if light was a bit dim at the flying site.
- Oh yes, steady hands help too!
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What would I do differently?

Not too much actually - it's been and continues to be a fun journey involving lots of research, acquisition of new skills and knowledge and of course making many new friends. An initial (BMFA?) contact for indoor advice would be really useful

I'd built a Mini Stick some years ago to fly in the lounge, these are great fun with a terrific performance and flown by many. They are quick to build with no special skills, though you do need the ability to work with relatively small wood sizes. Probably a bit fiddly for a first indoor model.

The Gyminnie Cricket is a great starter model, I built mine as per plan with wing posts and a very simple built up propeller – it's proved extremely robust and flies really nicely too at about 2 gm. The GC rules stipulate a minimum weight of 3gm so you have to add some ballast to compete nationally.

My next effort was an F1L (EZB) model that came out at 1.5 gr. – I'm still flying and enjoying this now. My ensuing diversion into US rules (no weight limit) EZB was both a mistake and a blessing. A mistake because no-one seems to fly them any longer in the UK and my models turned out too flimsy to fly reliably – it's a real art to build such lightweight models that can be handled and flown consistently. It proved a blessing though because I gained an understanding of the need for good wood – stiffness, weight, dimensions etc. So the learning curve was useful but the attendant time/effort could have been better used elsewhere.

By this time you have the basis of the skills and knowledge required to pursue any aspect of Indoor Duration that takes your fancy, plus you will have made the contacts that can get you through the inevitable difficulties you'll face - be they new skills/ techniques, material sourcing or just making the damn things fly☺

What next for me?

My challenges for the year ahead are going to be:-

- Getting my F1L and F1D models down to nearer the weight limit.
- Building a Variable Pitch propeller hub for my F1D.
- Understanding and flying the models better to increase duration by 25%.

Conclusion.

There seems to be an upsurge of interest in indoor flying of late, of course much of this is probably driven by the availability of lightweight RC electric models (fixed wing and helicopter), and nothing at all wrong with that – I have one myself, great fun.

I realise that Indoor Duration is not going to be everyone's cup of tea – but there are many aspects that might appeal to existing modellers – do go along to one of your local meetings (listed in the BMFA magazine) and give it a try, it's fun, there's (usually!) no wind or rain and it's a real challenge.

See you there?

If I can be of help getting **you** started my e:mail address is tony_hebb@hotmail.com

Glossary of Terms

Rubber – if you are not from the Free Flight community this is a difficult area. Typically you will see specified the dimensions of the rubber needed in widths of thousandths of an inch ($0.063 = 1/16^{\text{th}}$) together with the length of loop (8 inch loop = 16 inch length of rubber). Trouble is this does not take account of the rubber thickness, which can be variable. So a better measure is to use Grams/Metre (g/m), this then allows you to compare different nominal thicknesses of rubber. As an example I currently have four different sizes of rubber all with the same g/m ratio. The best rubber is known as TANII, but this is no longer manufactured. A replacement known as TAN Supersport is available, it does not perform as well as the best TAN II though it seems to be gradually improving. There are ways of measuring rubber performance which have to be tackled eventually but you can build and fly without worrying about this initially! Others will do this for you – trust me!

Winding the rubber – cheap geared winders are readily available, the basic technique for “stretch” winding is quickly learnt though perhaps more slowly understood!

Torque Meter – Whilst winding the motor you attach the other end of it to a simple device made from a length of suitable piano wire which registers the twisting force being exerted by the rubber onto a dial. This allows you to be aware of the “power” (torque) that you are about to fly the model with and allows you to repeat it in future. By the way Americans use ounce.inch as the unit of torque measurement; Europe and UK (usually!) use gram.centimetre.

Winding Stoooge – a friend (!) or other simple device that allows you to wind rubber off the model – then if it breaks no damage is done – well apart from to the stoooge!

Stopwatch – see your times improve!

Anemometer – helps monitor which way the drift is going - only joking!

Thickness gauge – a must have as you progress so that balsa/wire etc. thickness can be measured. Quite cheaply available – digital one is about £20.

Scales – a must have so that component weights can be measured, needs to be able to fairly accurately weigh in milligrams. Quite cheaply available from Amazon for under £15.

Balsa Stripper – There are two main variants plus a steel straight edge, a good eye and a razor blade! I prefer the “Harlan” one which incorporates 2 micrometers, makes very accurate cuts. I have a “Jim Jones” style one as well but don’t get on with it too well, it’s just a personal preference thing.

Folding Table and Chair – sometimes these are not provided at meetings and you need somewhere to eat lunch☺

Model Box – a stout cardboard box is readily converted – fitting it out probably takes as much effort as building a simple model!

Give it a try – you won’t be sorry, others who know you may be though!

Good Luck, Tony Hebb