

Leek & Moorland Model Gliding Association

Web Site: - www.lmmga.co.uk

And : - <http://lmmga.org>



March 2006



In This Months Issue

Page 3. Just one of the forms the club has been asked to fill in by the BMFA.

Page 4. Ghost Writers in the Sky -This month turns the spotlight on Phil Clarke

Page 9. Details and dates of this year's Sunday competitions.

Page 10. I'm very well thank you! - A poem sent in by Rex Collier

Page 11. A Double Edged Sword - More ramblings from an Ancient Aeromodeller

Page 13. This year's mid-week F3F league has been sponsored by Al's Hobbies
See Details

Page 15. All you need to know about Glass Skinning Wings.

It's a First

40 of our members have agreed to receive this copy of the newsletter via their computers instead of it being delivered by the postman making it a mile stone in the newsletters

evolvment. Over the last few years more and more of our members have been connecting up to the internet and now regularly use email to correspond When I was having problems printing the December's newsletter, it was suggested that I should send it out in this format to all on line members. After weighing up the pros and cons of this suggestion the pros won hands down.

Pros:: The cost of paper, printing, stamps, envelopes and labels, is over £3 per year per member; and according to the Post Office, the cost of stamps is about to go up again . It costs the club nothing to sending electronic newsletters. Electronic newsletters can be opened read and discarded or saved to your hard drive for later viewing. - If saved they can be easily referenced for back articles - there is no degrading of picture quality through printing, and, pictures can be copied and pasted to your album. – Time it will save me?? -- Try printing out this newsletter (on an inkjet printer) staple it together, stick it in an envelope and address it -- then multiply the time it took by 100 to 120 and compare that with just a click of a mouse; that's the difference

If there is anyone else out there who would like to receive their Newsletter electronically, please let me know. i.bradbury2@ntlworld.com

Front Cover.. Dave Gains is just about ready to launch Mark Ollier's recent acquisition 'Sting' -- A lovely sunny day on the Roaches in January but not much lift though.

A sign of the times.

This is a part of a notice sent to the club by the BMFA dated Dec 2005

To all BMFA Affiliated Clubs

Important Information Relating to Your Insurance.

There are a number of issues which our insurer - Royal & Sun Alliance - have asked us to raise with our affiliated clubs in the interest of reducing general risk and their potential exposure to liability claims

Compliance with the Children and Vulnerable Adult Protection Policies and Procedures.

From renewal in 2007, Royal Sun & Alliance have stated that if our Affiliation Clubs are to remain insured against claims arising from Child and Venerable Adult Protection issues, then they must have an effective policy for the protection of children and vulnerable adults in place. Clubs will be required to evidence this in order to benefit from indemnity under the insurance policy form renewal in 2007.

As such anyone who supervises, has responsibility for or works with children or vulnerable adults will be required to have a check by the Criminal Record Bureau (CRB). Clubs are reminded that the BMFA can arrange CRB clearance on a Confidential and free of charge basis.

Below is the form that the club has to return to the BMFA.

BMFA Affiliation Clubs - Child & Vulnerable Adults Policy Survey

1 Does your club currently have any children or vulnerable adults within its membership? ----- yes / no

2. Does your club currently have a policy in place for the protection of children and vulnerable adults?-----yes / no

3. Do you have a member who currently holds an enhanced clearance from the criminal Records Bureau?-----yes / no

4. Has your club appointed a Welfare Officer?

What is the world coming to ?? IB

Ghost Writers in the Sky

The spotlight this month has been turned on Phil Clarke. Phil was born in 26.09.31. at Ashbourne Derbyshire. He kindly returned the questionnaire I sent to him and this is what he says about his interest in model aircraft:

I think it was 'War Weapons Week' that started it off for me. The year was 1940. During that week, the population of Ashbourne managed to scrape enough money together in the form of National Savings to purchase either three or maybe five Spitfires to help the war effort. (I believe the cost of a Spit. In those days was around £5000.)

I remember walking home from school one day and in a shop window were three small solid scale models of the Spitfire fighter, suspended about one foot above the 'floor' and the propellers were rotated with the help of air from a fan at the other side of the window. I just had to do something similar and so this is how I became interested in solid scale model aeroplanes.

Since I was an only child, I was very much influenced by an older cousin Ian who had similar interests but who was always three jumps ahead of me by virtue of his four-year superiority. We were a close family and, throughout the war years, I would spend every summer holiday at Mansfield where each year Ian would be working on a new 'project'.

I remember going one year, maybe 1942 or 43, and seeing for the first time a built-up wing about thirty inches span covered in orange tissue. Ian had acquired what must have been a pre-war kit from somewhere because the wood in it was balsa that became unobtainable during the



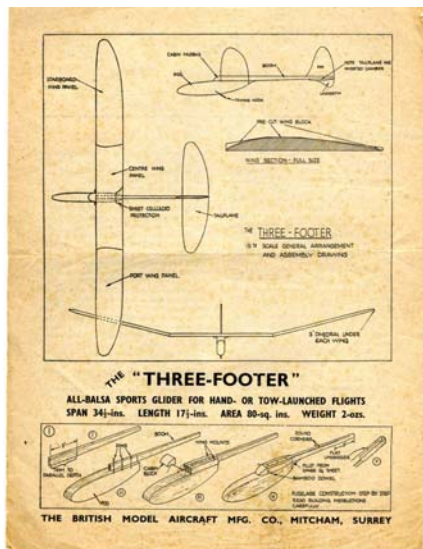
war years. I was absolutely fascinated, not only by the detail of the structure but also the size compared to the 'solids'. (Who says size doesn't matter?) That was it .

A trip into Mansfield and after a good look around we discovered in either Currys or Halfords (strange shops in which to find model aeroplane kits) two or three Keil Kraft Kits. I chose a 24" wingspan 'Curtis XP40' , forerunner of the 'Tomahawk', AND it contained balsa.

The model never flew (I didn't want to break it and I knew nothing about CG and trimming) but I learned an awful lot about working with balsa wood - and cutting fingers - (we used broken razor blades you see). And, I loved the smell of balsa cement and dope - still do but more modern materials and methods have superseded them. BUT - no more balsa.

My next models were the small `Astral' kits, 16" wingspan and containing obeche which, as we all know, is a good deal heavier and harder than balsa. (Try cutting 1/16th sheet obeche with a broken razor blade). Being a glutton for punishment I asked Father Christmas to bring me the bigger Astral `Beaufighter' 28" wingspan one year. Again this model never flew but it was good experience because of the added complication etc.

After the war when balsa wood started to reappear I was soon to purchase a K.K. Achilles kit and, and like many other modellers of the time, this was my first successful flying model. A club was formed at Ashbourne Grammar School run by one of the staff members who had recently returned from service with the R.A.F. and this is when I became interested in gliding.



Apart from the odd chuck glider, my first towline model was the "Three-Footer" all balsa glider ,

These were easy to construct and were very popular within our school club. I still have the reduced scale plans as supplied with the kit and these are attached.

My Power Years

Two more model gliders soon followed the Three - Footer. The first was a Frog Vanda. and the next a model called the Trooper Glider. I believe it was a Frank Zaic design and was available in kit form but I acquired a plan from somewhere and did my own thing - in obeche. The Vanda flew a treat but the Trooper had a twisted wing and was a pig on the towline. But I began to learn about trimming, the importance of C.G. position and building accuracy.

Then I had my first I.C. engine, a Mills 1.3 diesel which powered firstly a K.K. Rover and later a K.K. Slicker. - all free flight of course. At that time radio control was still a dream

Many years later after a degree course, two years national service (doing radar maintenance which was to come in very useful later on), marriage and a family, I built my first successful single channel R.C. model, the Rudder Bug by Walter Good. The equipment consisted of an E.D. ground based transmitter and an E.D. Thyatron receiver and rubber driven

escapement. Again some time later, with more up-to-date but now home-made R.C. gear. I even managed to incorporate a second escapement on this model to operate a home made 'throttle' control on the Frog 500 which was really an



The Rudder Bug designed by Walter Good - Phil's first RC model - (single channel)

exhaust blank - but it worked.

By this time I was eager to get into multi-channel control having spent a very exciting weekend at R.A.F Kenley in August 1962 watching the very first R.C. Model Aerobatic World Championships. where tuned reeds were still very much the order of the day - I believe that only one contestant had proportional control - Don Brown from the U.S.A.

A few years later, R.C.M & E published an article for a 10 channel tone transmitter called the 'Duo Ten' followed shortly afterwards with a matching tuned reed receiver. I spent many hours, not all of them happy, building this equipment but perseverance paid off and eventually it worked very well for me. We were still using thermionic valves then chaps though transistors and microchips were soon to supersede them. With this equipment I learned to fly 'Multi' with a model called the 'Astro-Hog'. powered by a Merco 49 which was soon exchanged for a '61' when silencers became mandatory. (I still have the Astro airframe in the loft.) Later, with some commercial Citizenship R.C.gear I moved on to a Graupner 'Caravelle' and then the good old 'Taurus' powered by a twin-plug Merco 61 which I still have..

By the mid seventies, my son, now in his early teens and keen to follow in his father's modelling footsteps was showing me how to fly aerobatics and we both built an Atlas each, designed by the one time world champion Wolfgang Matt, this time powered by the more up-to-date Webra 61 Speed using Quiet Pipes. The R.C gear we were using was 'Skyleader' which I have still been using until about three years ago. Jonathan also made a mini-Atlas using an H.P.40 which performed equally well. When he went to live in the U.S.A. in 1989 he took both models with him and has flown them there on a number of occasions.

One of the friends I made over these years was a chap named Ken Bayliss. Both Ken and his dad Bert were keen modellers and we have spent many happy hours flying power on Darley Moor aerodrome near Ashbourne. But Ken was also interested in gliders and it was due to

him that I was first introduced to the LMMGA.

.My Glider Years. (Early seventies to now).

Ken Bayliss talked me into building a version of the then (and probably still) popular Dave Hughes design called 'Soarcerer'. Because of my power experience, the advice I was given was to flatten the wing, add an extra panel to each side and fit ailerons. This I did and had many hours of pleasure fighting the elements at the 'pool' and the 'gate'. One thing that may have been mentioned but had not been stressed was the provision of a ballast box. I very quickly learned that making provision for ballast was essential to enable one to fly in a variety of wind conditions so this was a further mod.

A picture of Ken with his model and my young son holding the 'Soarcerer' taken at Bunster in 1974. The same airframe is still intact and has been passed on to another chum together with the Skyleader R/C gear.



The following year (1975) I picked up a copy of the American mag.' R,C. Modeller' at one of the shows which contained a design for a glider called 'Aquila' by Lee Renaud. This immediately took my fancy. I scaled up the plans in my lunch breaks at work and by late summer I had what I considered to be a 'state of the art' thermal soarer. I spent many hours in fields near home flying this model from a bungee. The flights were o.k. but relatively short because I never managed to 'catch' a thermal with the result that I drifted back to power flying.

Much later I met up with and became friendly with Ken Buckley, He suggested that I take the Aquila up to the slope and use it as a slope

soarer. What a difference. Conditions permitting, fly as long as you like, stopping only for lunch of course. I was hooked and immediately joined the club.

Other models followed i.e a 'Phase 6', my own design flying wing 'Capella', Zagi which has been enormous fun and recently a Canberra for PSS.

Well, that just about sums up my modelling years. I am interested in many other aspects of the hobby but I can honestly say that not only do I get a lot of pleasure from model gliding but the friendship and camaraderie shown within the LMMGA is second to none and I am proud to be a member.

Dates for this years competitions

As agreed at this year's AGM, organising 2006 competitions will shared out by different members.

Carl Baker (Comp Sec) will run all the mid-week F3F events this event has been sponsored by Al's Hobbies (**see page 13 for details**)

The Sunday events will be as follows:> (Start times for all --11 am)

F3F -----**May 7th** ----- Organised by Ian Webb

Cross Country -----**June 4th** -----Organised by Ivan Bradbury

Pylon -----**July 2nd** -----Organised by Mark O'Conner

Fly For Fun -- -----**July 30th** --- Organised by Ian Buckley

Scale Sailplane Fun Fly - **Aug,26/27th** Organised by Simon Cocker

Great hills to fly on, great company and perfect weather to bring it all to life!....what a way to go!

I'm very well thank you.

There is nothing the matter with me.
 I'm as healthy as can be.
 I have arthritis in both my knees,
 And when I talk- I talk with a wheeze
 . My pulse is weak, and my blood is thin,
 But – I'm awfully well for the shape I'm in.
 Arch supports I have for my feet.
 Or I wouldn't be able to be out on the street.
 Sleep is denied me night after night,
 But every morning I find I'm alright.
 My memory is failing, my heads in a spin.
 But- I'm awfully well for the shape I'm in.
 The moral is this - as my tale I Unfold.
 That for you and me who are getting old,

It's better to say "I'm fine" with a grin,
 Than to let folks know the shape we are in.
 How do you know that my youth is all spent?
 Well my `get up and go ' has got up and went.
 But I really don't mind when I think with a grin.
 Of all the grand places my `got up' has been.
 Old age is golden I've heard it said,
 But sometimes I wonder as I get into bed,
 With my ears in a drawer, my teeth in a cup,
 my specs on a table until I get up.
 Ere sleep overtakes me I say to myself,
 Is there anything else I could lay on the shelf?
 When I was young my slippers were red,
 I could kick my heels right over my head.
 When I was older my slippers were blue,
 But I could dance the whole night through.
 Now I am old my slippers are black.
 I walk to the shops and puff my way back.
 I get up each morning and dust off my wits,
 And pick up the paper to read the obits
 If my name is missing I know I'm not dead
 And so I have breakfast and go back to bed

A Double Edged Sword

(More ramblings from an Ancient Aeromodeller)

19th December 2005 –

I'm sitting here twiddling my thumbs and staring at my 'Silent' brand new shiny Hewlett Packard Officejet Pro K550 printer and I'm thinking --- 'Bloody Bastard!' – Right now you should be at full chat, churning out our the December Newsletter and look at you!! Out of sodding ink and you've only managed to complete 30 out of the 120 newsletters I need.

I suppose I should have been directing my anger and frustration at the real villain of the piece, Mr. Hewlett Packard and not at his machine, after all, the printer had performed faultlessly whilst printing the first thirty copies.

I was also a little mad at myself too. I knew about Mr. H Packard's policy of putting less ink in those original cartridges included in the sale of new printers because I remembered reading somewhere about them sacking a whistleblower for divulging that HP only half filled the ink cartridges that came with new printers. Nevertheless, I had assumed, (always a dangerous practice), that one of the local computer stores like PC World or Staples, would have replacement ink cartridges in stock for my new printer, after all, it had been on the marked for at least six months and it had been well advertised.

When inquiring at these shops for replacement cartridges, I got the old familiar story; "We are expecting them in at any time now Sir, But! There's a possibility that it could be after Christmas with deliveries being what they are". My linguistic skills don't rate very high but I knew that "We are expecting them in at any time now Sir", translated into 'There isn't a bloody snowball's chance in hell of us having them in until well into the New Year'.

Ah Well! Back to the internet to see if I could find some other source for the cartridges. – I manage to find a cheaper supplier than the HP shop at a place called 'InkClub.com UK.' This turned out to be a Swedish company --- A wonderful source of information this internet! All my adult life I'd been under the impression that UK was an abbreviation of "United Kingdom" and all the time it was a company in Sweden that sold ink cartridges

It was during the next few days while waiting and hoping that the ink would arrive in time to get the Christmas Newsletter out before Father Christmas was a distant memory that I decided to have a go at refilling the ink cartridges myself, after all I used to do it with my the other (now defunct) printer.

Most of you by now have probably come across this 'Smart Chip Technology'. These are those tiny insignificant brass looking things you see on your 'Chip and Pin Credit Card'. The sort of thing your 'Identity Card' would have on it, if the

current Home Secretary manages to get his way.

It's incredible the amount of information that can be stored on one of these small pieces of metallic looking things and, I suppose it shouldn't come as any surprise to find an ever increasing number of components/equipment are now using this sort of technology.

Take the inkjet cartridges in my new printer for instance! They've got one of these Smart Chip's in them (All four of them) Their job is to have a two-way dialog with my computer so that they can tell my computer how much ink they are using and when they are about to run out of ink and, they can even tell my printer to stop working until I replace one of the cartridges with a new ones. Yes that's right! They have the power and will permanently stop my printer from working after a while until I replace one of my old cartridges with one of Mr Packard's new ones. It doesn't matter whether or not my existing cartridges are full of ink or not. The chip works purely on time (supplies by the computer) and not on the amount of ink left in the cartridge

Of course, the reason the nice considerate Mr Packard has installed one of these Smart Chips into the cartridge is because he wants to maintain the best possible quality of printing for me and my printer. You see he doesn't trust me - I'm just another one of the millions of illiterate, totally devoid of common sense guys who are incapable of using our own judgment as to whether or not the quality of printing is good enough for us. Of course, Mr. Packard continues to assure us that the introduction of the Smart Chip has absolutely nothing to do with profit, only the quality of printing. Mind you! No where in Mr Packard's literature will you find any mention of the running cost of one of his printers. According to several articles I've read on the net; tests show that the average cost of an inkjet printer is less than £100 these days where as the average cost of the ink used in the life of that printer is over £1000.

I've lambasted Mr. Packard a wee bit and it would be unfair of me if I didn't also point out that as well as HP; Epson, Canon and Lexmark printers, (the four major players in the league) are all now using Smart Chip Technology.

Foolishly, I have always thought that technology was the development and application of ideas for the benefit of all of us. It seems to me that technology is becoming a doubled edged sword whose sharp edge is slowly been turned towards the consumer...

Post Script:

I did manage to refill my ink cartridges with the help of some guys on the internet. It goes to prove that all the smart guys in the world don't work for Mr Packard.

Facts:

1. John Shane, a director at InfoTrends/CAP Ventures and an industry expert on

the ink and toner market said that in 2004, HP made about \$6.3bn from printing consumables out of a total world market of \$12bn

2. HP holds 9,000 patents related to imaging and printing, 4,000 of them for consumable supplies. There seems to be a constant legal battle going on between HP and some other ink cartridge manufacturing company over breeches of copyright. --- A case of a very big dog not letting go of a juicy bone .

Al's Hobbies F3F Summer League

Thanks to Al's Hobbies we have been sponsored for our summer F3F league . Ali has supplied us with a deluxe Transmitter Mitt in black.

This prize is for the winner of the League so its up to you members, to turn up and race,

Anyone can have ago; over the past 3 years we have seen many newcomers to the racing and they have turned in some really good times. So get your models ready!!

Dates for Al's Hobbies F3F Summer League are as follows::

27/4, 11/5, 25/5, 8/6, 22/6, 6/7,
20/7, 3/8, 17/8, 31/8.

Start Time is 19-00

Note:: All dates fall on Thursdays

A Picture of the Transmitter Mitt can be seen in the 2006 photo gallery on www.lmmga.org so go and have a gander

Shame we didn't have this last year it would have been mine.

Mark OllierPS:

Remember to support those who support us



Graham Gibbons launching Wayne Haycock's Schwalbe. It's a scale model of a German glider that was built in Austria in 1936 - It was built as a one off high performance machine

The model is 80 inch span and is 3lb 12oz making a wing loading of 13 oz sq ft Controls are rudder, elevator, ailerons and air-

brakes, the model is all built up from some strange stuff called balsa wood and ply in other words a traditional construction, it was then covered in solatex and painted with Humbrol enamels The pilot was made from a block of polystyrene painted then glued to the bottom



Lets kick some arse!! A combat session at Edgetop in good lift earlier this year. - Great fun.

From left:> Mark Ollier, Mark O'Conner, Ian Webb, Graham Gibbons and winning by a short nose Ivan Bradbury

Glass Finishing

An article I saw on the internet It's worth a read

Overview

Using glass cloth and epoxy as a surface finish on large models is the choice of the majority of large model builders, including every pilot of the USAAF Team. It has many benefits over the more conventional finishing systems, firstly, the large amount of strength it gives the airframe, not only to withstand flight loads, but also the dreaded 'hanger rash'. As we all know to our cost, larger models are harder to move and transport around, and the odd scrape is inevitable. Secondly, the tough smooth surface finish is ideal when we want to represent a smooth metal skinned airplane, the smooth finish will also readily accept all kinds of added surface details, including rivets, panel lines and hatches. Lastly, glass and epoxy should be no heavier than a more traditional fabric and dope finish is carried out properly.

Many articles have been written in the modelling press about 'How to' glass skin an airframe, some good, some bad, some just too complicated! If this is your first attempt at glassing, please get rid of any ideas or horror stories your club mates may have told you, this process really is easy, and not that time consuming once you have an airframe or two behind you.

The key to a good final result is good preparation of the airframe, a clean tidy work place to do the job, and the right product to apply to your model. I'll mention the products to use first and get to the preparation etc. later. If this is your first attempt, I would seriously recommend that you use a cloth/resin system that gives known results. Don't be tempted to go down to your local car repair shop and buy some surface tissue and resin. These are industrial products, and not really suitable for use on lightweight models, believe me. I did this the first time round, and paid the price, having to use a Wolf power sander to remove excess resin and get a usable smooth lightweight finish.

Several resin systems are available through your local model shop or mail order, and can be used on any size of model, but the weight (in oz) of the glass cloth varies considerably, and it is this that changes with the size of model. The heavier the cloth, the more resin it uses, the heavier the end result will be. The aim of the game here is to get a durable, smooth, tough finish, with minimum weight, so using a heavier weight cloth on a .40 size sports model is a bad idea!!

The Products

Three resin systems that I would recommend are Ripmax SP113, ZAP Z-Poxy finishing resin and Fibretec 'Flow Lotion' All are good systems and fairly equally matched on price. Several makes of cloth are also available from your local shop; the Ripmax brand is probably the most common in the UK, being around about

1/2 oz sq meter, this is perfectly suitable for most large model applications, the Team's B-17 was skinned using this cloth. Fibretec offer a good range of cloths in various weights, but the Fibre 20 and Fibre 50 are the two usable skinning cloths for this application. The 20 is a very lightweight cloth, probably a little too light for large models, but fine for standard club sized models. The 50 is around about 3/4 oz sq meter, this would be my personal choice for skinning models of around 10ft span and over (my B-26 is done with this cloth).

The other 'must have' items that you'll need for the job are a good supply of mixing vessels, the plastic measured mixing cups are good, as all resins require careful 'ratio' mixes, a measured container makes this job a lot simpler, avoiding guess work. Latex type gloves, epoxy can be nasty stuff, especially the catalysts, it's best to avoid skin contact. Mixing sticks, short lengths of 1/4 inch square balsa or old paintbrush handles are fine. Paint brushes (about 1/2 inch wide) don't bother buying expensive ones, cheap ones from your local DIY store will be fine, epoxy tends to kill brushes, once the model is skinned, the brush will often be thrown away. Cellulose thinners for brush cleaning. Facemask for use when rubbing down, epoxy and glass fibre dust is not good for the lungs. Rubbing down is best performed with wet and dry paper used wet.

Preparation

As I mentioned earlier, preparation, both of the airframe and in the workshop is the key to a good final result. First off, the airframe **MUST** be smooth, any small gaps and knocks must be filled, wing skins must be flat and free of steps between sheets etc., If the airframe is not flat, once the model is glassed, you will not be able to sand these imperfections away or you'll go through the glass, the only way to even out the surface will be with filler, this is both time consuming, and can add a lot of unwanted weight.

To prepare the workshop, simple **TIDY UP !!**, put as much stuff away as possible to leave a large enough area to work in with only the bits and pieces you need to hand. It's a good idea to Hoover your work bench too, any small bits of wood bust/chippings etc., that get under the glass cloth will dry in place and require work to remove them later on.

Getting Started

I'd always recommend you start on some smaller pieces first, tail planes, elevators etc., are a good starting point if this is your first attempt. It is also perfectly acceptable to skin individual components prior to final assembly. Skinning a tail plane and fin can be made a lot easier if the fuselage isn't attached. Attaching them later, leaving yourself just the joining fillets to do is fine, epoxy can be used here to bond everything firmly in place with no fear of it parting company later on in it's life due to a poor joint. Always skin control surfaces prior to gluing the hinges

as well, life can get very fiddly if you don't.

Always glass one side at a time, never try and do one side, then wrap the cloth round a tight radius (Leading or trailing edge). Even though the cloth is very thin, once wetted out, it becomes quite stiff, and will not accept tight radii. For instance, when skinning a rudder, do one side at a time, and the epoxy will soak into the wood at the thin trailing edge and harden it, therefore, there is no need to try and get the cloth around the tight trailing edge. For wings and tails, wrap the cloth just over half way around the leading edge and stop, once cured, repeat on the reverse side, once complete, the centre of the leading edge will actually have two layers of cloth on it.

Once you have the airframe finished and your happy with the surface finish, it's a good idea to support the model off the board whilst you apply the cloth. I always try and produce a blue foam cradle for the fuselage; this can also be a useful flying field aid for assembling the model as well. For wings and smaller parts, raise the part of the board using foam blocks, the last thing we want is to damage the model on the board half way through the glassing process. Next comes cloth cutting. Don't try and be too exact here, it's best to leave about 1 inch of excess all the way round the part, this will give you enough to get hold of to pull any creases out when applying the epoxy.

When mixing the resin, don't be tempted to mix one big batch that you think will be enough to complete the whole job (wing top, side etc.) This process doesn't use as much resin as you think, chances are you'll end up with some left over which will just go to waste. If you do mix up too much, it can create enough heat to go off in the pot. Mix only small quantities at a time. If you run out part way through, simply mix some more; the area you've already done won't have started to cure as most resins have long working pot life.

As mentioned earlier, epoxy resins require accurate ratio mixes; this must be achieved accurately for the resin to cure correctly. Don't be tempted to add a little more than the recommended amount of catalyst to speed up the cure time, chances are it won't, and the resin will not cure correctly, leaving you with a slightly rubbery mess that's impossible to rub down to a nice smooth finish. You can mix resin by volume (50/50, 75/25, depends on the make), but by weight is the most accurate, if you have a set of digital scales that will measure down to 0.1g, use them. Once measured and thoroughly mixed, the resin will be full of tiny air bubbles, it's a good idea to let the pot stand for a few minutes to let the bubbles rise to the surface and dissipate, this just produces a smoother mix that's better to work with.

Applying the resin

The purpose of the first coat of resin is simply to stick the cloth to the airframe,

nothing more. With the cloth laid out over the part to be skinned and smoother out by hand, pour a SMALL puddle of resin onto the surface in the centre of the part. The epoxy can be thinned with a little methylated spirits to allow it to flow better. The next bit sounds crazy, but it works a treat. Using an old credit card as a squeegee, scrape the resin out over the part from the centre outwards. Why a credit card, well, it's flexible enough to bend to the contour of the surface it's running over, and it has nice smooth rounded edges that won't dig into the cloth, ideal!! Keep scraping the resin over the surface until the cloth is wetted out and goes translucent. If you have an area that is glossy, then there is too much resin there (keep scraping until it's gone), if an area is slightly white, then it's not wetted enough and more resin is required. What we're looking for is a finish that is smooth and satin in appearance, this is the sign that we have just the right amount of resin to stick the cloth to the model. Glossy means too much resin, too much weight, and a lot more rubbing down later. When it comes to corners etc., it's best to use your 1/2 inch paint brush to apply the resin, and stipple the cloth round the edge in the same sort of way as you would apply tissue and dope. With the part at this stage, leave it alone to cure for at least 24 hours before carrying on to the next stage.

Second coat

Once the resin is thoroughly cured, the excess over hanging cloth can be trimmed off. I have found the easiest way to do this is using medium grade sand paper to run along the edge of the surface, removing the cloth where the resin finishes. This also serves the purpose of feathering the edge slightly ready for the cloth on the other side to overlap slightly. The glasses surface can also be rubbed back very slightly at this point. Don't try and get it super smooth yet, just knock off any high or rough spots. Use a good quality course paper for this (80 grit) preferably on a sanding block, any flat surface deserves to be block sanded. You will also probably find that when the first coat of resin has cured, the surface feels slightly waxy. This is a common feature of epoxy resins, but it is something that must be removed to enable the second coat of resin to adhere to the first properly, a light overall sanding is a good a way as any for this purpose.

With this done, continue skinning the other side / half / top / bottom until the airframe is completely skinned and rubbed back as described. We are now ready to apply the second coat of resin, the purpose of which is to fill the weave of the cloth, so giving us a surface to rub down to. We want enough resin to rub down to a smooth finish, too much will mean more time spent rubbing down and probably too much weight, too little will mean we rub down into the cloth layer before we get a smooth enough finish. This coat can be applied in two ways, carded on like the first coat, or brushed on. The brushing option if chosen must be done carefully so as not to apply too much resin, remember, fill the weave and no more.

This is the time to coat any exposed areas of un-skinned wood as well, engine bays, wheel wells, fuel tank bays etc.

Rub Down and Finishing

With the resin thoroughly cured, take your 80-grit paper, and remove the shine from the surface, pay particular attention to any uneven overlaps, lump and bumps. Having a single point light source is handy here to pick up on any areas that need work. Once the bulk of the work is done dry, use wet and dry (used wet) to get down to the smooth surface, remembering to wear a mask all the time. Warm water with a little washing up liquid in it help as well. Starting with 120 grit, work your way down to about 400 and you'll have a surface good enough to prime. If at this stage you see any areas that need filling, do it now. Good products to use at automotive fillers as they are very fast drying and easy to sand. They may be a little heavy, but in the small quantities we'll be using, it's ideal. For small pinholes etc., acrylic filler putty or 'stopper' is useful to have around, again, available from most automotive shops.

Primer coats

With the whole airframe skinned and rubbed down, a light primer layer is required to highlight any small imperfections in the surface prior to final painting.

Automotive aerosols are ideal for this purpose, cheap, fast drying, and rub down really easily. Try and use a high build 'filler' primer, as this will fill the smallest of imperfections. With a light coat over the entire model, rub most of it off!! All we want is for the remaining primer to be sitting in any low spots and small imperfections. Again, use a block on any flat areas wherever possible. Use the 'stopper' to fill all imperfections that the primer reveals.

With the models rubbed down, and all imperfections filled, a second primer coat can be applied. This one doesn't need to be a 'filler' primer, a normal 'grey' will do fine. This coat can be a little heavier, as we want to cover all of the exposed glass and the yellow filler primer, to give a nice even base coat over which to apply the colour coats. Leave this coat to harden thoroughly over night, as we don't want to damage soft paint. If you have any areas that are a little rough (dry over spray etc), these can be rubbed back with fine wet and dry (1200 used wet) or oil free wire wool.

You should now have a completely skinned, smooth, primed airframe ready for detailing and final painting. This process is 'different' to most others, but I think you'll agree, the end results are well worth the extra effort.

Note: No mention of avoiding the dreaded fish-eye (orange peel effect) with the second coat of resin. Pity because it is a problem that many people experience (IB)



Is Keith Rathbone, on the left, setting a new trend in head gear? He's seen here talking to Bob Mellor

They are either putting the world to rights or Keith is giving some indication of the size of his appendage

This was during a lull in the lift on a glorious day on the Roaches sometime in January.

A good silhouette taken in January at Edgetop by Mervo

How many can you recognize??

I'll give you a start-- the ugly one on the extreme left is Mark Ollier



Bob Mellor launching one of his own designed model. (summer of 2005) As long as I can remember Bob has always finished his models in this red white and blue livery.

I remember Bob once gave my son one of his old models - When they met in the final heat of a pylon race at Crooks Peak, my son had to pin a ribbon to the fin of his plane because the flag men couldn't tell the models apart.