



The pit area at lunchtime on Saturday 5th May – looks as though summer is well and truly here, I think I had 5 or 6 flights, each one better than the last; it was a great day. Here's to many more days like this – and don't forget the sunblock.

Parish Notices

WLMAC Meeting Thursday 10th May – Should The Chairman Resign¹?



The competitors hard at work competing...

The annual WLMAC chuck-glider competition was held at the Uxbridge Golf Club on Thursday 10th May, this time with rubber power; the Chairman won *again* – there were dark and suspicious mutterings about it being a bit, well, suspicious that the bloke that supplied the wood and cut the motor sticks (I'm sure mine wasn't straight) walked away with the prize, and there were questions asked about the colour of the Plasticine – was The Chairman keeping the magic green stuff for himself? Also, nobody

actually saw The Chairman build his suspiciously-pristine-looking model – it just appeared out of the blue, almost as though it was a pre-built ARTF. And I should stress that the fact that I may have been a distant second has, naturally, no relevance to this investigation...

¹ The phrase "Should the Chairman Resign" is copyright T.Parrott Esq, 2011, 2012, 2013, 2014, 2015, 2017 and 2018.

Happy Birthday Lloyd

Our honorary life president, Lloyd Ressler, was 97 in May. Happy Birthday, Lloyd!

Charlie Orrells Has His CPL



Charlie Orrells has just got his Commercial Pilot's License (CPL) in the U.S. and will be back in the U.K. by the end of the month. The final part of training is the Airline Transport Pilot License (ATPL) which will take up to the end of the year, possibly because it requires at least 1,500 hours of flight time.

Pits Area Gravelled and Access Road Potholes Filled-In

Roger Darvell has been engaged to finish gravelling the pits area and fill-in the potholes on the access road; this will be done before the BMFA Scale Competition on 9th/10th June, so that's one thing we won't have to do for the Family Fun Day work party – thanks Roger!

Advance Notice – October Aviation Quiz

The committee has decided that we're going to have an "aviation quiz" for the October club night on Thursday 11th October. Stuart Whitehouse and I drew the short straw to set the questions, and we're expecting teams of about 3 or 4 people. There will also be a substantial cash prize as we don't have to pay for a guest speaker. More details next time.

Weekend of 9th/10th June – BMFA Scale Competition

The Saturday 9th June is set aside to allow competitors to practice for tomorrow's competition, and there's also tuition by some of the competitors (Mick Reeves, et al) for members who want to see what competing in a scale competition might be like; if you have a model that's a decent size so that it's easy to see (doesn't have to be a warbird or scale, anything will do), then this is a really valuable opportunity to learn from some of the best scale model pilots in the world.

The BMFA Scale Competition will be on Sunday 10th June, normal flying will be suspended to allow this. There will be a BBQ (and, I am assured, a bit of cake) for members (***that's us!*** 😊) and competitors. Spectators are welcome, normal flying resumes when competition finishes at about 3pm. That might be quite a nice afternoon if the sun is shining – being plied with deliciously cremated burgers and hot dogs at the club's expense whilst sitting in the sun watching some scale flying – like being at the Nationals but with a shorter journey, better seating, better food and a better view.

Saturday 30th June – Family Fun Day Work Party

It's the Family Fun Day on the weekend of 30th June/1st July so we need to make everything look as good as possible; there's a work party to clean the Hut and make the field ready on Saturday 30th June, please come along and help from 10:00 – in return for your efforts, you'll get lunch (soup, rolls, cheese, peanuts and other essentials. Feel free to lobby The Chairman for cake...).

Here's what we need to do, in general terms.

- Empty the Clubhouse.
- Clean everything – Furniture, internal surfaces, windows, WC, utensils, etc.
- Put everything back.

Now that Roger Darvell is filling-in the potholes on the access road, those jobs shouldn't take too long if there are a fair number of people. In addition, Tony will cut the grass – Flying area, heli area, pits and overflow parking areas, Mat will take the Strimmer around tables, hut, etc. Mat and Tony will check operation of the various buddy aircraft /systems.

Sunday 1st July – Family Fun Day Work Party

On the Day, we'd like to people turn up a little early to get things ready (starting, I'm afraid, at 09:00) because general flying starts at 10:00; here's what we'll need to do:

- Set up Gazebos.
- Re-position cones on flight-line.

- Assess wind direction and determine location of pilot's box and BBQ.
- Set up the sound system.
- Put out chairs and tables that were cleaned yesterday.
- Set up a notice board outside club house showing the day's schedule (time for BBQ food service, event flying times, buddy and FPV information, time for presentation of awards, etc.).

Also, when it's all over, if people could *please* stay for another half an hour or so to get everything put away again (won't take long if everyone helps), that would be very, very useful.

Important Pilots' Notes for Family Fun Day

There will be a lot of people turning up so the model benches are likely to be over-subscribed; please be prepared to share your bench with other people, and please bring a model restraint if you have one. And be careful where you put your feet!

Peter Emanuel will act as compere (unless he's flying), and has asked that he is provided with some information and details of the models, so if you're going to be flying can you please fill out an information form (available from the organisers) so that Peter knows what's going on.

I'll have a camera with a long lens on the day for some flying shots, very happy to take a picture of your model in the air (although generous bribery will be required for helicopters and the like), but if you take a static or in-flight picture that you'd like in the newsletter, please email it to me afterwards.

Sunday 1st July - Family Fun Day

There will be general flying in the morning to allow people to trim models, etc., and commentary will start after lunch. There will be awards for the following;

- Most improved (flyer) – David Whitehouse trophy.
- Best aerobatic flight.
- Best scale model, built and flown by the owner – Peter Conway trophy.
- Best flight of the day

The scale competition element will be organised by the club (judged by the organisers and Peter Emanuel), with the entries either from individual slots or models flown in general flying, any aircraft will be eligible, with the specific classes determined on the day (by type and number of entries).

Family Fun Day Outline Schedule

10.00am – 1.00pm : General flying only (normal rules) – No commentary.

11.30 onwards : BBQ food etc. will be available. I have it on *very good* authority that there will be lots more cake this year.

1.00pm – 4.00pm : Event flying with commentary - Peter Emanuel will act as compere (unless he's flying). Flying will be either:

1. General flying (normal rules), or
2. Bookable slots; these are arranged by the pilot/s with the "Flight-line Director", at the flight-line.

The bookable slots can be for either individual flights (scale, aerobatic displays, whatever etc.) or alternatively for groups of like-minded members. Some possible examples of bookable slots are:

Formation flights (with no unreasonable limit on numbers in the air at once).

- Aerobatic display.
- Fun Competition.
- WW2 Warbirds.
- Vintage models (anything designed before 1980).
- Helicopters.
- Bungee-launched glider
- FPV demo.

The slots must be arranged and organised by those that are actually participating, if you're interested in doing this then talk to the organisers on the day, and keep the Committee informed of numbers involved, time required etc. I'm sure that no reasonable request will be refused.

*Please note that the organisers **will** ensure that there is sufficient general flying time for those that just want to participate but without being the centre of attention.*

4.00pm – 4:30pm : Award of trophies etc. Winners will then get their names put on the "Awards Board" in the Clubhouse.

The organisers will also have a few "filler" activities such as buddy-box flights, using the clubs training equipment.

German WW1 Printed Lozenge Fabric



The postman has just delivered 17 or 18 feet of printed Solartex from Arizona Model Aircrafters (see <https://www.arizonamodels.com/>) for my Flair Fokker D.7; they do a fair number of correctly-scaled lozenge patterns for most WW1 aircraft kits and scales and will print fabric to order; they've bought up the remaining factory stocks of natural Solartex and have identified an alternative fabric supplier in Alaska (of all places) when the Solartex runs out.

The fabric has a few minor blemishes but they really are minor so I'm not bothered about them. And because the ink dissolves in acetone and MEK, the fabric needs to be spray fuel-proofed after application. But it looks about right, so I'm very happy with it. The alternative was that I'd have had to painstakingly spray the lozenges – 4 topside colours and 4 underside colours. That would have been 8 colours to mix, 8 masks to prepare and quite a long time to do the spraying.

I suppose this means that I'm going to have to finish the Flair D.7²; the wings and tail surfaces are built but I'm not happy with the tail surfaces so am inclined to re-do them. The Nose will need some minor tweaking as well because the lower nose profile is clearly too deep.

² After a couple of indoor scale models...

Aeromodelling with Formulae

Here are a few formulae that the average club member might possibly find useful...

Estimating the Model's Speed

It's possible to estimate the top speed of a model if you have a tachometer; just plug the rpm and prop pitch into the following formula:

Level speed (mph) = propeller pitch (inches) x rpm (thousands)

So, if we had a 7 inch pitch prop being turned at (say) 10,300 rpm, we would have:

$$\begin{aligned}\text{Level speed (mph)} &= 7 \times 10.3 \\ &= 72 \text{ mph}\end{aligned}$$

Using the Right Size Servo

The torque required to move a control surface (e.g. aileron) depends on the model's speed (see above), the length and width of the control surface and the angle the surface is moved through; I came across the following formula in an old Multiplex catalogue that estimates the required servo torque:

Torque (Kg-cm) \approx length (cm) x width (cm)² x speed (mph)² x deflection (degrees) / 19 000 000

So, if we had a model flying at 72 mph and we wanted to find out how much servo torque would be required for (say) 12 degrees of deflection on a control surface 30 cm long and 3 cm wide;

$$\begin{aligned}\text{Torque (Kg-cm)} &\approx 30 \times 3 \times 3 \times 72 \times 72 \times 12 / 19\,000\,000 \\ &\approx 1.57 \text{ Kg-cm}\end{aligned}$$

...but we should really add at least an additional third to that to allow for friction, play, estimation error and so on, so the final safe torque required is:

$$\begin{aligned}\text{Safe Torque} &\approx 1.57 \times 1.33 \text{ Kg-cm} \\ &\approx 2.1 \text{ Kg-cm}\end{aligned}$$

- So in this case a Hitec HS 81 with 2.6 Kg-cm torque, or a Savox 0255MG with 3.1 Kg-cm of torque would both do the job. Other makes of servo are, of course, available.

Some people who are used to taking risks might consider very cheap servos – these might look like great value **but** they're cheap because they've had no post-production QA or burn-in.

Look up “bathtub curve product failure behaviour” on Google for more details.

Using the Right Battery

This is also from the Multiplex catalogue, it's only a rule of thumb and is a very rough approximation, but it's quite useful if you're using "standard" servos (even digitals):

Battery capacity for 1.5 – 2 hrs flight time (mAh) = 1000 x no. of servos x 0.2

So, if you have 5 standard servos that would be:

$$1000 \times 5 \times 0.2 = 1000 \text{ MAh}$$

This is a really good check on the minimum battery size, but I'd still use a bigger (e.g. 2000) mAh Eneloop if there was room for it because the voltage will hold up much better under load.

Letters

A letter has flooded in; we present it here exactly as received, without comment:

Dear Mr Newsletter Editor,

I can only say that the article in the latest newsletter about having a checklist for going to the field was absolutely no use to me whatsoever as I had completely forgotten about the relevance of it within 24 hours of reading it. That's not all I'd forgotten. I managed to turn up at the WLMAC airport without my starter and yes, I did have an I/C aeroplane in my car so I couldn't pretend I didn't need it.

The hard lesson I have learned is never to arrive at the field and confess to forgetting anything (particularly within earshot of the Editor of the newsletter).

Of course I fully appreciate the potential difficulties of admitting to nothing whilst attempting to carry on as though everything was normal. Standing at the flight position with a model on the Astroturf and no transmitter in hand could be awkward. No amount of thumb twiddling will cover that one up but it might improve my flying.

After further reflection, I think a checklist is a brilliant idea. In view of my memory lapse I'm going to put, "remember to wear trousers" at the top of the list. Now, all I need to do before setting off for the field is remember where I've put that checklist and my trousers.

Over and out.

Mike Faul

Events

Date	Event	Location	Description
Saturday 9 June	BMFA Scale practice/tuition	Harefield	Competitors practice for tomorrow's competition, also tuition for members with a scale model who want to see what it's like.
Sunday 10 June	BMFA Scale competition + BBQ	Harefield	BMFA Scale Competition with BBQ for members and competitors. Spectators welcome, normal flying resumes when competition finishes at about 3pm.
Wednesday 13 June	Field meeting	Harefield	BBQ and Electric Flying
Sunday 1 July	Family Fun Day	Harefield	Scale Day and Fun Day
Sunday 8 July	Family Fun Day reserve date	Harefield	(Only if rained off the previous week)
Wednesday, 11 July	Field Meeting	Harefield	BBQ and Electric Flying
Wednesday, 08 August	Field Meeting	Harefield	BBQ and Electric Flying
Wednesday, 12 September	Field Meeting	Harefield	BBQ and Electric Flying
Thursday, 11 October	Club Meeting	Uxbridge Golf Club	Aviation quiz with cash prizes!