



Newsletter

No4 2020 May

Coronavirus .

As everyone is aware, we are in lockdown. The committee has decided however that to preserve future use of the field and for the shaky health of our mower, the grass needs to be cut. Tom W and Billy D have volunteered for this on strict condition that no flying is to be done. This is allowed under government rules on the lockdown as essential maintenance of a site. Many thanks for everyone's understanding and continued support by staying away from the site during this time.

Mower fund target £6000

The mower fund is still ongoing and stands at £497.51 Any committee member would be happy to take your donation, you can make a donation through [gofundme.com](https://www.gofundme.com/f/KRMFC-raising-funds-for-a-new-grass-mower?sharetype=teams&member=2955562&utm_medium=social&utm_source=whatsapp&utm_campaign=pna) at

https://www.gofundme.com/f/KRMFC-raising-funds-for-a-new-grass-mower?sharetype=teams&member=2955562&utm_medium=social&utm_source=whatsapp&utm_campaign=pna

We are waiting for some committee profiles for later magazines, in the meantime here's one from a member showing that we all can make a contribution to the newsletter.

Member Profile Douglas Fulton

Under pressure from Neil G I agreed to write this short history of my model flying career.

Originally from Kilbarchan, Renfrewshire, I moved to Howwood about three miles away when I married, with two sons appearing on the scene some years later.

When my younger son was a tad over 15 years old he decided that flying models was a cool thing to do and dad was the obvious choice to fund and construct something that might fly. So off to the Paisley Model Centre for advice and loss of a fair amount of cash, even then. I discovered there was a club about three miles up the hill from our house, so the deal was struck. We left with a Futaba Skysport 6, Enya 40 engine, a bag of essential bits I was assured were required and Dave K's favourite manufacturer's Unowot Trainer. I later discovered the club was called 'The Clyde Valley Flyers despite the club being nowhere near the Clyde! Maybe near the source of the Clyde - weird



Many nights on the kitchen table ensued, no rigs or jigs just a lump of ply, a pile of balsa and Chris Foss's dense instruction sheets (they are exactly the same today - he might be rich and own his own full size plane but clearly he can't be ar**ed updating instructions).

Moving on. A model eventually emerged, so off to the club. It took a while to get going as to be honest the club was a bit of a clique, however, although I was merely providing the taxi and didn't actually do much flying my son enjoyed flying. To be fair to old Chris, despite our ham fisted construction techniques the Unowot flew really well with only one crash when it decided, for no obvious reason, to go AWOL three fields away. It survived the crash and was soon back in the air. Then... low and behold my son's testosterone kicked in and to cut matters short, flying was binned and chasing skirt became a number one priority. Plane abandoned in the garage!

Many years and two houses later, having moved to Buchlyvie near Stirling, I looked for a club. Falkirk came up as the best option so off I set with the trusty Unowot.

Expecting to have to break into another clique I was a bit dubious about the whole process but to my surprise and delight I was given a warm welcome and was flying almost immediately under Graham, Jamie and John's expert tutelage (wasted on me to be fair). Had many great days and long summer evenings - remember them?.....

Still a member.

Below: A photograph circa 2015, highlighting Falkirk's fully equipped site. Said Unowot in foreground.



Below: Unowot after a napalm run down the strip



Only one tragic event. I turned up with a scratch built Acrowot, my pride and joy, and was persuaded to maiden it by a well known member, "get it up in the air like, dunnie hing about like, goanna fly it like, get it up like" said very fast ... Another member offered to fly it. First flight perfect, second flight my trusted pilot decided, mid flight, that he needed midge cream and passed the trannie to, shall we say, a member with an affection for bin bags. Two circuits later it nosed dived into mother earth. Four stroke buried and front end looked like a blunder buss. As I gathered up the bits Graham said leave it a week before you bin it. Great advice, I re-built the bloody thing, still flying.

Between then and now I also became a member of the Alloa Club which I discovered had a site near the Safari Park and my house. Again I received a great welcome and spent many fun hours flying with Alasdair and Co. with help and advice always on hand. I still go to the Nationals with the guys from Alloa, plenty of booze and rare malts in the wee hours.

Three years ago moved to the Kinross area and our club. On my first visit I received a warm welcome from Bob who quickly introduced me to everybody on site. Gleefully introducing me to Billy H as another defector from Alloa! You know the rest - still a bloody useless pilot but I enjoy it all. Still don't have a building jig and as Dave K said not long ago to a new member, somewhat concerned about their building skills, "look Douglas's plane is bent in the middle and it flies" not sure if it was a compliment!

Take care, Douglas

Following the article by Dave Kelly of things we can do to trim out our planes here's an official one that to be quite honest I would have to get Dave to fly for me. The theory of this one sounds great but I am pleased we have RC pilots like Dave in the club that can give us advice about the things that we can actually do to help us trim our planes.



BASIC TRIMMING for AEROBATICS
Please read the preamble and end notes fully.

This chart assumes your aircraft was built accurately and you have set the Centre of Gravity close to the manufacturer's recommendation. Your aircraft has been designed to fly at or below a given weight and a heavy aircraft may never fully satisfy the conditions of this chart. Working through the chart you may have to accept some compromises, but time spent trimming will be well worth the effort. These tests should be carried out in reasonably calm weather.

The Basics			
1	Trim your model for straight and level flight with the engine set at just over half throttle. Models smaller than two metres may need a slightly higher throttle setting but full throttle should not be required. If you have tail plane incidence adjusters it is assumed that you have trimmed out the inaccuracies to leave the tail plane and elevators level. Check that all servo throws are matched to recommended settings and there is no play in the control linkages.		
Engine Thrust Line			
2	Hold straight and level flight at just over half throttle then smoothly increase the throttle to full.	Model climbs Model dives	Increase down thrust. Decrease down thrust.
3	Fly straight and level pull to the vertical.	Model pulls to the left Model pulls to the right	Add more engine right thrust. Decrease engine right thrust.
Balance: Centre of Gravity			
4	Fly straight and level, increase the throttle to full and pull to a 45° climb. Hold the 45° line then roll to inverted.	After rolling inverted down elevator has to be used to maintain the 45° line If the model climbs	Add weight to the tail. Add weight to the nose.
5	If any changes to the thrust line or CG have been made go back to 1.		

Wing Incidence. The degrees of incidence should be related to the datum line of the model. For ease of comparison it is sometimes related to the centre line of the tail plane aerofoil. The two reference lines may be different.			
6	Start high and reduce throttle to tick over, dive in a straight line.	Model pulls to canopy Model pulls to belly	Reduce wing incidence. Increase wing incidence.
OR			
		Model pulls to canopy Model Pulls to belly	Increase tail plane incidence. Decrease tail plane incidence.
7	If any incidence is changed go back to 1.		
Lateral balance			
8	Fly model towards you and pull a tight loop. Repeat for outside loop.	Wing drops at exit	Add weight to high wing tip.
OR	Roll model inverted at half throttle.	Wing that drops is the heavy wing	Add weight to other wing.
Aileron differential to help achieve axial rolls			
9	Fly model towards you and pull into a vertical climb. Then half roll.	If after the half roll your model changes heading. In the same direction as the roll. (i.e. If the roll is to the right and after the half roll the models heads to the right) Opposite direction to the roll	Increase aileron differential. (up going aileron to move further than down going aileron). Decrease aileron differential.
Dihedral: To change - the centre joint, or the wing tube sockets would need to be repositioned, an electronic control mix may be considered to be an easier compromise here.			
10	From straight and level flight, roll to knife edge, hold top rudder to maintain level flight.	If the model rolls to inverted Model rolls back to upright	Increase dihedral. Decrease dihedral.

Trimming should be a constant concern to make the most of your model and it is expected that you may have to revisit the above chart to improve your models flight characteristics. Always make one adjustment at a time and check the effect thoroughly before making any further adjustment. If all the above suggestions do not achieve the desired results, electronic mixing of the controls must be considered, for instance if to maintain a flat turn through 360° the nose drops, mixing some up elevator to react to 80% rudder may solve the problem without affecting other manoeuvres like knife edge flight where less rudder may be used, or you may wish to

programme a switch to apply the mix when required. Another example is that it will be a lot less work to apply a mix than change the dihedral, but whichever you choose the objective is to reduce the workload on the sticks whilst flying a schedule. There are some highly regarded pilots who are said to rely more on electronic mixing than mechanical trimming to achieve their 'required feel'. So trimming is an individual art which you need to develop with time and experience. This guide is intended as a starting place.

For those wishing to correct a basic design fault it is worth knowing the first action should be to decide on a fuselage datum line, this is the line you wish the fuselage to assume when flying straight and level, the way it sits in the air. All other incidences, (main wing, engine down thrust and tail plane) are then set with reference to this line. Rudder hinge line angle and proportions of the rudder are also very important.

The whole concept of going to these lengths to trim your model is to reduce the workload to correct your model in flight so you can concentrate on flying the schedule accurately.

Thanks to many members, past and present, and reference from other sources to compile this chart. A C Hoyland. PRO GBR/CAA March 2007.

Articles wanted

Come on all you budding journalists send me your articles. Many thanks to Douglas for his submissions. With this enforced lockdown get typing, before we all go stir crazy. My email is alnvkrmfc@gmail.com

Gyros in planes.

This can be quite a controversial subject but if we think about it helicopters have been using them for years. Most of us use computerised transmitters which can take your input and change it to make the plane fly much smoother. Use of rates on a transmitter can turn your plane from an aerobatic demon into a sedate trainer at the flick of a switch. I have an electric trainer which uses safe technology enabling my 5-year old grandson to fly a plane which he wouldn't normally be able to do. On the second time of holding the controls he was able to execute a perfectly straight take off. He then continued to fly around several circuits with me taking the controls only to land the plane.



My kingfisher high wing plane is fitted with a wind gyro. This allows the plane to fly in full control but will counteract any outside influences such as the wind pushing the plane in any direction. It simply allows me to fly in higher wind speeds than normal. It does not limit any of the controls on the plane, but just makes flying it like you're flying in calm skies. The rate of input from the gyro is fully adjustable from the transmitter by a slider switch, or can be switched off completely.



More controversially, my Stearman biplane is fitted with a helicopter tail gyro which simply means that it won't ground loop on take-off. This gyro, however, if it was left switched on in the air would mean that the plane would not turn at all, so a means to switch it off once the plane has taken off is essential. It hasn't happened yet but if this was to go faulty it would result in the plane being un-flyable. People

have said why not just use the rudder but I've tried that and I find it is very difficult to control. By the time I have put the stick over, the plane is already crashing through the fence. Rather than have my plane crash I've installed the gyro.

How I set it up

First of all you need to mechanically set up all the control surfaces so that the plane can fly with no trim (or sub trim) settings on the transmitter. Fortunately I managed to get Billy Hatton to trim it for me. The first flight was a bit hairy as even with full down in, it wanted to climb. I should have really done some investigations as to why but I just manually cranked the elevator down. Then I fitted the gyro as near to the c of g as possible, and plugged the lead from the rudder on my servo into the gyro, and the lead from the gyro into the rudder outlet from the receiver.

Now to the transmitter (check out this link, but remember I am working with JR / Spectrum protocol transmitter. Futaba and maybe others are opposite settings (i.e. Minus where I say plus, and plus where I say minus)

http://youtu.be/J4_q3NnDBu8

I chose the gear switch to activate the gyro but there's different ways you can do it. See <http://youtu.be/IEUI0Yryb8> I set the gain of the down gear to -30 to switch on the "rate" activation of the gyro, but as I wanted no "heading hold" I initially set the gain of the up gear position of the switch to zero. This didn't work as the gyro needs to initialize in heading hold mode. My transmitter has a null effect on any rate between -10 & +10. So I powered up the gyro, and from zero increased the gain on the up gear position of the switch until the activation light came 'on' showing that the gyro was in heading hold mode and able to initialise, but as it was only just on it would have no effect on the plane. This occurred at +11 on my transmitter.

At this setting the rudder moved when switched to 'rate' on the gear switch and the tail of the plane was pushed back and forth, but it didn't seem to do much when

trying to take off in trials (still ground looping). I increased the 'rate' gain on the switch in 10% increments until I reached -100% it now tracks down the runway like a dream.

Before each flight check the movement of the rudder is correct by switching on and pushing the tail away from yourself. The rudder should counteract by moving away from you further than the tail, which on the runway would push the plane back into a straight line.

Just need to sort out my engine problems with the 35cc petrol and I can fly it again after the lockdown.

Alan V

A blast from the past

Saturday 28th March *somewhere around 2014*

Saturday saw a handful of club members attend a static display in the Kingdom Centre in Glenrothes. This is the second year in a row we have been invited. Along with other clubs a fantastic display of models was put on show for the general public to have a look at.

The KRMFC area proved very popular, Ally Grants big Macchi was placed in one corner along with the Meteor, and a fantastic range of helicopters was spread over 2 x 6ft tables, with plenty of leaflets handed out. We can now only hope that some people take up the challenge to fly RC.

Bob Gadd brought along a few planes and even big Tony from Scoonies came along with a Heli.

Much to Davie Cameron's relief there was a baker's close at hand, thankfully. I think he sampled everything they had as the thought of him collapsing due to lack of food and needing mouth to mouth was a bit daunting. Still Bob Gadd was there and would have puckered up and done the job I'm sure.

The sound of a Go-kart could only mean one thing.....the chairman was in the car park; Tom arrived with more helicopters and a few tables. Is it me or are there always banana skins and exploding mushrooms about when Tom is nearby?

All in all a good day, thank you to Colin Mclean for the invite, a good few people said they would come to the club for a look, if we even get 1 member out of it then it was a worthwhile event.

Thanks to all the club members that attended and also to those that swung by to say hello.

The committee

That Macchi seems to turn up at a lot of displays, shame it doesn't fly as well as it looks. If it's the same one that is.

Good health to you all

KEEP WELL The Committee