

ASHFORD RADIO AEROMODELLERS



April News letter
2009

Welcome:

Hello everyone yet again sorry for the massive delay

between news letters but trying to run my business and fit other stuff in is quite difficult. I hope that this year is going to be as good as last. The committee has changed slightly from last year you voted myself chairman again so thanks for that I hope to keep the club growing, we keep getting new members join so we're doing something right. The new committee are:- Secretary **Dave Teal**, Club secretary **Paul Lane**, Treasurer **Julie Lane**, Newsletter my self and **Rod Shoveller** Junior rep **Darrell Stingemore**, Heli Rep **Jamie Mckeen**, voting members **Ed Frudenburg**, **Paul White**, **Grant Jones**, **Paul Haben**.

If anyone has any suggestions, ideas, problems or just want some help please feel free to grab one of us, we'll be happy to help.

We have had a big influx of new members this year so a very warm welcome to our very friendly and welcoming club. I hope you like the way we do things, we have a relaxed atmosphere but with an exceptional safety record. All in all I think we are one of the best clubs around here, I hope you find the same.

We work with some local clubs near to us and we invite them to our open days, as they invite us to theirs. There also are some interclub competitions which some of us attend and we hold some at our field so look out for those. They are very easy and a lot of fun.

If anyone wants to just try flying a plane for the first time we have a club trainer which we will be bringing out at the barbi's with a buddy lead so please feel free to ask us about it.

I did try and organise some examiners to take some people for their A cert exams but the weather was poor and getting the examiner to the field was also difficult but I will try harder this time. So if anyone fancies trying for their Fixed wing A or Heli A cert then let me know.

Thanks to Jamie for his input to this news letter.

The field:

It's now looking better than ever, the mower has had its annual service Cyril is doing a fantastic job of the patch and surrounding area's. This weekend (Easter) Darrell, Kyle, Ed, Myself and others have rolled the patch, so its lovely and smooth now. No more ripping off those under carts of your best planes!

Please be very careful driving over the field, as we are very restricted now its ploughed, if it is at all wet please park by the gate.

Sunday flying, to Clarify:

Recently we have been asked about the restrictions on a Sunday with regards to the mornings being Helicopter only until 1pm. A suggestion was made to make it mixed flying all the time. This has been discussed at length at the recent committee meeting, and it was decided that there are benefits for both Helicopter and Fixed Wing flyers that the current (and only!) restrictions stay as they are, but we also felt that we perhaps need to be a little more strict on these restrictions. So to re-iterate the current standing restrictions, they are as follows.

Sunday mornings are Helicopter only until 1pm, Sunday afternoons are Fixed wing only from 1pm until close. Currently many members were unaware that Sunday afternoons were Fixed wing only, so hopefully this will alleviate any concerns about the mornings being Helicopter only. This does mean however that all Helicopter flying must be finished by 1pm to allow a fair changeover for the afternoon. We also discussed the current situation with the bike track and not being able to fly fixed wing on a Sunday afternoon. This is unfortunately out of our control, however we have the dates for the bike meetings on our website, and any last minute changes should hopefully be notified to us and then updated to our website ASAP. Please also remember that on the days of the bike meetings they have to be finished by 4pm, so you can still fly from then!

One final note regarding the 2 heli patches at either end of the pits. We have discussed the current use of these patches and have come to the following conclusions. The patches should now be used only for flying electric helicopters, with a maximum size of 500 class (swinging 430mm blades maximum, i.e. T-Rex 500, MSH Protos etc). This is for a number of reasons;

- 1) The patches are in close proximity to the pits, so noise can be an issue with nitro helis.
- 2) Generally nitro helis are much larger and cover much more air than the smaller electric machines, and there just isn't the space for this.
- 3) Finally the most important reason is that of safety. The larger machines must only be flown off of the main patch to keep them a reasonable distance from the pits. The patches have been a roaring success in alleviating the pressure on the main flight line on busy days. To date I don't believe there have been any problems with conflicting flight lines, but this will continue to be monitored.

Some new stuff: **Futaba GY520**
For the heli's.



GY Series technology revolutionized gyro performance in 2000 and the GY520 is doing it again today. Its cutting-edge MEMS (Micro Electro Mechanical System) sensor design, ultra high speed processing speed and advanced PID control algorithm put it a quantum leap ahead of all other heading hold gyros in size, weight and performance. It's the gyro of tomorrow and it's available today from Futaba. Available from £144.99

For the fixed wing amongst you.



Length 765mm
Span 900mm
Weight 500g



Length 895mm
Span 795mm
Weight 445g

With all the character of the original, these lightweight models comes factory finished and almost ready to fly with a powerful brushless motor and electronic speed controller included. Both these are available from Elite Models at £69.99

New Radio



Futaba T10c

The eagerly awaited Futaba 10C radio is here! Supplied on 2.4GHz it is also capable of operating your existing compatible PPM and PCM 35MHz receivers by simply changing the module. With a full 10 channels and FASST transmission it has a large, backlit custom LCD screen and highly effective jog-dial to make navigation between menus simple. Supplied as standard with 15 model memories, this can be increased with the addition of an optional CAMPac. With dedicated aircraft, helicopter and glider programmes, the 10C has exceptional functionality and offers no less than 9 factory defined aircraft mixes, 8 heli mixes, 12 glider mixes and up to 8 freely-programmable mixes. Available as TX only for £349.99

Enduro bike dates:

If you would like more information then the web site address is www.sellindgemotox.co.uk

We **MUST NOT** fly fixed wing on these dates until at least 4pm.

Sorry. You can however check their web site on the Sat afternoon before and it will tell you if they are running on the Sunday before you make a wasted journey.

E-Mail & Web page:

I hope you still all like the web site as it is we are adding stuff every now and then. You can also upload your pics on our website, we have loads on there already take a look at. www.araclub.co.uk don't forget our e-mail address which is mail@araclub.co.uk so you can send any comments or pictures you have to that. Thanks to Ed Frudenberg for the Pic on the front.

BBQ's:

We have set the summer dates for the barbi's

The First is 18th July and the second is 5th September

Bonfire night is still to be arranged.

As you can see the last of the summer 2008 barbi's it was very busy. Lots of lovely models.



For you heli guys:

I was asked by a fellow club member to type this up so he has a basic reference on how to setup a new machine. It's not the only way of setting a machine up, but its how I've always set up my machines and have always stood me in good stead and worked well. This guide assumes you know how to read blade pitch and have some basic understanding of a heli and transmitter.

Basic Instructions for mechanically setting up a CCPM Heli.

This assumes the heli is built and ready for the electrical setup. On an electric heli, before you start, check your throttle direction to ensure bottom stick is zero throttle. Once that's done, set throttle hold to hold at 0% and disconnect your motor wires while setting the swash up to make sure you don't get any nasty surprises. Also, remember to mirror each change you make to the same linkage the other side of the head as they should always be the same length to ensure your blade tracking is spot on.

1. Assign a new model memory and select a 120 degree swash type (SR-3 on Futaba, 3 servo 120 degrees on JR/Spektrum).
2. Bind your TX and RX with throttle hold enabled and collective at mid stick. Push the servo horns on so they are roughly level, just to use as a visual indicator.
3. Move you're collective from minimum to maximum and watch the 3 swash servos. They should all move up together as you increase the collective. If they don't, go to the reverse menu and reverse the required servo(s). Now check they all move up when applying positive collective, down for negative.
4. Now the swash moves up and down as it should, check your aileron and elevator directions. The swash plate should tip in the direction you push the cyclic stick. If it doesn't, go in to the swash AFR menu and simply reverse the required element. E.g. If your elevator is reversed, go in to the Swash AFR menu, select ELE and reverse it (so if it says +50 and is moving in the wrong direction, change it to -50).
5. Now make sure your pitch curve is set to the default 0 25 50 75 100, then go to the sub trim menu. Put the collective to mid stick and put all the servo horns on, trying them in as many positions as possible to get them as close to horizontal as possible. If they aren't level, use sub trim on the required channel but use as little as possible. If it's more than 20 points, try another servo horn.
6. Once you're happy they are all level at mid stick, put the servo horn screws in, attach the balls and links and ensure the swash is also level. Adjust each link as required to make the swash level.

7. Now work on the head from the swash up. Each mixing arm should be level while the swash is at mid stick, if they aren't, adjust the required link to make sure it is, always working from the bottom up.

8. Now move the collective up and down watching the washout base (the bit with the mixing arms on above the swash). The washout should have a similar gap to the head and swash when at the extremes of collective. If it's not, you will have to adjust the 3 servo to swash linkages. If you have to do this, you will need to also re-adjust the rest of the linkages to make sure the mixing arms are all level again. If you've not got enough swash movement, increase your PIT value in the Swash AFR menu.

9. Now everything is level, all that's left to do is to check and set your blade pitch. With the collective at mid stick, attach your final linkages from the blade grips to the mixing arms, and install your blades. At mid stick your blades should be at 0 degrees. Check this with your pitch gauge and adjust the final link as required. Once you have 0 degrees at mid stick, check your full positive and negative pitch values. They should be equal, if they aren't you probably don't have all your mixing arms level. If your pitch value is too low or high (aim for around 11 or 12 degrees) go back in to your Swash AFR menu and increase/decrease the PIT value and recheck your pitch.

10. it's now worth checking your cyclic pitch. This is the amount of aileron and elevator movement you have. To do this, first of all put your blades in line with the boom and at zero degrees pitch - mid stick. Now put your pitch gauge on the blade at the front of the heli. Check your full aileron pitch by moving the cyclic to full left or right aileron and read the pitch off as you would for the collective pitch. You don't want any more than about 8 degrees really. Check for binding on the swash. If you've got too much or little then go to your Swash AFR menu and increase/decrease the Ail value as required. Now do the same with your elevator, but to do this turn your head so the fly bar is in line with the boom and then repeat the previous.

11. If your linkages are all set correctly, and the servo horns level, you shouldn't have any interaction. To check this, hold one of your fly bar paddles and move the pitch up and down. You shouldn't feel any movement in the paddle, if you do you need to find out which servo is introducing the interaction by watching the swash plate as you move the collective up and down. You should be able to see which side of the swash is moving up too much and down not quite enough. Re-level this servo by adjusting the sub trim for it, and then re-level the swash by

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adjusting the linkage on that servo. Now move the collective up and down again and see if it remains level again. Keep adjusting until it is as close to level all the way up and down. Another way to do this is to adjust the end points of the relevant servo, this is however far from ideal. If you do this, you will end up with a heli that climbs straight because there is no interaction, but at the extremes of cyclic travel it will start to roll and flip slightly off centre as the servos will not be travelling as far as each other, so try to avoid doing it this way.

12. Last to do is your tail setup. This is largely dependent on your particular gyro, so I'll only detail the mechanical setup. Set the gyro to rate mode as this centres the servo and it won't want to move away from centre. Pop your servo horn on so that the arm you are using is at 90 degrees pointing straight up from the servo. The tail pitch bell crank on the gearbox should generally be square to the boom and gearbox when the servo horn is at 90 degrees as you've just set. Adjust the tail control push rod to make this the case. You should now have an equal movement of the servo horn in both directions, check this with the rudder control. If it's not, adjust the push rod as required, then set up your gyro ensuring to set up your travel limits on the gyro.

13. Last but not least, always re-bind your tx and rx now it's all setup. You need to bind it with the collective at 0 degrees and the throttle on hold at 0%. This will stop anything too drastic happening if the connection between the tx and rx is lost in flight.

Your heli should now be mechanically setup close to perfect, it's just a question of test flying it, you may need a few clicks of trim, but it should be very close. You may want to limit your negative pitch in normal, but personally I run the same pitch in all flight modes - this stops any nasty jumps in height as you change between idle up and normal for instance, but this is personal preference.

Jamie McKeen

Inter club:

If anyone has any ideas about anything happening let me know by e-mail to mail@araclub.co.uk or by Telephone 07956501510 I'll either post them on our web site or pop in the next news letter.

Finally:

Thanks for reading this hope it was useful, sorry if it's a bit heli orientated but unless you fixed wing guys give me something to put in then I just use what I get. Iain Stingemore, Rod Shoveller.