

Leek & Moorland Model

Gliding Association

<http://www.lmmga.co.uk/>

March 2016



In This Months Issue

- Page 3. This years club competitions
- Page 4. A BEA Red Arrows Hawk for a dying man by Peter Garsden
- Page 15. A quiet Revolution Would you have been fooled??
- Page 18 . A trip to Llandudno early January

A friendly reminder!!

Have you paid your 2016 subscription yet?? You can pay by Pay Pal or send it direct to Keith Details are on the Website

LMMGA Membership Card

When Keith took our site farmers their Christmas present, a couple of them remarked that in spite of the recent spell of bad weather, on a good day there seemed to be more fliers on the slope this year than other years. They asked Keith how can they identify LMMGA members from other modellers.

Keith showed them his membership card and told them that all LMMGA club members have a similar photograph identity card which is issued each year. If they hadn't got a card they probably weren't members. So please carry your I.D. card with you or the farmer could ask you to leave the site.

Front Cover

A day at the Orme (Llandudno) in early January

Dave Gains with wind meter and Mark Ollier with the camera registering the wind speed. There was quite a blow with an average speeds a touch over 40mph gusting to over 50mph

2016 Club Competitions

As you may or may not know, I am the clubs new comp secretary and it is my plan to run two competitions this year. The 1st date will be the weekend of the 4/5th of June, which day will depend on conditions, and the 2nd probably mid September, as yet to be fixed.

The first comp I propose to be a scale comp, but with a slight twist. Any thing that resembles a larger platform..... yes, the usual DG's, ASW's, Skylarks etc but also PSS, birds, Eagles, lawnmowers, pushchairs.....anything that can be chucked off a hill, I've even seen a Pen's flying, although it was aerotowed, very funny.....and that's what I want the 1st comp to be.

Most of us have some kind of soarer of a full size gathering dust, mine is a 10th scale P51b Mustang, haven't flown it much but when I have it's been a heart throbbing, but clenching 5-10min roller coaster ride, brilliant....and that's what it's about, damn good fun, so dust off that model in the corner and come and have a good laugh.

I managed to twist Paul Watkins (John Watkins son) arm to sponsor the comp. He has started to produce peanut scale glider kits of which S Cocker is reviewing in the next RCM&E Mag. The first two kits are an ASK21 and a Fox, these retail for around £70 each. Paul has donated an ASK21 kit for the winner of the June comp and if it goes well then I will put up the prize of the Fox kit for the September date.

Yours Ant.

Any info I can be reached at :-

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A BAE Red Arrows Hawk for a Dying Man

Martin Middleton, a former member of Power Scale Soaring Association, and a very good builder died of cancer at the beginning of this year, but before he died sold off all the kits he had not got round to building including a



Peter Garsden with his 54 inch
Red Arrows Hawk jet

Skyway Models Kit of the British Aerospace Red Arrows Hawk Jet. There were many other PSS models both made and part finished. I paid £90 which was more than reasonable for what was in the box. The span is 54 inches and the length 70 inches

I reckon the untouched model was made around the early 1990's. It is intended for a 10cc 2 stroke such as a Merco 61 – I had one once. The designer allegedly used to slope soar it as well. I thought it would make a good PSS model – a bigger version of the current popular Andy Conway Hawk plan – to view the PSS Hawk gallery go to <http://www.pssaonline.co.uk/gallery-pages/The%20BAe%20Hawk%20Collection.htm>

Martin kindly dropped the box off at my house around the end of August 2014 on his way to a barge holiday in Stoke on Trent, which only lasted a couple of days so exhausting was the experience. I told him I would finish the kit by the next PSS event in October so he could

see it fly. I had about 6 weeks so had to get a move on.

I was a bit worried that the kit was too bulky for PSS, and that the wing section was a bit too thick. It was semi-symmetrical, and had been sloped, so hopefully it would work. I also decided to amend the nose section which was designed for an engine mount and plastic moulding cowling, into straight balsa/ply sides and a nose block.

The box was full of various plastic mouldings for the jet in takes, tail jet outlet, half moon outlet ears for behind the canopy, polypropylene for the rear bendable skids, and clear plastic for the front canopy section, in, and large sections of veneer covered foam for the fuselage, and wings.

Time had dented some of the parts, and the contact adhesive holding some of the veneer had perished at the edges.

The plan is comprehensive, running to 3 sheets including 2 sheets of extra balsa parts drawn onto 3 and 4 inch wide rectangles. I thus realised that I would have to order some extra balsa. Easy to work out how much was needed. I didn't need all the balsa because I decided to use the plastic jet intakes rather than the balsa alternatives shown on the plan – more fiddly as it turned out due to the thinness of the plastic. There were no instructions, but I managed to find some on the Internet.

I usually use carbon paper to trace the parts but these were laid up in order, so I searched Google, and found an RCM & E thread which recommended using various methods.

I had the plans copied by Mail Box in Macclesfield. I used Cellulose Thinners to transfer the design to the wood - very effective. One wipes the wood first with thinners then places the paper upside

down and it transfers to the wood. I then went round the lines on the wood with black biro.

I decided to do a building blog on RCME & E as there is a special PSS section now. This contains more detail - <http://www.modelflying.co.uk/forums/postings.asp?th=99318> - the photos are viewable on the Model Builds section of the LMMGA website - <http://www.lmmga.co.uk/index.php/photographs/model-build-pictures-2/category/105-bae-hawk>

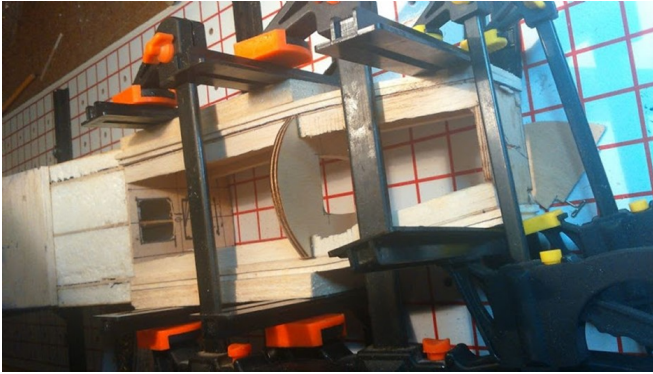
Fuselage

I started with the fuselage as I normally do. This was easy once the parts were sanded to fit together. It consists of a 1/16" ply central spine onto which the fuselage halves glue. I initially tried foam safe superglue, which didn't fill



gaps, then plumped for Aliphatic Resin. With hindsight I should have used Gorilla Glue which is brilliant for filling gaps in foam. I used it to glue the fuselage back together in a phantom

switch off launch accident at the Gate one windy day.



As this model is designed to hold a substantial engine mount, the front cowls are supplied in thick plastic. They are intended to be screwed onto F1. I abandoned

the cowls and extended the fuselage forward with some inner 1/16 ply and 1/4 (2 laminates of 1/8 for flexing) layered over the top. It would leave a huge hatch where the fuel tank was meant to fit. I also made saw cuts in the triangular section to assist.

The Canopy

This was a puzzle to me until some helpful bloggers pointed out I was trying to fix it the wrong way round. The instructions didn't make it clear that it is in 2



halves. The rear section glues on as normal, but the front part is a piece of clear sheet bent round a ply laminate (3 pieces of 1/64) with only about 3mm to play with and in quite a thick piece. Lining up the canopy onto the frame to give 3mm each side was a fiddle. What glue to use in order to fix the clear sheet but not mark it? Canopy glue would not be strong enough, superglue would produce white blooming (as I discovered after I

had used it), so non-odour foam safe would have been best. Holding it down with clear Duck Tape works brilliantly for me.

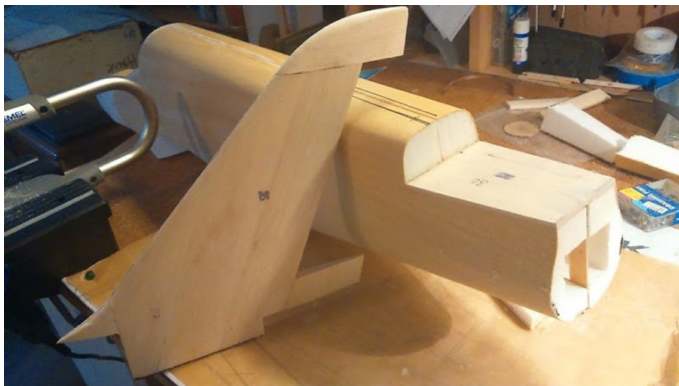
It is important that this bit is right because it is very prominent, part of the hallmark of the appearance, and is sometimes used to pick up the fuselage. Solarfilm covers the side joins and helps secure it in position.

The Tail Section

This is shown in several pieces of $\frac{1}{4}$ inch balsa and is anhedral, so it is important to get the angle right. It is fitted onto a flat



bed of foam which has to be cut out accurately. The fin has to fit on top, so fillets of balsa and foam to finish have to be carved to shape. I



used a profiling tool I got from Aldi for next to b****r all.

Before fitting the tailplane and fin, holes for the 2 elevator and 1 Rudder snakes have to be made.

One just makes a hole then forces through the snake into the foam at

the right angle, so it comes out in the correct place in the fuselage under the wing.



Before fitting the fin, I

covered it in the Union Jack Colours of the style I chose for the Red Arrows. I know it is a bit of a cliché, but I always go for an easy film pattern to apply, especially as I was going to be up against a deadline.

One can also see the tailplane covered in red Solarfilm which is so thin it is see through in parts, no doubt why it is half the price of Oracover.

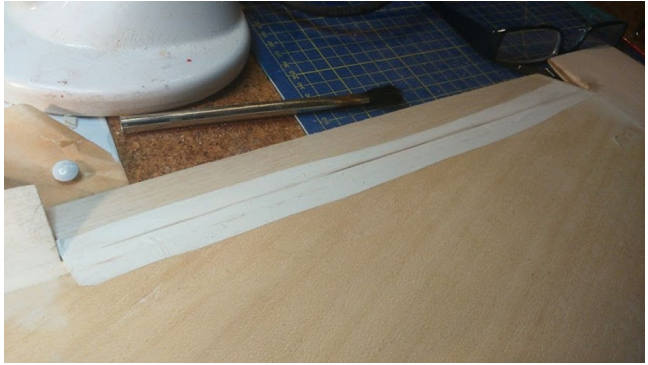
The photo also shows the profiling tool I used to accurately mark the aerofoil shape of the fin and slot.

The Wing

The wing is veneer covered foam so fairly straightforward, tips, leading and trailing edge all attached in the usual way. It



comes with Bowden cabled snakes installed, which are a bit last year. I was puzzling how to cut it without splaying the ends, and how to attach the servos in that they are now about half the size

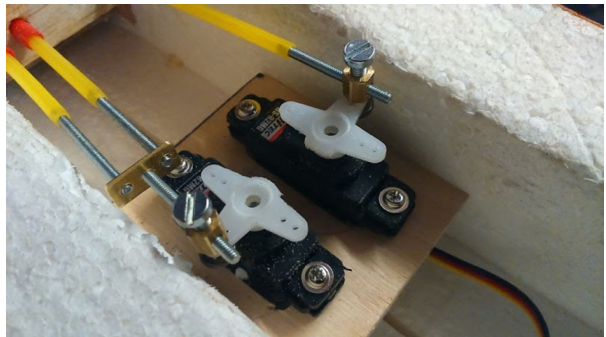


Ailerons attached with white Solartex worked well

of when it was designed. I could have got away with one servo in the centre as designed but opted for 2 small Savox 0257 micro servos. I wanted to be able to use spoilerons.

I decided to attach the ailerons with some white solartex which works well – no flaps but the speed this flies they are not needed.

I did puzzle how to attach the two elevator snakes to one servo. I bought a ready made item from Sullivan but when it arrived it was for 3mm not 2.5mm or .256 inch which is what the Sullivan Snakes use. I scratched my head and came up with a piece of brass strip with 2 x 2mm



holes into which I screwed the 2.5mm threads, then one in the middle to attach to the servo horn, worked a treat

As the deadline for the PSS event approached, I rushed to cover fuselage and wings in the red Solarfilm. The fuselage is so long that moving it round was a challenge.

I fitted out the cockpit with some ready painted pilots at 1/6th Scale, and used Tim at Model Markings for the decals which came out well.

One of the biggest challenges was the white stripe from the top of the fin to the front of the fuselage



Finishing and Flying

The 2000mah 4 cell NiMh battery fitted easily in the hatch left between F1 and F2 with room to spare. I fibre glassed it for extra strength. I decided to opt (to my later regret) for a scale type switch with a wire bent and fed through the hole in the switch then out of the side of the fuselage. The problem with this is that the



operation of the switch is not as positive as when they are attached to the side of the fuselage.

There is nothing unremarkable about the control movements. I always dial in about 25% Expo and use some aileron differential, but apart from that nothing too crucial.

Balancing a swept wing jet is always difficult because the C of G follows the line of the wing backwards, so I usually end up with something too nose heavy. This has such a long nose that it doesn't require any extra lead other than the battery positioning correctly.

I got it ready for the October 2014 PSS event but there was no wind all weekend so not possible to maiden it. As it happened Martin was too ill to attend anyway. So I maiden it a few weeks later at the Orme in a 35mph wind. It flew like a dream on rails at some speed across the slope.

I also flew it in a 55mph wind later in the winter and it didn't seem to mind. In fact the stronger the better

I did move the C of G back as far as I could because at first it was too nose heavy until it wouldn't penetrate properly then moved the battery back again to between F1 and F2.

I have managed to fly it at the Gate, the Mermaid and Bosley Cloud but it is happier in stronger lift at the Orme. It tends to drop a lot in the downwind turns. It rolls happily quite fast, but loops are a struggle as they are with all Jets because of the short moment arm.

One very windy day at the Gate, I took off happily. It was really cold, just after Christmas and my fingers were cold so I landed. I then decided I was being soft and immediately took off again. Somehow, in the landing, it had turned itself off. I had no control, and it was not

long before it turned downwind and cartwheeled snapping the fuselage in 2 and creasing one wing and snapping a tailplane off.

The cause was undoubtedly the scale switch, which I have not fitted again. I didn't recheck between landing and take off, but it is not something anyone would really do.

I was going to change the switch but then decided to reinforce it inside so now it is more positive. It pulls out to switch on. My advice is don't use them. I would prefer a magnetic switch from T9.

So overall, I would say it flies very well and in a scale like manner. It has real presence in the air and causes discussion wherever it goes. I am trying to get a replacement canopy as the original was cracked in the crash. Its flying ability was not affected though. It is larger than some of the other PSS Hawks designed by Andy Conway. In an ideal world I would lighten it and reduce the thickness of the wing which is arguably designed for either an IC Motor or an EDF.



I've noticed this grin always seems to appear on Ian Buckley's face whenever his model is in front of Mr Ollier's on a fast low pass



Mike Hills braving the cold with his handsome looking Fox

Obituary,Bob Mellor 76 yrs

It was with great sadness that I heard Bob had died. (23rd Jan) Members who flew on the Leek slopes between the late 1950's up to a few years ago will have known Bob. He was one of the first guys I met when I started to fly on the Leek slopes and we soon became great friends. I have many happy memories of the times we spent together.



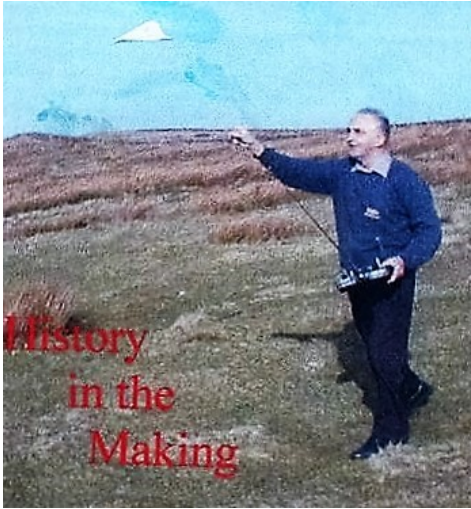
In those early days I remember both of us touring around the area with an ordinance map looking for possible flying sites. Having found one he would approach the farmer and ask if it was OK to fly our radio controlled glider on the hillside. Most of them let us fly when Bob assured them that they were only gliders and didn't make a noise.

He was a great ambassador for the club and did a wonderful PR job by visiting the farmers throughout the year to see if the flyers had been behaving themselves (any problems with fences, walls, gates and rubbish etc.) He also took them a Christmas present; this was long before the L&MMGA was officially formed in 1973.

Bob was a modest guy who's building and flying skills were second to none. He loved going to competitions and around February time each year he would produce a list of competitions and ask me if I fancied going to any of them. The venues ranged from the south coast up to the Pendel Hills. Bob's forte was pylon racing and acrobatics; he loved acrobatics. He once said to me shortly after he'd bought his first multi-channel proportional radios gear. "What's the point in putting an aileron, elevator and rudder on a model if you don't use them to make shapes in the sky?"

When the L&MMGA was formed Bob was an automatic choice for one of the officials; he was an official until the mid-80's. One of his lasting legacies is the club's L&MMGA logo seen today on the front cover of our newsletters and on many planes. He designed it shortly after the club was formed. He will be greatly missed.

The club sends its sincere condolences to his wife and family



Shortly after I'd heard the sad news of Bob Mellor's death, I did a bit of reminiscing by flicking through some of the old copies of the club's newsletters to see if I could find anything relating to him. I came across this picture and an article that had been in April's 2000 newsletter. (The picture was on the front cover of the newsletter) It shows Bob launching an aeroplane made from what appears to be a sheet of A4 paper. Apologies for the poor quality of the photograph; the original was lost due to

a computer crash. This is a copy of a copy taken direct from an April 2000 newsletter.... I thought you might like to read the following article that went along with the picture, see what you think. Remember this was a little over 16 years ago.

A Quiet Revolution

In a few months' time, maybe weeks, you will be reading headline news in the national press about a new revolutionary development in miniaturisation. It will tell you how a Japanese company, famous for its work in miniaturisation, has been working in close collaboration with a Staffordshire based group of microbiologists from Keel University on a revolutionary method of producing micro-mechanisms. Although their work is extremely classified, I have been told by a reliable source, that an announcement about this monumental breakthrough is imminent.

We are all aware of the rapid progress made in electronics over the last decade and how equipment introduced as the cutting edge of technology one week is superseded a week or so later by something more advanced. I was amazed to hear the other day that a single IC chip can have the equivalent to well over 24 million transistors on it. This is truly staggering! However, such rapid development on the mechanical side of commerce has remained somewhat static by comparison. Up to now, a ladies dress watch made in Switzerland has been about the smallest 'Micro-

mechanism most of us have seen.

Nevertheless, some idea of this giant leap in the miniaturized mechanism field, made by the Keel/Japanese group headed by Professor 'Lar Pil Foo', can be gleaned from the Front Cover photograph in this issue of your newsletter. ((Page 15 in this issue) this shows Bob Mellor launching one of the miniature prototype models.

Bob is a real ground breaking member of our club, who for the last three years has been one of the technical support team coordinating several individual groups of microbiologists at Keel.

In the photograph, Bob can be seen launching a Super Lightweight aircraft, fabricated from a new revolutionary cellulose composite material that has been impregnated with liquid, K9P' to give it its unique strength and flexibility. (Yet another development from the Keel stable that will soon be making an impression in the market place)

The designers of the model have reverted back to the original Wright Brothers concept of surface warping for a means of directional control. This has been made possible by a recently developed electro-bionic servo system based on a cloned leg muscle of the Rana Esculanta.

Control movements are initiated by the application of a potential difference of approximate 1.15 volts across a microtomed section of the muscle. This gives the inboard radio its amazing weight/power/torque ratio. However, at the present stage of development, true proportionality has not yet been achieved, the action being best described as "Non Linear" resulting in a somewhat jumpy flight pattern of the aircraft in its present format but it is expected that this problem will be overcome in the very near future.

I think it only fitting to mention the USA scientist Hank Sherti at this point. Professor Sherti is the current European Inverted Flight Champion (at full size) he was involved in much of the original pioneering work on this project during his extended convalescence following the completion of winning the inverted spot landing event at the 1998 French Nationals.

The professor is currently negotiating with several of the world's leading model importers. He is hoping to produce and market a model similar to the one seen in the photograph. It will be a one piece device complete with all micro radio gear installed. This will include a small rechargeable button type battery. The battery will

give approximately three quarters of an hour's continuous flying time on one charge. A real bonus is that any traditional TX will be compatible with the on-board gear.

It was hoped to supply this CTRF kit complete with building and flying instructions printed directly onto the cellulose composite material but unfortunately the prototypes glide performance was found to be degraded by the drag and weight penalty of the printing ink. As a result of this, instructions are now supplied separately under plain cover.

The L&MMGA newsletter will keep you informed as to any further progress on this fascinating project.>

Although in the article there were several clues indicating that it was an April fool setup, such the following anagrams

Professor 'Lar Pil Foo'..... April fool

Professor Hank ShertiHeat shrink

K9PI think most of you know this one

Quite a number of our members were convinced that It was a genuine report.



Ant Jervis has sent me this Photograph of his ASK21 and Fox.

It looks as though he's ready for the club first comp on the weekend of the 4th & 5th of June



A Trip to Llandudno in Early January

Got a call from Mark Ollier on the second Saturday in January ~
 "Me and Dave (Gains) are going to the Orme tomorrow are you interested ?? A bit of a silly question really because I'm always interested if there's half a chance of a trip to the Orme . "There's a 20 mph South Wester and no rain forecast he said" That clinched it "I'll see you in the morning usual time"

A trip the Orme with Dave and Mark for me is always a good day out even if its only to see some of the locals guys I've got to know over the years. What makes it especially good going with Dave and Mark is the mandatory stop in Llandudno for a full English breakfast and pot of tea.

I've said this many times for the benefit of some of the guys who are

new to slopesoaring. If you have never flown on some of these coastal slopes like the Orme and Rhossili your slopesoaring experience is not complete .

Mark's forecast of a 20mph wind was a fair bit out. When Dave eventually got his wind meter out it registered an average speed of a gnats over 40 mph gusting mid 50's. Ideal for the weighty glass jobs but having said that, there



Dave Launching Graham's FVK Signal



Wind meter at times showed gusts of over 50mph

were plenty of foamies managing to fly and there was some good combat sessions. (Probably ballasted)

I'd taken a couple of models with me as you do; but after seeing the difficulty in launching the larger 3M models in the strong wind I

decided to restrict my flying for the day to the Mini Dragon .

Although I'd no ballast for the Mini Dragon I had no problem with penetration; the only problem I had was with the lift. I rarely complain about lift when it's so good that you can gain height almost as fast as coming down in a dive; I kid you not! The lift was so



Yours truly watching Graham putting his FVK Signal though its paces

good that in much less than a minute I was at risk of losing sight of the Dragon and there was still plenty of lift to go.

Dave and Mark were really on form with their "D Sixties" At one time they were following one another in a series of low passes and within what seemed seconds of completing a pass, they were high enough to start another.

After dinner the low sun and glare off the sea was beginning to make flying a little uncomfortable and about 3pm we started to pack up and get ready for the journey home. By this time, we were one of the last modellers to leave the site. On a good day (weather wise) the trip to Llandudno is well worth doing the extra mileage.



I'm not quite sure what that is growing out of the top of Mark's head



Dave Gains Pike coming into land

It looks as though he's trying to beat that nasty looking rain cloud. picture was taken at the Mermaid