

ADS



Short Finals

No.102



Edification

I'm not sure if edification is a real word or if it's one Derek made up earlier, but I suppose it could be construed to be the act of edifying; the giving of moral, spiritual or intellectual enlightenment. Perhaps not to be found here I ponder!

As this is my first bash at doing the intro (it may well be my last), please don't judge the rest of the mag's contents by this. Most of my reports begin along the lines of 'I was proceeding in an easterly direction when....' so this is something different.

Being the receiver of photos I occasionally get a glimpse into the workshops created by many of you and am quite envious of those of you who can stay indoors. I have always been one of those blokes who finds solace in his shed listening to my wireless and just pottering. The good thing about my shed was that it was wholly occupied by my stuff; my motorbike, tools, etc etc.

Having moved house a while back and managed to progress up the ladder to a garage I had high hopes of more space, a heater maybe, more tools, more planes.

Alas, it's no warmer than my shed. I no longer share my space with a motorbike - that went when somebody noticed I was flying with the car every weekend and an old banger had to be bought for the planes. I don't even have to share it with a car, but I have less space now than I did in the shed! Yes, I have a few shelves and a bit of a workbench at the top, but I am surrounded by box upon box of soft toys (that's another story - anyone want to buy Beanie bears?) and a variety of detritus from the house move that was three years ago!

Yes you've guessed, I have a wife who refuses to throw anything out, other than me maybe, and all of the stuff that used to hide in the loft is now in the garage!

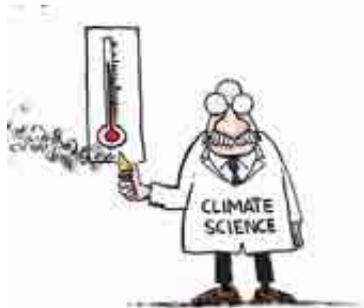
This leads me nicely on to my New Year resolution which is to reclaim my space and clear the garage. What is the world coming to when a wife invades the 'shed'.

The last few months have seen two new inductees into the Hall of FAME (Fulltime Aero Modelling Enthusiast), with Derek Roberston and Terry Shields both retiring from work to concentrate on the sport. This may come as news to Mrs R, whom I understand is under the impression that Derek is still at work. Come on Mrs R, funny how he only works on the nice days?!?

This year was a decent year I thought; the weather wasn't too bad all things considered. Isn't it funny how global warming isn't really noticeable in Aberdeen. The ice caps are melting and the equatorial regions are hotter than before, but us in the middle are as cold, wet and driech as ever. Sod's Law!

I sent a motion to the Climate Change Summit in Copenhagen suggesting they make the change so it only rains on work days. I await their reply! Or have I got the wrong end of the stick.

Roll on 2010 it should be the hottest year ever recorded (or the wettest ☺)



View From The Chair

Neil Davidson

Welcome to Aberdeen & District Soarers latest issue of Short Finals.

Included in this issue, George launches XC soaring at Calder Park, Derek gets legless on the West coast and Norrie gets high on dust and glue and tells us of some do's and don'ts. Reviews of gliders and an altimeter are also there.

I would like to take this opportunity to thank all those who contributed to Short Finals and hope that you will continue to do so.

May you all have a Happy Xmas and a Good New Year. ND

Flying Sites

Current flying sites used by ADS are listed below. One new location visited this year was

DUNNOTTAR CASTLE - An easterly wind gave some good flying in the bowl just to the north of the Castle. The site



also gives a nice backdrop for photographs.

BRIMMOND – At the north side of Aberdeen, north west is best on this slope, although a westerly can also be flown.

MEIKLE CAREW – A gentle south westerly will be accommodated on this slope off the Slug Road a couple of mile out of Stonehaven.

CAIRN O'MOUNT – Probably the best soaring site, but an infrequent south easterly wind is needed for optimum performance.

BAU OF NIGG – Just along the road from the sewage works at the edge of the cliff gives good flying on a north easterly. If the wind moves to the east then you can walk round the corner.

ST CYRUS – An easterly wind is ideal for the cliffs at St Cyrus not far from the Church.

KNOCK HILL – Between Huntly and Portsoy this challenging climb rewards the brave with some excellent flying from a variety of directions.

CALDER PARK – Is a flat field site which is the main site for ADS. It is located along Redmoss Road directly behind Makro.

There are some previously used sites that haven't been flown in recent years. It might be an idea to check the viability of some these in 2010. They are Elrick Hill, Barmekin Hill, Strathfinella, Findon and Durris. Any other suggestions would be welcomed.

Cross Country-e

George Whelan

The concept of cross country (XC) glider flying is not new, many slope soaring clubs used to run at least one event a year. Dartmoor club had 3 scheduled in 2008, Norrie and I flew one at Bishops Hill in Fife in the early eighties. I don't know of any flat field events in the UK but a number of events are held on the back roads of California, usually flown from a flatbed truck or a convertible car. Large distances are flown by huge sailplanes around these courses and some good info can be found on the internet.



I have been toying with the idea of e-XC soaring for a while. I tried to run a club day some years ago but lack of interest and high winds put paid to that.



With the advent of cheap out runners and battery packs this would seem an interesting event to try again. The main

requirement is for a STABLE glider, the idea of flying and walking at the same time brings its challenges like keeping an eye on the model and trying not to fall over, hence you want a glider you can 'park' while negotiating the walk between the turn points. Usually pilots are escorted around the course by a spotter to look up and down, quite often manhandling the pilot around the course.



I have looked around Calder Park and can see quite a good small course within its boundary; we have a fairly flat terrain and apart from a few boggy bits is fairly safe under foot. The event will be a very low key fun event giving you a chance to try out something different from stooging around the sky. Certainly the people and models I have seen flying at Calder over the past year need have nothing to fear from giving it a go.



I will keep the rules to a minimum and publish the course in plenty of time for anybody who wishes to have a practice. On the day we will walk the course and I will

explain some of the finer points of XC gliding, so start building, What you want is a broad wing chord and a bright colour for visibility.

For ADS Calder Park 2010 e-XC Challenge, any FAI legal model will be allowed with any drive train / battery combination.

The first round is of 60 minute duration and the second round (if time allows) is in the reverse direction against the clock.

Entrants will start at 30 second intervals and after an initial 30 second motor run you must enter the course start gate. (a couple of garden canes).

The course is to be flown as directed through probably 10 gates.

After flying through the turn point gate (another couple of garden canes) a 540 degree turn (1 ½ turns) must be made and fly out back through the gate. The pilot must stand approximately between the gate poles.

Once on the course unlimited motor runs will be allowed to regain height and after switching off you must fly through the last gate successfully flown.

If you land out that is the end of your round.

Two low passes are required – say 10 – 15 feet.

Landing within 10m of the target will earn up to 100 points depending how close you are.

If anybody wants to fly a pure glider I am sure the club winch could be made available (Ed – its kept at the Redmoss Police Station if anyone wants it).

Cover Photo

Derek Robertson's Ellipsoid at Calder Park against the clear moon sky taken 1 March 2009.



TwinPin Update

Sandy Tough

I had hoped to be further on with the Twin Pin, but things like long holidays and various commitments got in the way.

I was not happy with the way I had joined the centre section onto the fuselage, as most of the load (hopefully no more than 5 kilos) was being taken by the top fuselage longerons which were only ¼ square hard balsa. Some of the load was also being taken by the w/c sponsons, but I decided to spread the load over more of the airframe.

This modification was carried out by making four light ply brackets which fitted inside the fuselage and tied the centre section into the fuselage. These brackets allowed the load to be spread over a larger area of the fuselage including the bottom longerons and the uprights.

I also spent quite a bit of time testing the motors. This proved to be a very useful exercise. I would advise those who do not have a watt meter to buy one. (The price of these meters has dropped quite a lot since I bought mine).

By reading the motor data, it was established that the maximum amps for the motors was 46 amps. If you remember from my last article I decided to use variable pitch three bladed props of 12" diameter. The voltage to be used is 14.8V

The recommended prop size was 12" x 8". So I started my testing with props set at this pitch. The following were the test results.

PITCH	AMPS	WATTS
12x8	38	389
12x9	42	432
12x10	46 (max)	498

I have simplified the test table, as I tried a lot more pitch sizes.



This is where the use of a watt meter proved very useful, because if you simply multiply the volts by the amps you only get a theoretical wattage and not a working wattage. The other point I would make is that the meter allows you to get the maximum power out of the motor. I recently convinced my friend to buy a meter as he was having

quite a bit of trouble with his ESC's. When he checked with my meter he found that he was over propping his models and hence using too many amps for the ESC's and the motors.

I also experimented by making a wiring harness which allowed both motors to 'see' both batteries. I tried this because I read an article about two identical batteries producing different amounts of power which could be nasty on a twin.

However, I checked with John Emms of Puffin models and he said not to worry just

give one motor one battery and all will be well. Here's hoping!

Well after all that, I have around a kilowatt of power, which should give me about 80 watts a pound. Since I am not looking for supersonic speeds, I hope this will be enough.

The other item that I spent quite a time on (too much time) was springs for the w/c telescopic legs. I was determined to make them myself. I tried various piano wire gauges, but soon realised that the thickness of the wire required was going to require Desperate Dan style arms to pull the wire round a suitable bolt.

However going back to my training days when we used to heat treat steel using different methods to obtain different results such as, annealing, hardening, tempering and toughening, I decided to anneal the wire so that I could bend it round the bolt and then harden and temper it after.

They say a bad tradesman always blames his tools, but it soon became obvious that trying to reach the correct temperatures for these processes using a blow torch was impossible. Well that's my excuse!

Frustration took hold and I got up one morning and went onto the internet, placed an order within a few minutes and received the springs the following morning.

Enough said!

I decided to cover the woodwork in the good old tradition using tissue and dope. I had forgotten the finish that can be achieved when you mix Johnson's baby powder and dope. As you can imagine, because of the size of the model, it meant that I was working with dope for fairly long sessions and that was the other thing I had forgotten i.e.

the fumes. The benefit is that my whisky bill has dropped lately.

The outer wing panels are almost complete. The aileron servos are fitted and I have managed to operate the ailerons with hidden controls as per the full size. I am in the process of making the wing retainers and stays. I am also installing nav lights.

The plumbing (i.e. wiring) is installed but I think I will use interference chokes at the receiver end, because the motor wires are quite long and although I have tried to keep them well apart from the control wires, I think I will play it safe.

All being well finishing should be around Feb – March next year, unless holidays get in the way. Hope to have some photos next time.

Cheers the noo (ST)

(A mammoth build Sandy. Remember and advertise your maiden flight so we can get the pics for you. Just an excuse to be there really.)



Spotted recently at Calder Park, an undercover Santa testing the Christmas toys

The Competitive Edge

CLUB TRAINER COMP

The Club Trainer Competition was held in excellent conditions at Calder Park and a field of 9 fought it out for the coveted title and it was not until the last flight of the day that the Champion was found. Firstly though, thanks to Mr Stark for preparing the model and taking care of mechanical matters on the day.

A gentle north easterly breeze blew a fair smattering of cumulus clouds across Calder Park suggesting there was some lift on the go. Bill Stark set the early pace with a 4.39 flight in the second slot of the day just after 12 o'clock. Derek Robertson set a slightly shorter flight time in slot 5 but allied to a 45s landing bonus took himself into the lead with 5.07. This was short lived however as on the next flight Neil Davidson flew for 5.32 and a careful, but more distant landing put him at the head of the queue with a grand total of 5.37. The next slots were up and down as the lift evaporated, but on the last flight the gows came out in force for Abbie Smith as he launched straight into a thermal and remained aloft for 6.49. To make his win even more emphatic he landed bang on



top of the target (see photo below) to get the full minutes bonus and finish with 7.49. Well done Abbie !!



BBQ & WINCH COMPETITION

The Club Winch competition was held on Sunday 9 August at Calder Park running alongside the barbecue. A decent day saw a good turn out at the field, but only 5 competed in the tournament.

All using the same glider and flying over three rounds, the objective was to get as close to ten minutes flying time and gather as many points for landing with 30 available each time you hit the circle. There was a penalty for over-flying the allotted 10 minutes and the maximum available points on offer was 690.

Flying order was Robertson, Shields, Findlay, Ruxton and Kerr. Perfect landings were achieved in Round 1 by all pilots; however this was reversed in the second round with none hitting the target. All but Shields managed to recover the skill of hitting the ground accurately in the third round. Shields was most accurate in flying time coming in 3 seconds under the ten minutes whilst Ruxton, concentrating below, went over by 2 seconds and incurred a penalty. Despite that, when all the scores were tallied, Jim squeezed out

Derek for the honours with Norrie Kerr finishing third followed by Terry and Willie.



Away from the flightline, burgers were sizzling nicely and getting despatched quicker than Abbie could say “It’s too w...” – oh dear that’s another one gone! Good to see a turn out of some fine looking models and not forgetting some of the wives as well.

Thanks especially to the Ruxtons



one and all for supplying equipment and doing a sterling job on the cooking front too. Derek gets a mention in orders for doing the shopping and Terry for stepping in with the Fantasia when another battery let us down. A rocket powered ship of John Masson provided some entertainment early on and



George Whelan gave a maiden outing to his new Kurlun glider (see write up in this mag).

THE QULD MEN

The All Up Last Down competition was held on an excellent late September's day at Calder Park. The warm weather and slight south westerly wind provided excellent lifting conditions. George Whelan, Derek Robertson and Willie Findlay competed in the glider glass with Terry Shields and Brian Allen going head to head with Twinstars.

Around high noon, the gliders launched: Whelan flying his Lanier 2m, Robertson his new Proxima and Findlay the Easy Pigeon and away they went.



Allen and Shields let go the Twinstars shortly thereafter and 10 minutes or so later Shields ran out of juice and returned to earth with Allen still aloft.

49 minutes into the session Robertson, started to suffer eye strain and returned the Proxima to the ground to find his electron reserves were all but depleted anyway.

An hour gone and two gliders remaining aloft, but 11 minutes later Findlay landed out leaving Whelan the winner, who hit the deck at 1 hr 15 minutes, but with ample left to keep on going longer if it was required. A good day and some good flying.

DDMT & BOC NOWSCO

For the first time in a wee while a summer long competition was held between April and October. The best flight each month was awarded 1000 points with the others a percentage of that based on their time.

Only four pilots completed the five round event and Willie Findlay ran out the winner of the Davie Davidson Memorial Trophy with a total score of 4486 pts. Total scores are shown below.

In conjunction with this the BOC Nowseo Trophy was awarded for the longest flight of the year and again Willie Findlay won with 42m 55s (off a 30 second launch).

Pilot	Total Score	Longest Flight
Findlay, W	4486	42m 55
Robertson, D	2596	31m 53s
Whelan, G	2551	26m 37s
Shields, T	1871	12m 47s

A GLIDING MATCH

On Saturday 8 August a gliding match was held against Kerloch Flyers at their Banchory field. The rules were based on the Club Trainer comp with each team fielding 5 pilots going head to head. The winner was decided on the longest time accrued in the air bolstered by a landing bonus.

The toss of the coin saw ADS Chairman Neil Davidson put the KFC lads in first and Brain Allen (KFC) posted a 3.17 flight with no bonus. Abbie Smith replied with a 3.00 again with no bonus. Jim Paterson (KFC) posted a 6.17 flight and collected 45 sec bonus for a 1.05m landing. Bill Stark (ADS) remained aloft for 2.21 and gained 10 sec in the landing. Roger Taite (above) started round 3 with a 4.46 flight and 5 sec in the landing whilst Derek Robertson returned a 3.25 flight and hit the target on landing picking up the maximum 1 minute bonus.

Sandy Tough launched well and gained good height, but lost control of the



model which stayed up for over 5 minutes but landed 560m away. Well outside the circle! The fault was found to be the receiver battery. Unfortunately, the tailplane had broken and prematurely ended the competition. On count back of the three completed rounds, Kerloch Flyers finished ahead with 15.10 minutes against Soarers 9.56 minutes.



2010 COMPETITIONS

Well what can you look forward to in 2010? For a start, a Winter League has now commenced and will run through to the end of March at which time the DDMT will start again running for 7 months this time instead of 5. Rules are on the Club Website and may be subject to slight tweaking from last year.

The rules will be kept fairly straightforward and hopefully more than 4 pilots will compete this time.

The Club Trainer, AULD and Winch Comps will be held as one day events again and George will challenge us with a Cross Country comp as described in this very mag.

The possibility of holding a 100S and Open event at Calder Park over a weekend will be explored to ensure we can lay out enough lines.

The Committee would welcome any other suggestions that you might have.

Back From The Edge

It wasn't all competitive stuff at ADS during 2009 and the year began with our Winter Meetings in the new location of the Gordon Hotel,

but Ham Radio never did make it on to the menu.

The Spring Slope Day took place on

Meikle Carew and it was very pleasant indeed with a full size glider joining in.

The Cove Gala beckoned in June and the Club benefitted with a £130 share of the takings. It was a worthwhile day out and the RC simulator attracted good interest and maybe a new member or two.



The BBQ has already been mentioned and late in August an outing to the Knock saw some hefty models carted up the hill. Flying conditions were not great but a good (and healthy) day was had with Derek's Learjet stealing the show.



The final event of the year was another Slope outing to Brimmond in October and again the weather was superb. Mike captured the flying on video and his production is on the site with some great music to boot!

The Fly-In to Kerloch unfortunately fell victim to the weather.



Above is DR's Learjet mentioned above. 70" span foam wing covered with a balsa veneer, glass fibre fuz and 5 servos operating the control surfaces. Weighs a whopping great 7.5lbs for a wing loading of 23ozs/sqft .

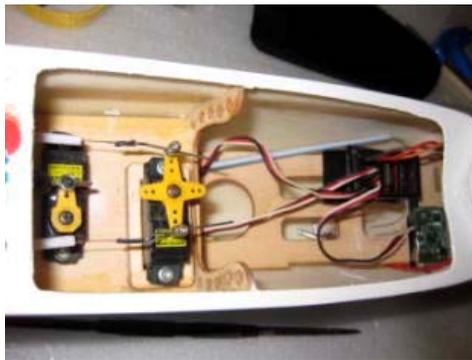
Kunlun Sailplane

George Whelan

Well blow me down, where has the year gone? End of July and the Nats heaving into sight, what to fly? I decided this year to fly in the 2 meter electric soaring event so what to fly? My current two meter has (had) a one piece wing and I am sure Alistair or Norrie don't fancy driving from Aberdeen to Grantham with a wing tip in the back of their neck. I retrieved my Lanier plan and started a 2 piece wing but thought it would be less work to go for an ARTF model, scanned the mags and www and settled on the Kunlun. This is a 2 meter sailplane for rudder, elevator, aileron & motor, although the instructions say to glue the wings together I will keep them separate but tape them when I assemble the model. As usual opening the box revealed very few components, a stunning glass fuz, a pair of ready covered wings, a tailplane and a bag of bits. First thoughts, what to change? I thought I would make the tailplane detachable for travelling. The model comes



with a superstructure ready bonded inside the fuz, this is for installation of the servo's and battery mount. Really well done.



So first job, attach the rudder, this is a pre-finished piece designed to be hinged with tape; no probs, but look at the outlet for the closed loop wire, very strange but it works. The elevator is operated by a hollow glass fibre rod that needs to be cut to length, a couple of adaptors inserted and appropriate terminations applied. To make the tailplane detachable I drilled a pilot hole through the fuz and tailplane seat then used an M3 Tee nut let into the top of the tailplane, I then opened up the bottom hole to clear the head of an M3 button screw to secure the tailplane to the seat.



Next job the wing servo's: I used SD150's for this task, these just about fitted into the servo bay, the servo's are stuck to the servo covers with double sided tape, I toyed with replacing the ply covers with plastic

covers with moulded fairings. I kept with the original covers and may change them once I see it flying. One thing I did modify was the servo cover fixing which is screwed directly to the balsa wing skin - bad idea, I cut some M2 ply triangles and glued them to the inside of the corner of the servo bays to take the screws. I made up some servo extension leads and set up the ailerons using a servo tester.



Looking at the drive train I settled



on a Hyperion Z3013-10 brushless motor, an Overlander 40A ESC and a 3 x

2400 Saphion battery pack, I have given up on LiPo's as I have had no luck with them despite treating them with kid gloves. This drive train gives me upward of 400 watts which should give me the desired performance. I



mounted the motor using the very substantial aluminium disc onto the fire wall, used a small cable tie to retain the motor cables and Velcro to retain the ESC.

Before flying I set up everything on the bench to test its performance, I had about 400 watts to play with – plenty for me.

I did a quick assembly using all the parts to see how the model would balance, the instructions say 55mm which I think is way too far forward, putting the numbers into MAC it should be 75mm, which to me



seemed about right, without adding any weight I got mine to 70mm which will do for test flying. Reading some online forums 70 - 80mm seems to be the desired location.

Off to Kerloch for the test flying, unfortunately the wind was gusting a bit too

much for a test flight, however the next day at the rescheduled BBQ the weather was more accommodating. Pre flight checks carried out, all controls moving in the right direction, wings screwed on tight,

bicycle clips adjusted, no more reason to delay. back home I adjusted the control rods and re-zeroed the trims, looking forward to the next session, now in full training for the Nats.

Venturing to the quiet end of the field I gave the motor full thrust and away it went and just about taking my fingertips off! The model stood on its tail and rocketed sky wards, some small aileron trim adjustment fed in and at a great height in no time at all I cut the motor and levelled out. A fair bit of up trim was required for straight and level. This was initially hard to judge as the model does not do slow but grooves around the sky going where you point it. Once I got the beast sorted some nice flying ensued. For me the best thing is that it doesn't dig its nose in during a turn, once the bank angle was established the plane could be left to its own devices even for multiple turns. I found the model to be responsive without being twitchy, it also seemed quite sensitive to detecting thermals. Once I ran the battery down it was time for a landing, this was a bit hot but I prefer this as you retain control authority down to the ground. Once I got the model

ADS Twitter



Something that goes on at the field every flying day? Maybe, but it is also a handy little facility on the web. ADS have their own Twitter page and the updates from it are embedded into the website so you don't need to go looking anywhere else for them. If you register with Twitter (free) and subscribe to 'adsoarer' you can receive any updates by text message to your mobile. Even better, you can update directly from your mobile by sending a text message to 86444. Start your message with @adsoarer then your message and it will update immediately on the website. For example @adsoarer the winds dropped at Calder flyings good - then you might get some pals to fly with – if you want them that is. The website has megabytes of space still to use and fresh info would be gr8, so one model review from each of you this year will fairly give us a full library of info. It's your website, so use it and send the material in. Ta.



Ramblings From His Roofspace

Norrie Kerr

cross tail. Moral of the story, "Never take your eyes off your model when flying"

Well that is another year over almost and much of a sameness as last year, glorious flying weather on working days and very

antisocial weather on flying days, high time the weather Gods responsible were slapped with an ASBO, any chance Willie?

I was just getting to grips with my Fun Fly when the grass grew and stopped that bit of hooliganism. The new Sigmas are proving very good indeed with the 4

function wing. I have flown the new cross tail and it is very smooth, just got to sort out the presets, which are a bit high; changing from fast cruise to thermal mode produces a very nice loop. I will also be adding some holographic film to the wings, as when end on, this type of model is not easy to see, as I found out when I mixed up Derek's red and yellow T-tail with my blue and red V tail at height and did an Abbie style landing in the field over the road. I say Abbie style but his was downwind at full throttle and mine was downwind at a 20 degree angle, INVERTED at full throttle, the ensuing arrival removed the V tail which gave me the excuse to fit the

or so in the loft this year I have been butchering a few sheets of balsa to keep my hand in.



The idea was to gang everything up and all I have to do during the winter is cover the brutes, which with a warm iron and a hot heat gun should keep the temperature up above freezing. The Nijhuis Hurricane sort of ground to a halt after completion of the fuselage while I played with a foam wing for it, but setting up flaps was a problem so I am going back to a fully built up set of wings and tail. I have re-covered a pair of badly damaged Ripmax Spitfires in Doculam and am very impressed with this stuff; very light, tough as old boots, is almost impossible to melt and it also seems to add a torsional strength to the air frame. The only downside

is you need to paint it, but trials I have done indicate it takes paint better than Solarfilm.

I have purchased an E-Max 2810/12 E 40A ESC from Giant Cod with a selection of props for approx £35 including postage. This motor is supposed to be good for swinging a 10" – 11" prop and this should be about right for the Spit. I will let you know, if you have not tried them they are worth a look, their service is very good and the quality for the money will take a lot of beating.

Reading the Slope column in a recent RCME there was some very good advice on winter flying, along with the usual "make sure everything is good to go before leaving home" stuff. The columnist mentions clothing and suggests the type that anglers wear is more suitable for model flying than fancy Goretex. This is because as fishermen tend to sit around a lot there is more

insulation in their clothing. Take a leaf out of the offshore book and look at layering your clothing, soft, warm thermal underwear next to the skin, shirt and trousers next, topped off with a good wind proof quilted outer jacket and over trousers. Jeans should be avoided as they are notoriously poor at keeping heat in and wind out, even worse if they get wet. A good pair of waterproof boots and thick socks, a woolly hat and gloves finish off the outfit, but make sure you can firmly hold and operate the transmitter with them on.

That's me done, so all the best for Xmas and the New Year and if there is no wind and the sun is shining see you at Calder Park 10.02/01/01/2010.

(Quite an impressive workshop in the loft Norrie. Beats sitting in a cold garage on a winter's night.)



Reach for the Skye

Derek Robertson

The hill looked fairly innocuous on the map! There was even a single-track road that ran along the bottom of the west side. OK, it was a little higher than Brimmond, but legging it to the top would mean covering much the same sort of distance we regularly wheeze over on the way to Brimmond's NW face. Any reservations I had, got "the elbow" when one of the group assured me that the top of the hill boasted a generous covering of heather.



Above - The Craig Mhoal flying venue photographed from Plockton, on the opposite side of the loch.

Ancient history now, but this was the occasion of our annual "hill walking" trip to the west coast of Scotland at the beginning of April '09, in this instance a week of self catering heaven in Lochearrow, not far from the Isle of Skye. A group of 4 old-timers hell bent on over-eating, excessive drinking and reckless exercise – activities not really befitting bodies approaching their twilight years! However, the gloss and danger had been taken off the occasion when our wives` talked themselves into joining us, with

a view to introducing the joint voice of "moderation" to proceedings.

So, having been sold on the idea of "stroll" up Craig Mhoal, I put my Beano annual down but was forced to hold onto the previous night's hangover as I loaded my Spitfire, boots and high fat snacks into the car. Because of the location and the type of model I'd be flying, the Kenneth Moore film "Reach for the Sky" immediately sprung to mind, hence the title of this tale. I also had a little chuckle to myself when it dawned on me that the only thing Douglas Bader and I had in common was my legless condition the previous evening!

A 40 minute drive from our house, along the obligatory twisting single track roads, saw us parked at the foot of the hill. Stroll it wasn't going to be! Those funny squiggly lines I'd seen on the map were closely packed contours and what lay in front of us was a 35 - 40 degree slope all the way to the top. Bugger! Double bugger with a hangover! I couldn't back out now, so it was a case of "chins up Derek", tuck the stomach in and off I jolly well go. One apparently inevitable bi-product of the ageing process (I've only recently discovered) is the ability to complain about everything, so in the 30 minutes or so it took me to reach the top, I reckon I'd used about 2 days worth of moaning and easily a week's quota of bad language. Just as well it's not rationed or I'd have been rendered speechless for the rest of the trip!

Imagine my disappointment when I eventually caught up with my pals on the summit. Breath-taking scenery, superb flying to be had and that hangover now completely gone. I couldn't think of a single thing to

“greet” about! As you can see, surveying the scene from 650 feet above the loch afforded us spectacular views of Kishorn and the Applecross Pass to the north, with Hamish Macbeth's Plockton and the Isle of Skye to the west. Thanks to pals Jim and Al for the cracking pictures of my model in action over the loch. Must be a candidate for one of Scotland's most scenic soaring sites I would have thought. However, within 30 minutes of arriving, one of the frequent, heavy rain showers forced us off the hill and into a coffee shop in nearby Plockton.



and I wasn't prepared to risk ruining either my “tranny” or hair style. There's loads of cliff sites and other useable “slopes” in this area but they have little in the way of plant cover, so I'll need to find a suitable “scalish”

EPP model that can handle landing on the bare rock for next year's adventure dear wife.

Yes, over the years I've spent many a wonderful break on the west coast, but can honestly say that this was one of the nicest places I've ever sobered up in!



Above - A long way down to the loch if things go badly wrong, but extremely chuffed with two successful landings at this wonderful location!

I had hoped to fit in a bit more flying as the week progressed, but the breezy conditions brought continued rain showers

Jump Start With a LiPo

It was reported in a recent RCME letter of a modeller who flattened his car battery at the field leaving himself stuck. Application of a 3s 2200mAh Lipo gave enough juice to turn the motor and start his car. The average family car uses about 250Amps at start, depending on many variables such as engine temp, size, age etc so a warm new car might have just made it.

Easy Pigeon

Willie Findlay

The Easy Pigeon has served me well this summer and I thought a few words on the plane might not go amiss. As most will know it is an ARTF glider distributed by Perkins, although I'm not sure who makes it. It is fairly popular and seems to be stocked by most online shops.

The Pigeon is exactly the same model as the BMI Montana (different colour scheme), although that appears to be scarce on the shelves nowadays.



Well, after spending £55 you can expect to find a blow moulded fuselage, a three piece wing and a set of tail feathers. A 600 brushed motor, complete with spinner and 8 x 4½ folding prop and pushrods for the elevator and rudder are already installed. To complete the stock set up, two standard servos and a 30 Amp speed controller are required

along with a 6 cell NiMh. The Pigeon will fly very happily on this set up and a few lifts will be obtained from a full battery. Climb rate is slow though, but good enough to begin with as I did.

The 72" wing comes in three parts and is bolted on to the fus with nylon bolts. The wing can either be glued into a one piece or retained a three with the outer tips taped on for flight. The wing and tail is of conventional built up construction with good sturdy covering applied.

My current Pigeon is my second; my first went through all the pain whilst I mastered the art of keeping it in the air and suffered a few blows in the process proving its all round sturdiness. However, that model has been patched up and is still in service as my hack sloper. Come to think of it I only have hack slopers.

Anyway, my second Pigeon got the Findlay upgrade pack and out went the brushed set up. I have installed an EnErG 3650 brushless inrunner (1000kv) turning the 8 x 4½ prop off a 3S Lipo through a 40 Amp ESC.

I also opted for SD200 servos which, being smaller save some weight, but to balance it I required almost 6oz of lead up by the motor. The AUW is 1.2kg which is about 100g lighter than the stock set up.

The difference in performance under the brushless configuration is like night and day. A 30 second motor burn will comfortably get you up to the 400 feet mark and I can expect about 10 lifts from my 2200 pack.

In flight the plane is stable with little vices. As with most gliders, a good dad of down needs to be applied under power, but

on the glide it is quite slow and holds the air well, although I would not describe it as a floater per se.

In a thermal, it can rise with the best of them and is the model that returned my 42 odd minute flight in August.

As I said my first Pigeon suffered some hefty blows and the fuz twists and crumples itself up on impact. Application of a heat gun or immersion in boiling water softens the plastic stuff and it self straightens to a degree. A bit of gentle persuasion to hold it whilst it cools and you would hardly know it had been in a bump. The wing is strong and being wood is easy to repair should you stand on it for example !!

My only complaint about the Pigeon is the canopy which is held on by little black screws and needs to be removed to effect battery changes. There must be a good box of these screws lying in Calder Park by now! I suppose I could stiffen the thing up and install a catch system.

All in all a good little model for the money and one that gives plenty of enjoyment beyond the beginner.

Battery Life

Ever Ready

Everybody has their own way of looking after and treating batteries whether it be Nimhs or Lithium derived jobbies. NiCds are yesterday's news with their manufacture phased out earlier this year, although existing stocks, if there are any left, can still be sold.

Is it best to leave them charged, discharged or somewhere in between?

Personally, I leave my own ones charged. Nimhs do drain away with time, although the new chemistry ones claim only a 30% loss over a year. Lipos seem to keep their charge okay.

Loongmax Tipple LiPos boast a 5C charge which means fresh batteries in 12 minutes, but what size of charger to charge them. A 3000 mAh cell would need 15 amps! That's a lot of charger.

Recent guidance in the RCM&E suggested that batteries be maintained as per the table below.

How do you keep yours?

Single Cell Voltage Checker					
Charge State	LiPo	Li-ion	LiFe PO4	NiCd	NiMh
Fully Charged	4.2	4.1	3.6	1.6	1.6
Nominal	3.7	3.6	3.3	1.2	1.2
Storage	3.8	3.7	3.3	1.2	1.2
Min (off load)	3.0	2.5	2.0	0.85	1.0
Charge State					
Maximum	1C	1C	4C	2C	2C
				(Not All)	(Not All)

Save yours ending up like this poor chap



The Nats 09

George Whelan

How time flies, I can't believe it's a year since we were piling into Norrie's car for our annual pilgrimage south to the BMFA Nationals. This year we have loaded Alistair's gleaming new Galaxy and just after 8am on Friday 28th August head south for a long weekend.



This is a well tried route for us, Aberdeen, Dundee, Perth, Stirling, M74, M6, A66 to Scotch Corner then a mixture of A1 M1 to Grantham, the Nobody Inn for a couple of dry sheries, Asda for some essential supplies, six packs, pies, crisps etc, then the short journey to RAF Barkston Heath. Our usual campsite is equidistant from the toilets and the bar which is located in the hanger where the indoor flying is also carried out.

The BMFA Nationals is the biggest model flying event in the UK, probably in Europe and possibly the world, hundreds of flyers turn up to test their skill in the white heat of competition (NOT) for radio control and control line flying and I would guess tens of thousands of camp followers, a small town takes up residence in a variety of tents and

caravans ranged around the airfield, many others come in over the weekend on day passes.



After pitching our tent and sorting out the sleeping arrangements it's over to the bar to re-acquaint ourselves with old friends from previous years, take in some refreshment and have some food. Usually about 19:00 hours the indoor flying takes off, for this the hangar is divided into 2 parts by floor to ceiling nets, one part for the expert flyers with their 3D aerobatic models and the other half for mostly free flight and toy models with dozens of children getting involved in the hobby.



Saturday morning is an early rise for us, after a quick brew and something to eat it's a short 5 mile journey to the gliding site,

the Prince William Barracks which is a training site for tank drivers among other things. As usual Norrie was entered into the 100S glider class and I was entered into the 2 meter electric soaring. On the day the wind was gusting to over twenty five miles an hour and Norrie sensibly decided not to fly, about 90% of models flying in this class are all moulded Tracker models and they can usually, but not always, stand the hard pings that propel the models sky wards. The 100S class is a precision duration of eight minutes and you must land in a designated landing box. a spectacular site to behold six or eight models screaming skyward under the power of electric winches.

Due to the continued strong winds my class was abandoned so it was back to the main field early for a general stroll around the hundreds of vendor stalls and a walk along the demonstration flight line to see the dozens gas turbine powered models. Again the evening was over to the burger van and onto the bar.

Sunday was another early rise, the doors to the bring and buy open at 07:30 and Norrie had some items he wanted to sell. The bring and buy occurs on the Sunday morning when hundreds of people hire a space

either in the hanger or its surrounds to sell off any unwanted equipment or bring home a bargain. The range of equipment for sale has to be seen to be believed, some stuff you would throw into a skip rather than give it room in your shed, the highlight this year was a large scale F5 painted like a tiger for £1800 and the Jetcat to fly it for another £1800, don t know if it sold in the end. Norrie did good business and I resisted the urge to buy some bits.



Sunday afternoon was spent over at the control line circles, particularly the speed and team race circles. Conditions remained very windy and the gusts causing the models to balloon up over the safety netting, no joke at nearly 300km per hour. A number of speed classes were run at the same time including vintage and handicap speed and proto speed, the pulse jets were grounded at this time.



Further along the runway were the team race circles, again catering for a number of classes from the functional FAI class to the scale-ish Barton B and the semi scale Goodyear. Again because of the wind conditions some events were abandoned or delayed and those that flew were restricted to two up racing.



On past the combat demons, this is a young man's sport, you need the reactions of a cat, if you have to think about your next move you have probably already lost. Out in the middle of the field is control line carrier, this is a semi scale class which replicates carrier based aircraft, a number of tasks are flown including fast laps, slow laps and a landing on a scale carrier deck complete with arrester wires, from all this a flight score is calculated. Another class of control line is the scale event, these models are very



sophisticated with a control box built into the handle via which various functions for example retractable undercarriage, lights or flaps can be operated via onboard servos.



So back to the trade stands to try to find the bargain, we have bought so much over the years that it's now just a case of buying odds and sods, balsa, blades, carbon rod etc. So they didn't get much out of us. However there was no sign of the credit crunch on site, I have never seen so many people at the Nats and hundreds of people running round with huge boxes of new models.

The BMFA have a free flight tent, this usually has a display of the various classes of free flight model from vintage rubber to the latest high tech F1C power soarers. They have a very interesting bench demonstrating the construction of carbon D box wings, watch this space.



A final walk to see the jets and the scale comp and back to the tent for a BBQ, then over to the bar for some light refreshment.



The Nats carries on over Monday but as we had seen all we wanted it was on the road by 10:15 after a very last run round the trade tents. We have tried several routes home over time, this year it was up the A1 & A1M to Newcastle then across to Jedburgh,



onto Edinburgh, Dundee and Aberdeen, Journey time seven and a half hours.

If you have never been you should visit the Nats once before you die.



So is it worth the journey, **YOU BET IT IS, ROLL ON NEXT YEAR.**

Terry Says "Do As I Do"

A reminder of my input at the AGM. CAP 658 places obligations on us to report accidents under Mandatory Occurrence Reporting. Any accident involving serious injury to a third party must be reported to the SAA and to the ADS Committee (me!). Any occurrence involving a non serious injury, which would not be reported to SAA, must still be reported to me so it can be logged in the accident book to comply with our Insurer's demands.

A serious injury is any injury that requires a hospital stay for treatment and includes certain others such as fractures. Full details are on the website along with a MOR Form. (TS)



Model Altimeter

Willie Findlay

This piece of kit actually belongs to George Whelan, but after he installed it in my Easy Pigeon one day, I played about with the data which gives an interesting insight to what's happening up there.

The Recording Altimeter for Models is made by Soaring Circuits (US) and the RAM3 is the latest version. It can currently be purchased for \$79 with details on their website www.soaringcircuits.com.



As you can see it is not particularly big and fits easily inside most models. It can either be powered from its own source or via

the receiver. Without going through the actual workings of the gadget other than to say when switched on it zeros itself to ground level at your location and starts from there. It can be set to record height from 1 to 10 times per second and will do so for up to 18 hrs which is longer than the average flight.



Once your flying is done, the RAM3 connects to your computer and using Flightview software (available free from the website) the collected data is downloaded and converted into CSV format for export to spreadsheet software such as MS Excel. A graph of the flight can be produced as done for this flight (see opposite).

The graph shows that with my brushless set up the Easy Pigeon can climb at a rate of over 800 ft/min. I would say that was not bad and the 30 sec burn got me up to 429 ft. I obviously got straight into lift and thermalled up to 800 ft and managed to stooge about for around 4 minutes with minimal height loss (40 ft/min).

I then ran into two clear patches of heavy sink and fell out of the sky at 300 to 400 ft/min and despite a rally near the end, the Pigeon returned to terra firma after 12 odd minutes.

What the graph shows, is that if I managed to stay in the better air and continued my descent around 40 ft/min I would have gained a flight of around 24 minutes.

I suppose if a GPS plotter was used to overlay the RAM3 data, you would gain some knowledge as to the movement of the thermal, or in this case, where the thermal didn't go, but where the plane did, and thus how to avoid the sink. I guess that's what you call experience !!

RAM3 Specifications

Size: 3/4" long x 5/8" wide x 3/8" high

Weight: 21/4 grams

Resolution: 1 foot

Sample Rates: 1, 2, 5, or 10 samples/second

Memory: Over 18 hours at the low rate

Interface: Serial port - cable included.

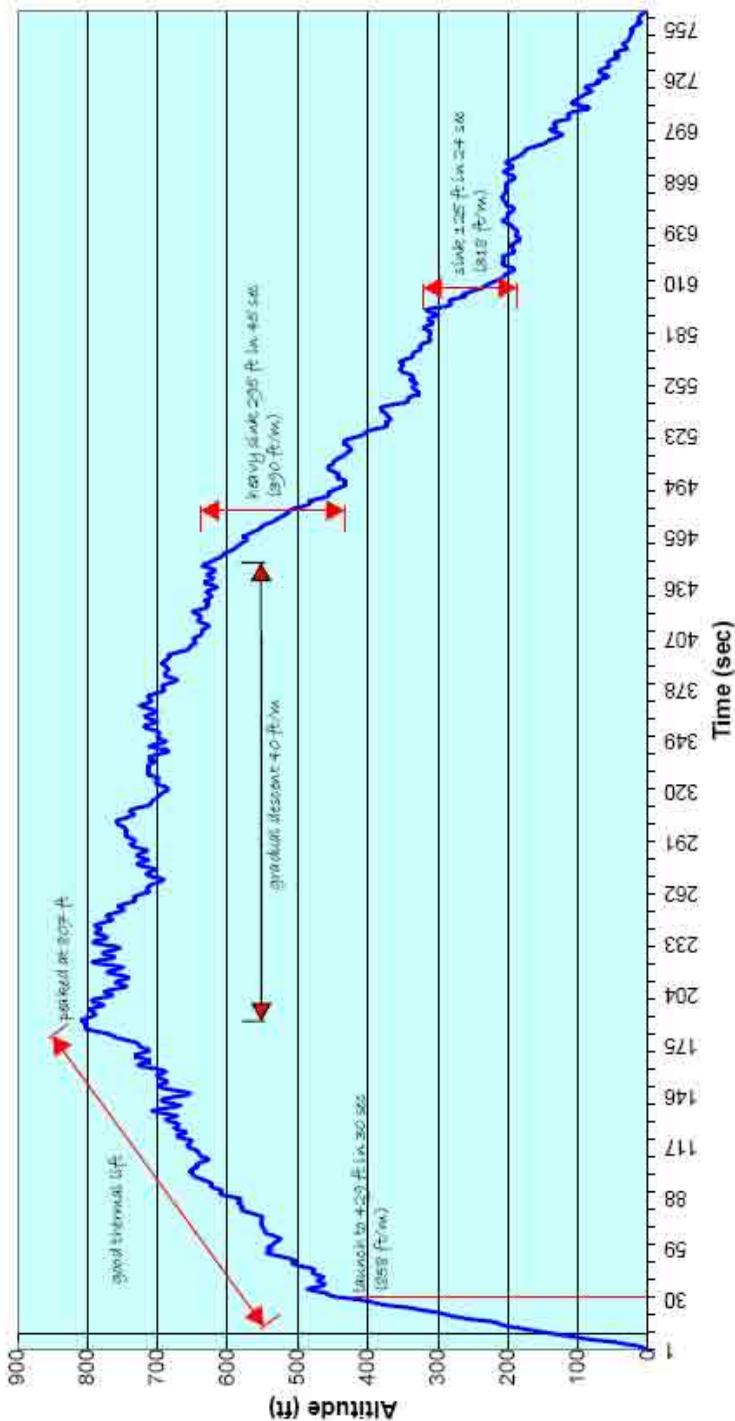
Power Supply: 3.1 to 15 volts

Current Draw: 5 milliamps

Operating Temperature: -4F to 140F (-20C to 60C)

[STOP PRESS – I've bought GW's RAM2]

Easy Pigeon at Calder Park 21 June 2009



Doo's, DooDoo's & Don'tDoo's

Norrie Kerr

This has nothing to do with pigeons or any other airborne vermin, rather some suggestions to make your trip to Calder or the slope more comfortable and enjoyable.

DOO'S:

- Make sure you are well dressed in suitable warm comfortable clothing.
- If like me you cannot fly with gloves on get some disposable hand warmer pads from Boots or a re-useable one from a camping / fishing shop.
- Try an insulated transmitter muff available from some suppliers.
- Waterproof boots / shoes are a must, with good thick warm socks, it is a well known fact that, if you feet are cold your body feels the cold more.
- A good weatherproof hat with cover for the back of your neck and ears is another must.
- Sunglasses, the low winter sun can produce more glare and they help to keep the wind out of your eyes, skiing goggles are even better.

DOODOO'S:

- Check your aircraft and equipment the night before, ensure no loose bits, hangar rash needing attention, motor screws tight etc. What will
- only take a few minutes in the workshop will be almost impossible on the field. Even cyano or epoxy takes an age to cure in low temperatures

- Make sure ALL your batteries are charged, LI PO's especially do not like the cold, keep them in a pocket if

necessary or make up a quilted bag or use a lipo sack to keep the heat in. (Alternatively, leave your car running with batteries on the floor and heater going full blast – WF)

- Take a spare aeroplane, nothing worse than getting all set up and causing slight damage to your pride and joy which means you cannot continue. A simple field repair in summer can be almost impossible in winter especially if the wind is blowing.
- Use simple airframes that are easy to put together or better still ones you can fit in the car fully assembled.
- Take a flask of something hot to drink (and warm your hands).

DON'TDOO'S:

- Leave the super scale jobs at home unless they are one piece, trying to assemble a dozen parts using tiny no2 size screws is a no no at any temperature approaching zero.
- Don't think that the sun is shining and there is no wind that this will last all day, be prepared for the worst, take some extra clothing in the car, if you need it, it is there to be used.
- The ground is generally harder and less forgiving, so be prepared to pay more attention to landings.
- Try to avoid test flights unless you have set everything up at home and are very sure that apart from minor transmitter adjustments the model will fly. Adjusting

metal quick links with cold fingers is almost impossible.

Leccy Wizard

Steve Davies

Trying to get the right set up for my electric aircraft has always been a bit of hit and miss for me. In the past I have frequently relied on manufactures selling me the whole package when I purchased an aircraft and I really didn't have much of a clue about what size motor, speed controller and battery I really needed. I suffered the frustrations on many occasions of planes that would cut out because of too much loading or just hot motors that drain batteries quicker than the time it takes to open a Christmas present.

So, in my quest and search for knowledge I came across many complicated calculations and formulas that really just flew over my head. Until one grey cold and rainy day (what's new) I came across the 4max web site (www.4-max.co.uk) and low and behold they have a rule of thumb guide that made some sense. I began working out performance of all my aircraft now and in the future on the back of a 100 pieces of paper (that's more the planes I want than I have) and came up with lots of interesting solutions. My next problem was all these bits of paper where written in a doctor's scribble I could no longer understand and formulas that had somehow become altered in the midst of my

excitement and hurry to get that vertical unlimited rocket jet performance I dream off.

And so it was that I came to re-write the whole thing onto a spreadsheet where the formulas would never change and I can create as many tabs for each aircraft for as long as I keep paying my electricity bill. I have had a lot of fun with this and now I can buy in confidence exactly what I need to give me the performance and time I want without giving me a fire on board and a smoke stream and can't turn off!!!

I hope you find this rule of thumb guide as helpful and as much fun as I have. See you at the field. (SD)



"You want proof? I'll give you proof!"

Steve's spreadsheet is available on the website and does all the hard work for you. The formulae are as follows:-

- Watts = lbs x Performance Factor
- Amps = Watts x Battery Volts
- Required Capacity = Amps x Minutes
- Optimum Capacity = Reqd Cap ÷ 80%
- C Rate = Opt Cap x Amps
- ESC Size = Amps ÷ 80%

Members Info

Contact Email Addresses

The Committee

Chairman: Neil Davidson – chairman@fly-ads.co.uk
Secretary: Gerry Mitchell – secretary@fly-ads.co.uk
Treasurer: as above
Safety Officer: Terry Shields – safety@fly-ads.co.uk
Events: Willie Findlay – events@fly-ads.co.uk
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Terry Shields – terlachshields@tiscali.co.uk

Please check that your email address is current or you may be missing out on notifications. If your email is wrong please email Willie Findlay with an update.

2010 Event Calendar

Tuesday 11 January – Ten Pin Bowling
Tuesday 9 February – Dinner
Tuesday 9 March – Bring 'n Buy Sale
Saturday 17 April – Slope Day
Sunday 9 May – Fly In
Sunday 20 June – Trainer Competition
Sunday 11 July – Club Winch Competition
Sunday 1 August – BBQ & Fly In at Calder Park
Saturday 14 August – Slope Day Knook
Sunday 5 September – Cross County Competition
Sunday 19 September – AULD Competition
Saturday 3 October – Slope Day

Welcome to ADS

For New & Prospective Pilots

Keen on aviation and always fancied being a pilot? Well ADS might be able to fulfil your dreams without your feet leaving the ground.

Aberdeen & District Soarers is a friendly well established model flying club formed in 1978 by a group of modellers with an interest in radio controlled gliding. Historically the main interests have been thermal and slope soaring, but in recent years this has also grown to include the flying of a variety of electric powered models.

Weather permitting, ADS meet at Calder Park, Redmoss Road (behind Makro) at weekends all year round and on Tuesday evenings through the summer and are always keen to gain new members from beginners to those with a wee bit of previous experience.

As well as flat field electric and winch flying at Calder Park, members also use slopes such as Cairn O'Mount, Bay of Nigg and Brimmond Hill to fly gliders and purpose built slope soarers using the up draught of air off the slope.

Club membership currently costs £12 for adults and £6 for juniors with obligatory third party insurance at £27 per annum via the Scottish Aeromodellers' Association (SAA).

ADS also hold a number of fun and competitive events and outings through the year with the emphasis always on enjoyment for all.

If this has whet your appetite for flying models, then pop along to Calder Park for a chat and further advice on how to get started. Information is also contained within the Club website which can be found at www.fly-ads.co.uk.

An application form is on the reverse of this page if you are ready to take the plunge.





Aberdeen & District Soarers

MEMBERSHIP APPLICATION FORM

Return with Fee to Gerry Mitchell,
49 Countesswells Crescent, Aberdeen, AB15 8LN

Name	
Date of Birth	
Address	
Postcode	
Telephone Number	
Mobile Number	
Email Address	
SAA or BMFA Number	
Safety Awards (SAA, BMFA, Other)	
Flying Disciplines (Electric, Gliding, etc)	
Other Information	

Fees - Adult £12, Junior (U18) £6, SAA £27
All members must be insured via SAA or BMFA
ADS are affiliated to the SAA