

ASHFORD RADIO AEROMODELLERS

**A.G.M. 25th
November**



**October news letter
2009**

Welcome:

Hello everyone, well this has been yet another good year for our club. We've had two great BBQ's with a really good attendance at each. We raised approx £260 for the Kent Air Ambulance which is a great cause I think everyone will agree. Earlier in the year we had a number of people take their B.M.F.A. achievements Firstly Trevor Smith (happy trev!) passed his Heli A cert. Glen Johnson passed his Heli A cert, Eddie Frudenberg passed his fixed wing B cert, Paul white passed his fixed wing B cert, Rupert Yule passed his fixed wing B cert, Ben Field passed his fixed wing B cert, Kyle Stingemore passed his fixed wing B cert and not forgetting me I passed my fixed wing B cert, A very well done to all of you. If anyone else wants to know what's involved or fancies taking any of the B.M.F.A. Achievement then please contact me to find out how, and we'll happily organise it.

We have to say a very well done to Jamie McQueen! (as they announced it at the 3Dchampionships) for not only entering but for coming 6th out of 15 overall and 4th in the night fly. Anyone who knows Jamie will know he comes alive at night so I'm not surprised about the night fly! Well done Jamie a great result.

The AGM is the evening of the 25th November 2009 it starts at the usual time of 7 for 7.30pm there will be free food and some night flying after so bring your money or cheque for next year's membership its important you all try and come as its better to have a majority vote on any decisions made, such as do you want me in again as chairman or do you fancy having a go yourself and stuff like that.

We had about the same number of members this year which considering the poor financial climate I think is great. I look forward to seeing as many of you as possible at the AGM.

All in all its been a very good year, only 1 sad part where we lost our member Bill Marsh to asbestosis, I'm sure he's looking down on us making sure everyone is happy. RIP Bill.

We now have our own private forum on www.rcheliaddict.com its just for ARA members and its open to all of you to leave your comments, so ask to join and see what's going on. We talk about things like who deserves the pink brick to which lipo battery to buy.

Hope everyone has had a good year with us. I have enjoyed being a part of it and I am very impressed with the level of flying from all our members.

Iain Stingemore.

The Field:

Our patch is in very good condition as usual thanks to Cyril making a very good job of looking after it. But winter is approaching and the drive down the field is already getting muddy PLEASE DO NOT DRIVE ACCROSS IF ITS WET OR MUDDY. And if the sticks are across then they are there for a reason so do not remove them, please park at the gate.

We have had a couple of complaints about people flying over the pits or car park area. Just to clarify as per the BMFA rules, the pits and the car park is a NO FLY ZONE at no circumstance should either be flown over.

Could whoever took the club trainer please return it as it was donated to us by the son of a deceased member and is for the use of anyone who would like to try out this great hobby. It belongs to the club and lives in the caravan. Thank you.

Also someone has also taken the massive 12v battery from the caravan please return it as its for the tv/radio and to charge batteries etc.

Just an update on the proposed wind farm, so far permission still hasn't been granted so nothing will be happening in the near future, but if anything does go ahead I have my eye on a field ready to go not far from our existing one.

If anyone has any comments on our patch or field then please come along to the AGM to air them or contact me by e-mail Mail@araclub.co.uk or catch one of our committee members up the field.

As a bit of fun we now have a heli wall of shame (well more of a fence) if you have a crash, I mean some kind of mechanical/electrical failure causing a crash situation then cable tie your broken blades to the fence and we'll do our best to give you some deserved Mickey taking. It might even help with the pink brick nominations.

Hop Farm:

This year Kyle flew our 87" Yak 54 at the hop farm it was lovely to see so many of you there, every time we looked around all we could see was an ARA member, I think most of the crowd was made up of you lot! It was lovely to see.

Next year I would like to get more of our members there with more models, I shall be taking the Pitts Special and hopefully the Yak again so if you have something nice you would like to show off please contact me and I'll try and arrange it. Its not scary its just like flying at our field only the runway seems to go on for miles!!!

Or if anyone fancies holding some sort of show at our field I'll look into that to.

Cold Weather and LiPo Batteries by Jamie Mckeen

Summer's over and I'm sure that it won't have escaped your notice that the temperature is dropping very quickly, so now is the time to read on and get a bit more clued up on LiPo technology and how to protect your investment a little. Through the summer, your LiPo batteries will have been performing well, and you will have got used to the power they deliver, but now is the time of year that the power will begin to drop off a little at the beginning of the flight, and you may think the packs are on their way out, or that you have some other problem. Fortunately, you will likely find that it is just the low ambient temperature inhibiting its performance. There are a few things you can do to help this when at the field. The first is to keep your LiPo's warm in a foam lined box. The best way of keeping them warm in the box is to get a couple of gel hand warmers in there with them (NOT Charcoal ones for obvious reasons!); just snap the disk in them and let them keep the packs a little warmer. The second thing that is worth doing is to put the pack in your pocket for 10 minutes, that way your pack should be delivering good performance from the off. Once in use, they will naturally warm up (how much depends on how hard you are using them, and how good/bad the packs are), so make a great hand warmer after use! (Remember you should always allow a LiPo to cool before charging again anyway!) Now for the safety bit. Everyone knows LiPo's are very volatile, and if mistreated can puff up, or worst still, explode. Firstly it's worth reassuring you that a LiPo will never explode or do anything untoward unless its provoked. By this I mean if its sat in a box at room temperature for instance, and is left there, untouched and with no temperature change, nothing at all will happen. LiPo batteries all have a capacity rating, the most common being 3cell 11.1v 2200mA. This means when at room temperature, it has a capacity of 2200mA's. This however is not true when the pack gets cold. The colder it gets, the lower its capacity becomes. This gives a potentially dangerous situation. If you fully charge a LiPo in the warmth of your house, then allow the pack to cool substantially at the field, it will now be in an overcharged state. This is very very dangerous, and could easily lead to the pack puffing and even exploding. If you allow the pack to become over charged this way, you will also be damaging the pack and reducing its cycle life substantially. So if you know the packs are going to get cold, don't allow the charger to complete its charge; try to stop it when the cell's reach 4.1v per cell, rather than 4.2v. Some chargers have a cold weather charge mode for LiPo's which does just this. Also remember that you should NEVER charge a LiPo battery either in the model where you can't see/get to it, and never unattended - there have been numerous cases of people around the world having serious house fires when a charger is either set incorrectly, or malfunctions and over charges a LiPo.

Keep your packs warm and everything will be just fine, allow them to get cold and you will have much lower power, and also could be damaging the packs badly!

Enduro bike dates:

The bikes have now finished completely for this year.

Next year there will be a new club going in the same field i will post the dates on our website as soon as I know. So you fixed wing fliers make the most of it for now.

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 you can download these newsletters, check out the dates for the bike meets, download the application form to join a friend, weather, Gallery and much more. Also 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 Kyle for the Pic of our Yak 54 on the front.

BBQ's:

We have had two excellent BBQ's this year and the last one is the firework night, all the previous ones have been a great success so please try and come. We will have the usual entry of 1 decent firework. You must bring this to enter. There will be a BBQ. With burgers chilli jacket potatoes etc. Tea and coffee all provided by the ARA free of charge. Also we will be having a raffle with the proceeds going to the Kent Air Ambulance.

There will be flying in the afternoon with night flying at night fall its really good to watch.

One BIG request PLEASE KEEP YOUR CHILDREN WITH YOU as when it gets dark we will not be able to see them and it is a dangerous place to be with models flying about.

Hope to see you all there November 7th 2009

I kept being asked how to size a motor, battery and esc. So I put this together just for you fixed wingers.

How to size an electric motor, speed controller and battery To convert an IC plane.

This is an easy step by step guide to choosing a motor, speed controller and battery for your plane.

First you need to decide how you want to fly this model. If you're going to be doing 3D flying, prop hanging etc. then you need approx 200 watts per 450g or 200 watts per lb of aircraft.

For pattern flying you need approx 150 watts per 450g or 150 watts per lb.

For just Cruising around in a true trainer style you will need approx 100 watts per 450g or 100 watts per lb.

Then when you know how much you need, e.g. if you have a 5lb plane you want to do pattern style flying with it you need 750watts of power, because 5(5lb of plane) X 150 (watts per lb) = 750 watts. now because you don't want the motor to be running flat out the whole time, its best to only run you motor at 80% of its max potential, so as not to overheat it and make it inefficient.

Therefore we need a motor capable of producing approx 1000 watts of power, so say you want to go approx 60 miles an hour and have the power to climb vertical, then you'll be looking for approx a 1.5 to 1 thrust to weight ratio, so with a 5lb aircraft you'll need about 7 ½ lb or of static thrust to enable it to climb straight up. Now we know how much power we need you need to look at some motors producing 1000 watts and see what amps they draw and what props fit. I grabbed this from the scorpion chart of motors.

SII-3026-710KV					
Prop type	Prop size	Volts	Amp draw	Rpm.	Thrust in grams
APC	13x6.5	14	51.66	9600	2900

For instance the scorpion SII-3026-710KV is rated at 1000watts at 14 volts (4 cell lipo) which will run a 13 x 6.5 giving you approx 59mph so very close to what we are looking for the right speed, the right power just the thrust is slightly less than what we were looking for ideally 3400g would be spot on but this is close enough. However if thrust is what you really want and you're not so worried about top speed then, you could use the SII-3032-880KV which with an APC 13x6.5 will give you the 3400g thrust.

Cont:

I think this one will do all we need so,

We know which motor to use: Scorpion SII-3026-710KV

We know what prop will work and give us the speed and thrust: APC 13x6.5

We know from this chart that it will be drawing approx 51.66 amps so then we can select the speed controller using that 80% rule again and the next standard size is about 70 amp so that's what we'll use here.

Then all we need is the battery, being as these figures are based on a 4s lipo, giving about 14 volts under load, and a 4s (4 cell) is a good configuration to use in most fixed wings of this type, So as most batteries are at least 20c discharge rate, and don't forget to use the 80% rule again, the size is easy to work out being as we have all the figures here. So we only want to draw about 15c of a 20c battery so as not to work the battery to hard we take the 51.66 amps and divide it by the c rating in this case 15 we get 3.44 which is 3400ma battery so the ideal battery would be a 4c 3400ma battery. So when you look for a battery to fit your model it needs to be at least 3400ma but to give us a better flight time the this battery is a rhino 4s 3700ma battery is a 20c discharge rate it would be just right, providing it fitted in the airframe.

So to sum up,

**A 5lb airplane wanting to do pattern style flying would need a:
1000w motor.**

APC 13x6.5 prop.

A 70 amp speed controller.

At least a 4s 3400ma battery.

Easy.

Tip.

Try to never draw more than about 3 times the current of the voltage of the pack. I.e. if you're using a 3s pack then never try and draw more than 30 to 40 amps a 4s about 50 to 60 amps etc. as its just not efficient. You'll find that a properly chosen electric setup will be considerably lighter that the old ic engine you took out.

Iain Stingemore.

Chairman Ashford Radio Aeromodellers. www.araclub.co.uk

With the help of www.allthingsthatfly.com

Christmas meal:

We once again will be having our Christmas meal all info will be sent out soon.

As yet the venue hasn't been decided but we will send out all the information as soon as we know. But rest assured we will have fun we always do. So if you've never been then I would defiantly consider it this year its normally a great evening.

Inter club:

Medway flying club will be having their firework night on the 1st Nov, this is what made me organise ours its such a good day, they make us all very welcome, all ARA members are welcome last year about 20 of us went up, we had a great day lets try and get some more this time. Take anything to fly with you and your insurance as they have a lovely field. If you need to know where it is then either find their website link on ours or contact me to follow one of us its about 25 mins from Ashford.

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.

The table top sale in aid of the Air Ambulance and organised by the Medway club will be on the Sunday after our BBQ. The 8th November 2009.

Finally:

Thanks because if your reading this bit you've looked at the whole newsletter hope it was useful, sorry if it's a bit fixed wing orientated but you heli boys got your bit in the last one. If there is anything you would like to see in here then please please get it to me somehow. I'll be happy to put in then I use what I get. Iain Stingemore, Rod Shoveller.