

EPP Aerobatic Model From the USA



Gone Fishin'!

Full Story Page 6

Editorialby Colin Wavell



This Quarter has been a very mixed bag. Since January we have had some very good Sundays on the South slope with excellent lift when almost anything flew.....floaters, combat wings and every other conceivable flying object. There was at least one well attended session on the west slope when the heavier PSSers and faster racers flew very well. We've also had an awful lot of iffy north easterly winds and that's the one direction that we don't have a slope for. There were extended periods of rain earlier in the quarter but more recently no rain, lighter winds and predominately easterly winds. Bidwell has proved useful several times and especially now that we have discovered that we can fly on the summer-fallow field to the right of the usual east-facing slope. This offers a more north facing slope that has produced decent lift for the floaters and we even tried a limbo contest there. One surprise is that it has been possible to winch-launch planes off this area into winds coming from the south east. Bidwell and Broomfield, our North facing slope, continued to offer up interesting flying to those with the skills and perseverance to reap the rewards. One afternoon at Broomfield Ted and I scratched about for two hours not getting much at all and then suddenly incredible lift was there and we were specking-out for 30 minutes. Not everyone's idea of fun...but it has to be done!

Some newer members may have found it a little difficult to connect with other flyers as we've been all over the place. Remember call Ted on Sunday morning and he should be able to let you know where we will be flying. If you have a computer it's also a good idea to follow the weather on the internet which should give you a good idea of

the wind direction and where we are likely to be.

This issue reflects the activities of the shorter, darker days. The successful Taunton Show in February brought our club activities to the notice of a wider public. We all fly, and some of us build, particularly during the winter months. Tim's piece about his 'Sniper' illustrates his impressive model engineering skills and sheer determination to succeed with a project. My 'Le fish' story shows a more artsy-fartsy approach to producing what I hope will be a 'Tart' of a model (*she's anybody's if you want to have a go!*) that will entertain us all on the slopes in the coming months.

Page 4 & 5 show how several club members celebrated the start of the good weather with a great weekend at the Bwlch in Wales. These trips are an opportunity to fly some of the best slopes in the British Isles and meet up with like-minded people from all over. It's the sloping equivalent to the Six Nations Rugby with lots of friendly rivalry between groups from Wales, England, Ireland and Mark representing Scotland! (*no France or Italy this time*) Come along to the next one in July. I'd like to finish by welcoming the new members who have joined since January and give a thank you to old members for paying up their dues. If you look at the contact list on the back page you will see that the membership has now swelled to a very healthy 30! I wish you all a good season ahead. Don't forget the first flat field session at the end of May. It's always fun and probably more exercise than you will want!

Club News

The Members Meeting on Monday 2nd of April

The meeting was attended by a good cross section of the membership. Most of the evening was taken up with a debate about whether the club would accept non-flying members or not and, if they were accepted, would they be permitted to vote at meetings. After a period of lively discussion it was decided by an overwhelming majority that the club would accept non-flying members who will be able to vote at club meetings. They would not have BMFA membership and therefore would not be able to hold office.

Chairman's Report

Ted reported that the exhibition in Taunton Library had again been successful and thanked all of those who had helped in manning the display and providing models and equipment. There had been a good turnout by members and the public had shown a lot of interest. Details of the North Hill Fun Fly and BBQ had yet to be finalised but members from the Smeatharpe Club have been invited. They have been advised that only gliders and electric gliders may be flown. Ted said he would check the availability of the flat field in time for the first meeting at the end of May. He also explained that he would be having a knee replacement later in the year so anyone wishing to volunteer to take over the chair for a while would be welcome to do so.

Late News

- Ted has seen Mr Ling, the farmer who owns the flat field site at Nynehead and he has given us the OK to use the fields this year. If you go there to fly and are in any doubt about which field to use check at the farmhouse before flying.
- As some of you who frequent RCGroups will already know, Mark is the owner of a fully working winch and hopes to get the club winch going soon. It will be good to experience the exhilaration of a winch launch at the next flat field session on Sunday 27 May.
- The club shop now has a supply of 'Diamond Tape'. It's £1.50 for a 33 metre roll.

Chairman's Chatter

The exhibition at Taunton library went very well and I would once again like to thank those members who were able to give their time to help. As some of you are aware I will be retiring as chairman at this year's A.G.M. (Oo said about time too) so now is the time for one of you fine people to declare your interest.

My Aggressor, which had an argument with a very unyielding piece of Bidwell ground, is flying well again after undergoing some hangar surgery. I hope to have the pleasure of your company on the slopes as often as possible in the coming months. Ted.





THE TAUNTON SHOW



For a second time the exhibition space at Taunton Library was filled with a variety of models representing all the different aspects of our hobby. From Monday 19 to Saturday 23 February a good cross section of Taunton's population were entertained and informed by a handful of WBMGC members. David Baker, had organised the exhibition during half term holiday so there were many younger visitors. At times they were queuing up to have a go with the flight simulator and were to be seen gazing, wide eyed and open mouthed at the larger models. Let's hope there were some future modellers in their number. We really need to capture the interest of younger people if our hobby/sport is to survive and continue to ignite the sparks that will create future engineers, designers and pilots. We were particularly pleased to see several young mothers guiding their very young charges, boys and girls, around the exhibition. The little ones were particularly fascinated by the magic of radio control. You can see them thinking.....How is it that when I move this stick here that bit moves on the aeroplane over there? It's still quite magical to me! The differences between the various models on display were often the subject of the many questions posed by older viewers. Club members were able to explain that they were all gliders and they all flew without engines! Eddie the Eagle and Mark's huge 'Thermic' thermal soarer, hanging dramatically from the ceiling as if flying, drew a lot of people in off the street. Once in the exhibition punters were not disappointed and we can be pleased that again, this year, club members' creations were enjoyed by a different group of people, in a different way from that usually experienced by us on the slopes.





Great Flying, Great Company, Great Place

Compiled from comments and photographs by Steve Clarke, Colin, Mark S, Tim, Ted, and many others.

Saturday 60" F3F and Sport Flying on the Crest of the Wrecker

Saturday was a glorious sunny day. Steve Clarke estimated it was about 12 MPH with a lot of thermal disturbance. that didn't help the racing. Given the forecast on Friday it was amazing how much flying took place. "The Bwlch bins anything you ever knew about how much wind is required to generate a given amount of lift" Six rounds were flown on the Crest. The first two rounds were flown and then the course was moved along the slope a bit to accommodate a more easterly wind direction. A further four rounds were flown in very thermic conditions. The fastest time of the day was 45.39 seconds by Dave Rumble flying an Ocelot but the overall winner was Shane Biddlecombe.

After the racing Steve Clarke reports that "There was a bit of an S-15 fest as there were at least five in attendance". While trying to pull off halfpipes in formation Steve and Dave Rumble had a mid-air and Dave's plane bit the rocks. This illustrates that a model that has the edge in the race because it is built for speed and lightness may come off worse in an argument with the ground. Steve's S-15 pulled out and survived without a scratch! Despite the light conditions Shane was able to maiden Tim's Sniper (*see article on page 8*) One highlight of the afternoon was the Sniper slicing up the slope and over taking an HP60. "It's a goer alright!" "Very smooth and even faster than the 'Pipe.'"



S-15 F3F launch



Tim with his 'Sniper'

Sunday Combat on the 'Back of the Wrecker' and 'Mickey's'

We arrived at the Wrecker lay-by/car park around 9 AM to be greeted by still and misty conditions but the sun was trying to break through and there was a promise of better things. The assembling punters were entertained by several electric models and a spontaneous swap meet occurred as they waited for the day to develop. The shout went up that a couple of floaters were just about staying up on the Back of the Wrecker so Ted and Colin set off with Élan and Sonata to try their luck. There was almost no breeze but the lift was buoyant and they stogged around for twenty minutes or so...lovely. More guys arrived and the combat course was set up a little further around the slope to take best advantage of what breeze there was. The lift varied from reasonable to not-so-great but we were able to get in three rounds for each group. By lunch time the wind had shifted so a drive over to Mickey's was necessary to complete the fourth round and the 'Best of the Best' final. When we arrived the slope was festooned with dangling paraglider pilots. After a few words from the 'Welsh Boys' they kept a respectful distance (*most of the time*) and the competition continued. The combat was a bit tame in the first rounds as it wasn't possible to develop any speed. Nevertheless scores were relatively high because even though contact was infrequent and gentle, it was very difficult to recover after a hit close to the ground and there were a lot of high scoring kills. After lunch, at Mickey's, things improved and the last rounds were ballistic in the better lift and the carnage was more like what we have come to expect from the Bwlch. Star of the day, as usual, was CD (*and welsh secret Weapon*) Aldwyn To hear him shouting "Keep 'em down!" as we struggled to stay up in the periods of sink was pure joy. The final result was a 1,2,3 for England with Steve Clarke making a well deserved third place (*always the bridesmaid, never the blushing bride, Steve!*)

After the competition had finished the fun and games began. Everyone took to the air and gave chase to Aldwyn's large foamy 'Scale Racer'. Competition winner, Rob Bunting, had brought a long a bag full of lightweight foam 'Buzz Bomb' toys. They were towed



The Mêlée on the Back of the Wrecker



Well done Mark #1 for Scotland!



The meeting up at the Wrecker car park becomes a bit of a swap meet.

about the sky behind several planes including Aldwyn's. They made a curious farting noise and it was great fun chasing them. There was also quite a lot of sport flying and several maiden flights including Colin's Le Fish which added a bit of spice to the afternoon for him. You never know what to expect at these events. We always come away with images and memories to re-live over and over until the next time. There was an atmosphere of friendly national rivalry throughout the day and many quips caused laughter that made it difficult to fly at times. *(a tactic increasingly used by the Welsh that didn't pay off this time ..ha ha).*

Well done England for the 1,2,3. Well done Ireland for making the trip. Thanks Wales for the great day.



England 1,2 & 3



Team Ireland



Welsh Duo, Mike & Shane

How big is Yours?(fleet of models silly)

Continuing our occasional feature on members' model collections. New member Keith Channing took the plunge and shows us what's in his hangar. Anyone else brave enough for next time? (how about it Mark?)

Blue/orange **Germania** Aileron/Rudder/Elevator model of just under a meter span. Finished in February this year. Have trimmed it but not yet flown it.

Yellow / white **Middle phase** Rudder/Elevator model..... but have just been given an aileron wing. Got this at the beginning of last year and have flown it a few times. It is slightly more solid so takes the odd bump while I am learning.

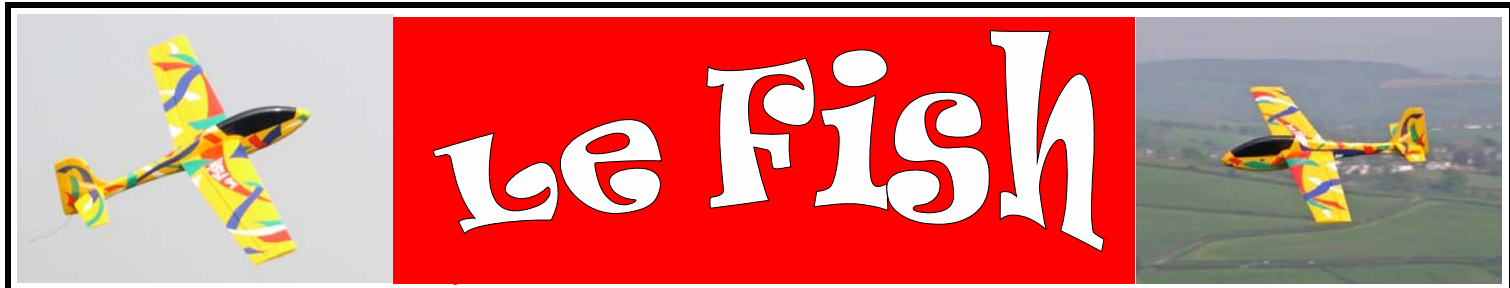
White with yellow tips and T- tail **Balsa Craft, Coyote** Aileron/Elevator model. Got given this earlier this year by a friend. I lightened the plane a little by making a new tail. Have only flown it a couple of times so far.

All yellow **Great Planes, Spirit Elite** Ailerons/Flaps Rudder/Elevator. Full house model bought recently from Colin

Blue / Burgundy **Minnow** Rudder/Elevator model which was the first radio controlled glider I helped build nearly 20 years ago. Not yet flown it but look forward to taking it gliding this year.

White / Red **My Dad's Own Design/Build**. Ailerons/Rudder/Elevator. We had a pair of 62" wings at home and used a helicopter tail boom for the boom. It has a rolled - ply fuselage with balsa hatch. The V-tail is removable for transportation. Finished it this week so not tried setting it up or flying it yet. Will let you know how it goes.

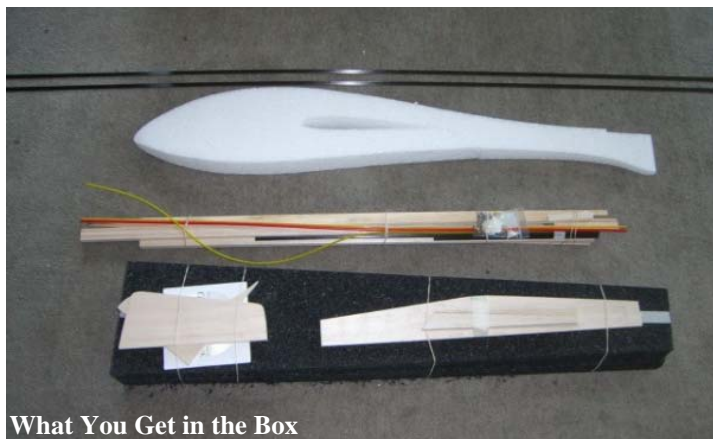




Continuing the story from the last issue about the 'Le Fish' an aerobatic model designed by Steve Lange and kitted by US company Leading Edge Gliders.

By Colin Wavell

How easy can it be? A couple of clicks with the mouse add a credit card and a PayPal account and two weeks later the box from USA company, Leading Edge Gliders, arrived on my door step. Well it wasn't quite that easy because it took Parcel Force longer to deliver it from Exeter than it took to come across the Atlantic! On opening the box I asked myself what did my £80.00 buy me as there seemed to be so few bits in there. However, everything, except radio gear, glues and covering materials, was included. All



What You Get in the Box

things necessary to complete one of the more interesting EPP slopers available today. Having built a LEG model before (*my P51D Mustang*) the lack of specific instructions for this model was not a problem to me (*general instructions for all LEG gliders are supplied on a CD*) but this is definitely not a beginners model both to build or fly because it uses some unfamiliar (*to the average UK flyer*) building techniques and materials in its construction and is able to utilize all the aspects of 4 axis flight control described in the January newsletter. The truly different thing about building this plane is that by using the internet it is possible to be in daily contact with the designer and many others, all over the world, who have built it and who fly it regularly. If problems and questions arise or I feel in need of advice or reassurance they can be had almost immediately.

The Build

The first task was to shape the supplied EPP fuselage blank. This was accomplished by slicing off the corners with a fully extended snap-off blade knife and then slowly and carefully rounding out the shape with abrasive paper or, as I used, Permagrit tools. As this is done it is very easy to get chunks falling out which leave unsightly holes. However, these can be easily filled with light-weight filler. The fuselage blank is in two halves, tack- glued to-



Shape it round!

gether, so once shaped it can be pulled apart in order to install the CF stiffening rods and radio gear. Builders have come up with several different ways of doing this and explanations and pictures can be found on the various build threads in the Slope section of - <http://RCGroups.com> .

I chose a combination of internal and external installation. You can get a pretty good idea of what I mean from the pictures below.



External Installation

Showing servos, switch, snakes and hatches for battery and Rx



Internal Installation

Showing CF rods, battery, aerial tube, Rx and wiring

My reason for doing it this way was to make the radio components relatively easy to get at if (*I should say when*) they need replacing. Once everything was fixed in place the two halves were glued back together. At this point the fuz. was put to one side and work commenced on the wing. The two wing halves were cleaned up and glued together at the root. As with most EPP planes all work on the wing was done using the supplied wing beds to keep everything true.

The heart of this plane is the wing-spar. This was made up from two pieces of spruce that were scarf jointed together and then carbon fibre strips were glued top and bottom. This made an extremely rigid spar which was glued into a slot on the underside of the wing. The spar was capped with soft balsa that I sanded flush with the wing surface. Next I glued on spruce and balsa trailing edges and fitted and temporarily hinged the ailerons. The ailerons are operated by servos installed in the wings. I cut the lugs off the



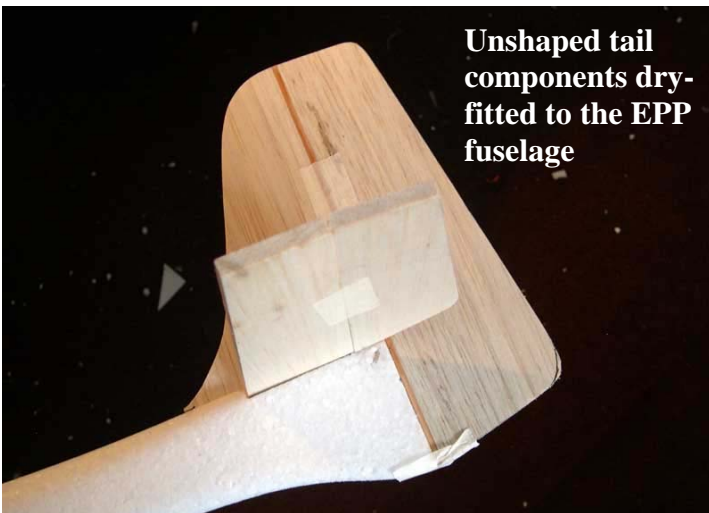
Carbon and spruce laminated spar

servos (similar to HS85MGs) and potted them in the wing flush with the spar. See picture above. The fin, rudder, horizontal stabilizer and elevators come ready cut to shape but they have to be sanded to a symmetrical section. I added a spruce fin post as I expect the fin to take a bit of a beating! At this point the whole plane felt decidedly floppy which was a bit alarming but once the cross weave tape was applied it stiffened up



Underside of wing after taping and before covering

considerably. Before applying the CW tape I painted the wing tips and front of the fuselage with thinned Goop. This is a glue that seems to be a cross between silicone and UHU that puts a tough skin on the foam surface. All the component parts were then covered with Profilm and trimmed with Protrim before assembly. The wing and tail were glued on with Goop (*E6000 in UK*) so that joints remain slightly flexible which should improve their survivability in a crash. The whole point of this plane is that it allows the novice aerobatic pilot (*me*) to try really silly things like inverted passes 6 inches off the ground and survive the inevitable crash. I added cross weave tape to give strength and torsional rigidity to the air frame. Rigidity was also greatly improved by the addition of the Profilm skin. The finished plane is plenty stiff enough in all



Unshaped tail components dry-fitted to the EPP fuselage

directions . Le Fish had its maiden flight at the Bwlch in Wales. Expert pilot Shane Biddlecombe did what he could in the light conditions. The model seemed to be trimmed OK and Shane did many upright and inverted passes and a few snap-rolls ...it looked promising! The following weekend in similar conditions I was able to chuck it off the south slope at the Beacon and do a few loops and rolls. When the lift was there it felt very buoyant and flyable but when the lift died...look out!... it just fell out of the sky. This would suggest that in a constant 10 MPH+ blow it will be fun to fly and I can expect my aerobatic abilities to improve over the coming months. In lighter winds I will stick to other more forgiving models.



Front of fuselage protected with bi-directional, fibreglass, strapping tape

This has only been a rough sketch to show some aspects of building this model. If you want to find out more take a look at the Le Fish threads in the Slope section of RCGroups.com where you will find lots more information, pictures and even videos to entertain you. Better still.....

Why not have a go and build one?



Front corner of the finished plane

It's an Acrobatic, Circus Clown, Austin Powers kind-of-thing!



Prototype Sniper

I left a plane in the shed and it went mouldie!



Fully moulded version

By Tim Prett

Most of our club members will know that nearly two years ago I decided to Avago (*Avago is Tim's handle on RCGroups-Ed.*) at designing and building a 60" composite racing plank. I named it "The Sniper". This was my first time working with composite materials and techniques.

The original Sniper fuselage was built very simply. I was a newbie to composite construction and didn't know then what I know now! It was made from foam that was sanded to shape and then covered with fiberglass and epoxy resin. Next car body filler was applied and rubbed down to smooth the surface ready for spraying. The foam was left inside the fiberglass shell to give added strength. The wing was made from expanded polystyrene (EPS) with spruce spars and then vacuum bagged. This process was fully explained in my article in Vol. 4 issue 3 July 2006.

To cut a long story short the original Sniper was built over a six month period and had its maiden flight on our NW slope where I crashed it! I repaired it and then took it to the Bwlch in Wales for the re-maiden. Taking less risk this time I got Shane Biddlecombe (a top class Welsh pilot) to re-maiden it for me. Shane really showed us all what the Sniper could do.....there was only one word to describe the Sniper's performance and Shane's piloting skills..... **"Wow"!**

Over the next few months I attempted to fly the Sniper on our home slopes but with very little success. The problem was that our slopes are quite small and shallow and do not develop anything like the lift to be found at the Welsh mountain slopes. The wing loading was too great for our conditions. I had to reduce it somehow. The only way to get the all up weight down to reduce the wing loading without changing the design would be to make a hollow moulded fuselage with a slip on nose cone. This would result in a much cleaner, lighter build. I knew that this was going to take a lot of time and hard work. Considering the great performance in Wales and that there seemed to be a queue of other slope pilots asking me if I could build them one, I decided to go ahead with the project.

How the moulds were made

Making a set of moulds is not as difficult as you might think, but it is quite time consuming and exacting work. You only get out what you put in! Hopefully all will become clear as I describe how I made my two sets of moulds. One set for the slip on nose cone and another set for the fuselage itself.

The first stage in the process was the making of the plugs. These are the original shapes that the moulds are made from. They are the exact size and shape of the finished parts, which in my case were a fuselage and a nose cone.

The material I chose for the plug was a piece of mahogany. It had no knots and was solid and easy to shape using hand and machine tools. The shape of the fuselage was drawn onto the top and side of the wood blank and was cut out on a band saw. The rest of the shaping was mostly done, by hand with a plane, but I finished it off on my lathe to get it spot on.

The next stage in the process was to make a parting board. This enables the mould to be made in two halves. I cut a piece of melamine board that was bigger than the nose section of the plug and then drew the shape onto the board and cut it out with a jig saw. This cutout allows the plug to be placed into the board so that only half protrudes above the board. It is from this that the first half of the mould is made. The board and the plug stay together by packing Plasticine in the gaps. Any excess is trimmed level with the surface of the board. Next the plug and board were given several coats of wax to stop the resin sticking to it.

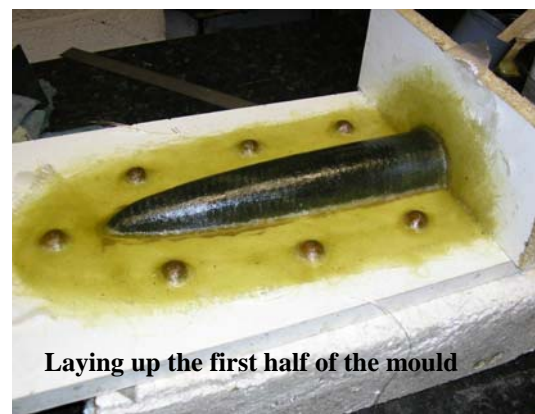
Once all this preparation was complete the board and plug nose were coated with resin which was allowed to almost set before adding several layers of fiberglass cloth. This was then left to cure for twenty four hours. The following day, when the resin



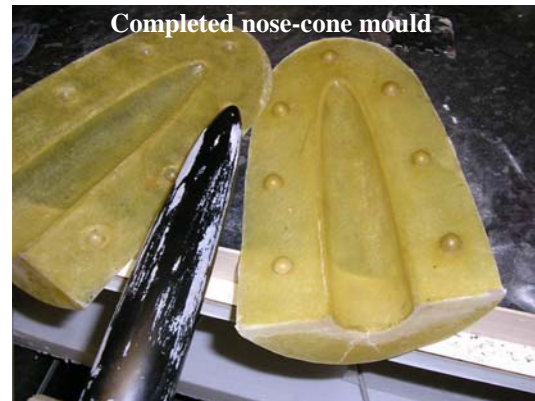
The plug ready to make the nose cone mould



The parting board



Laying up the first half of the mould



Completed nose-cone mould



First two attempts at a finished nose cone



Completed fuselage plug ready for the mould making process



Completed fuselage mould



Finished fuselage complete with nose cone prior to painting

had fully cured, I carefully removed the board from the plug leaving the first completed half of the fiberglass mould still attached to the plug. All was now ready for laying up the second half of the mould. This is done the same way as the first half but instead of using a melamine parting board you work onto the fiberglass plate. As before the mould was left to cure for twenty four hours. Now came the moment of truth! The two halves were split apart and the plug was removed to reveal a perfect mould. Once this was done I was ready to make my first nose cone. I had a couple of attempts at this and the second one was a success. I used three layers of glass. The first layer was 0.9 oz then I added two layers of 300g. It came out a lot better than the first attempt and was much more rigid, it even popped out of the moulds a lot easier. I slid a thin plastic wedge between the two moulds and that was enough to release the first half. I then twisted the second half of the mould a little and the nose cone popped out. Once I had the perfect nose cone I was able to continue work on the rest of the fuselage plug. Next I made the fin. This was cut out of blue foam with a hotwire and then vacuum bagged. The top of the fin was finished with balsa wood to get the sleek curve. The finished fin was then glued onto the mahogany part of the plug and the join area was blended in with car body filler. It still needed a saddle for the wing to sit in. I machined this on my pillar drill by clamping the plug into a custom made jig that had the airfoil template bolted to the side. This template was used as a cutting guide. Next I machined the front of the fuselage that was to fit inside the nose cone. Now the plug was starting to look like a proper fuselage. I had almost finished. The plug still needed filling and painting to make it smooth. I was ready to make a mould of the whole fuselage and the same mould making process as described above was repeated to accomplish this.

If anyone is interested in all the nitty-gritty details of how the moulds were made, I suggest you go to my build thread in the composite fabrication forum on RCgroups, as it has much more detailed than is possible in this short article.

Here's the link

<http://www.rcgroups.com/forums/showthread.php?t=570223>



Almost ready to go. Just before the 60" F3F at the Bwlch in April

Sent in by David Baker

“People complain about all manner of things. I thought that the Toyota advert where the wife crashes the radio control plane was very funny. She was getting her own back on her husband for not treating her car with respect. But a member of the BMFA was not amused and asked his area meeting to consider contacting the Advertising Standards Agency to make an official complaint. He maintained that the Toyota Yaris advert showing the crash did not put model flying in a good light. No action was taken! At least there are some sensible people in his part of the world.”



Contacts and Dates

Paid Up Members List

Club Dates For your Diary

Club Meetings (Held at the Beambridge Hotel)

Monday June 18th (provisional) North Hill Fun Fly and BBQ

Monday Sept 17

Monday Dec 3..... AGM... Including build and fly competition (venue to be announced)

Slope Soaring

We meet all year round (weather permitting) on Sunday afternoons from about 2 p.m. On Wednesdays, from late April to September, we meet in the evening and during the winter months from about 11 a.m.

Contact Ted on **01823 663754** to confirm times and which site will be used.

Flat Field Flying

Flat field site is at Nynehead near Wellington. Ring Ted on the above number on the Saturday or Sunday morning for information and directions. Flying starts at 2.00 PM

Sunday May 27 Sunday June 24 Sunday July 29

Sunday August 26 Sunday September 30

Additional Dates for Your Diary

Woodspring Wings Model and Full Size Air Show.

July 7th and 8th

If you can only manage one show in the year this is the one to see. Support your local show!

LMA Show Cosford

July 14th and 15th

One of the biggest and best model shows in Europe. You also get admission to the RAF museum on the same ticket.

South Wales Soaring Association

July 28th and 29th and October 13th and 14th

We are invited to a further two competition weekends at the Bwlch. The Saturdays are for 60"F3F and Pylon Racing and the Sundays are for Combat and general sport flying. Spend the whole weekend and do both! Cars will be going so make enquiries.

Diamond Tape
Available from the club shop
£1.50 for a 33 metre roll.

Regularly check out the website for additional information
<http://www.wbmgc.org.uk>

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