

# Leek & Moorland Model Gliding Association

Web Sites: - <http://lmmga.org>  
<http://www.lmmga.co.uk/>



*June 2011*



## In This Months Issue

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I'd like to thank all members who are on 2.4 gig for using the new pegboard. At the Fly For Fun comp (3 April) there were more 2.4 tags on the board than 35 meg . Excellent!! Keep it up

On April 4<sup>th</sup>, second class stamps went up yet again. This time it was increased by another 4p making the cost of a second class stamp 36p. This on top of the increasing cost of printing ink, paper, envelopes and labels make sending out post an item for the club.

I know there are still quite a few of our members who haven't got computer or are not computer savvy and therefore access to the internet is difficult or impossible. However, if you have got, or recently been connected to the internet, why not try receiving your newsletters by email? E-mail newsletters cost the club nothing to send; they are a lot less hassle for the editor and it also saves paper, they are easy to save and the pictures are true to colour.

Send your email address to (i.bradbury2@ntlworld.com ) and I'll sent you a trial newsletter to see how you go on with it ~ Why not give it a go???

### Front Cover

Brian Lee with his latest acquisition, a 3.4M Minimoa, manufactured by Velenta. The ribs in the wing are a work of art each one a latticework of ply struts cut by laser

# Vector 3 Review

By Ivan Bradbury

with contributions and opinions from Dave Gains and Mark Ollier



From Left:: Dave Gains Mark Ollier Ivan Bradbury with their new Vector 3 models.

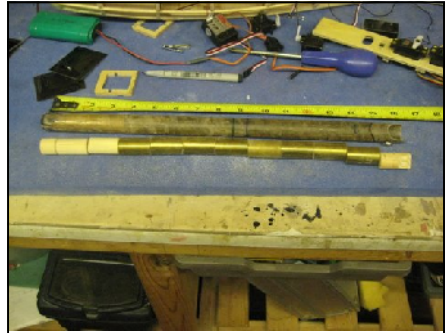
By no stretch of the imagination can I be called a kit review man. I suppose a better description would be a 'Kit Review Sceptic' Why sceptic? Because most, if not all the model reviews I've ever read in national magazines over the years have been overflowing with a contrived praise that models rarely lived up to when you got them on the slope. Only occasionally did I read such damning comments as, "The photograph on the cardboard box the model came in was slightly askew". It was a combination of this constant sucking up to the model manufacturers/magazine publishers by the reviewers plus the fact that I was always living in hope that the next edition would contain more of the stuff I was really interested in that caused me to finally cancelled my magazine subscriptions; admittedly it's a few years ago now so I suppose it's possible that in the meantime things could have changed for the better, but I doubt it.

Anyway, a somewhat unusual thing occurred at the end of 2010. Three members of our club, me being one of them, all took delivery of the same type of model on the same day and I thought that this would be a golden opportunity to get three guys to do a kit review on the same model and at the same time help to fill the pages of our newsletter.

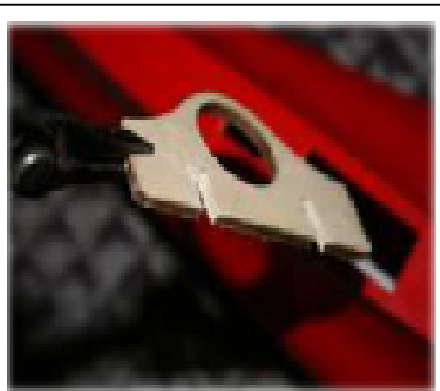
More to the point! If three fellow club members, with no axe to grind, can't give a fair assessment of a model to their fellow club mates, they deserve to be castrated with a couple of high speed converging building blocks.

My Vector3 (manufactured by RCRCM imported by SlopeRacer) didn't come in a cardboard box so I can't moan about any crooked pictures. It was delivered to my door by Mark Ollier's all wrapped in bubble rap which means all my comments will have to be concentrated on the bit that actually flies and not trivia. Mind you! One of the bubbles on the bubble rap was burst which I was a bit annoyed about. (However, I blame Ollier for this not the manufacturer!!)

It was just after the 2010 Cosford Model Show (I think it was about June) that Dave, Mark and I decided to treat ourselves to a Vector3 each I'd not seen a Vector3 in action myself, only read about them on the internet, but from what I'd read they seemed quite a lively plane and capable of doing most recognisable manoeuvres plus a reasonable turn of speed; not in the same speed league as one of these lead laden cargo ships that cause a clenching of anal cheeks



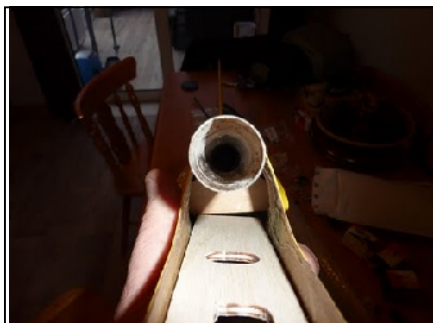
Carefully mark out the CG position on the ballast tube All three of us decide not to cut the generously long ballast tube to length but tuck it further down in the fuz to help strengthen the area around where the fuselage narrows. Wooden plugs were glued in to ensure the brass slugs were at the CofG ~ see picture



One of two plywood formers that hold the fibreglass ballast tube in place. Impossible to fit the rear one in the fus until I realised that it could be inserted through the wing joiner hole

every time they whistle across the slopes on a low pass but this suited me down to the ground because I'm more a stick twiddler myself than a Greyhound fancier.

When we ordered them there was a forecast delivery time of September, this soon moved to October. The models eventually arrived the week before Christmas. Apparently the delay was something to do with the relocation of the production line in China. I believe it's now been sorted out and the flow of models is back to normal



A trial run fitting the ply servo tray ~  
Note the ballast tube and its front ply support

The model was taken out of the bubble wrap and carefully laid out for a close inspection.

#### vital statistics ::

Wing span = 2365mm

Length = 1350mm

Wing aerofoil= SD8020 ( A symmetrical section)

Tail aerofoil = SD8020

Weight = 1400g

Controls = Elevator, Rudder, Ailerons, Flaps/Flaperons

Construction = Glass, carbon, balsa sandwich in an epoxy matrix

My first impressions were::

Wings:: Quality of finish was extremely good; this included the hinge line, pushrod fairings, servo recesses and covers, (Later found the servo covers needed just a slight sanding on the edges to get them fitting flush in their wing recess) No problem!

The bottom hung ailerons/flaps moved easily with a possible 90 deg down on the flaps ~ I would have liked a tad more up on the aileron (it started to bind at about 15mm of up at the trailing edge) later with a

bit of fettling got it up to a little over 20mm. The reason I like a little extra up on the aileron is that I always have differential on the throws. ~ (More up than down) and I think that if you've got that little extra it gives a bit more lateral control when crow brakes are deployed.

After a bit of prodding, squeezing and twisting decided the wings were no eggshells and would be able to cope with the average landings on our rough terrain.

Fuselage:: When I picked up the fuselage it felt light for its size. My first thoughts were: Is it going to be one of these pre-rotted mouldies that fracture somewhere between fin and trailing edge on anything but a perfect landing (we've all seen this happen; many have experienced it) I'll soon find out!

The canopy was already fitted (Perfect fit) so were the pushrods to the rudder and elevator bell crank; (All moving tail) The bell crank moved like a well oiled machine. Pleased about that ~ I've see some that are quite stiff There was one small hitch with the pushrod to the rudder. When I withdrew the inner carbon rod and tries to insert it again, I found the outer tube didn't line up with the exit fairing on the fuz and the carbon inner wouldn't come through the fairing. It



Melting the lead in the house can causes a bit of a smell. But Hay! If the misses is out there's no lost brownie points



Compacting the sand round the nose to make a pattern to pour the molten lead in



Just enough  
If you do this yourself remember molten lead is prrrity hot!

took a bit of wire poking through the elevator slot to get it lined up.

There was a generous size fin/rudder that would help weather cocking on stall turns but the rudder size itself and amount of throw available would not be a boom for the guys who just looove those prolonged knife edges.

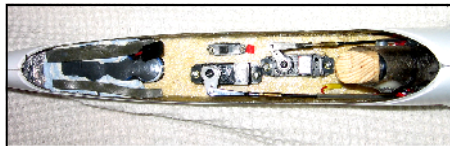
Bits and pieces: The carbon wing joiner was impressive. If I break this in the air I will certainly get in the Guinness Book of Records. If I break it on a landing I'll only need a very small plastic bag to take the model home in..

Servo push rods for ailerons and flaps were threaded at both ends to take metal links but proved to be too long. I ended up shortening them and putting a Z bend at the servo output arm and a metal link to connect the moving surfaces Must add here that while Mark was adjusting the metal link on the flap, the horn on the flap snapped off and had to be Dremeled out and replaced. The four laser cut 6mm ply servo trays for the wing servos fits the Hitec HS 85 metal gear servos like a glove

Both Mark and Dave decided to have a ballast tube in their models (This is extra and costs £30 ~ The kit



Fitting the cast nose weight  
It was suggested in the info that this may be about 14 ozs but it was quite a bit less than this ~ possibly due to the battery size



The ply servo tray goes all the way into the nose. I completely glassed this in to form an integral part of the fuz. Note the blu-tack round the battery ~ see text



The horn on Mark's flap snapped off when the pushrod was being screwed into the metal linkage  
It was dremeled out and replaced

contains glass tube, brass slugs, wooden spacers, a stop-end and two laser cut plywood supports)

Although I'm not a speed merchant I thought it well worth the thirty quid if it was only to stop Ollier's snide comments about me always doing high speed passes with the brakes out

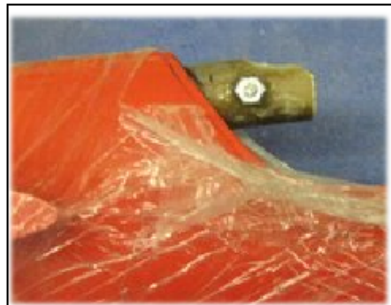
Finally there was the wiring looms (Again this is an extra £20) but for anyone who's not a dab hand at soldering I think it's worth the money. ( four looms consisting of 8 servo plugs, two pair of Multiplex green plugs and sockets, wiring cut to the right length and heat shrink tubing all neatly put together. .



The rudder hinge is on one side like the ailerons ( Not central)

Construction:: As you would expect with a any fibreglass moulded model, there's not a great deal to do on the construction side. The Vector was no exception. Basically it consisted of fixing the wing and tail-end ply servo trays ~ installing wiring looms ~ fixing the ballast tube and the Battery and RX etc. Time consuming and sometimes fiddling but not rocket science.

I decided to start by fitting the ballast tube, but before that I wrapped the entire outside of the fuselage in Cling Film. I don't know about you but when I'm using epoxy and fibreglass I seem to get more of the bloody stuff where it shouldn't go than where it should go.



Protruding ballast tube showing the stop-end bolted in position

All three of us decided not to cut the ballast tube to length but to



allow the surplus to extend down inside the fuselage thinking it might strengthen the fuz where it begins to reduce in size. I had this idea at the time of squirting a tad of gorilla glue or builders foam behind the rear ballast tube former to bond the tube to the sides of the fuselage at this point. ~ I haven't done it yet

Fitting both of the ply former and tube down the fuz proved to be a really frustrating job. I tried to position the rear former with a piece of straight piano wire, piano wire with a hook on the end, tweezers, you name it! I tried it! ~ I was just about to reach for a 5lb lump hammer when I thought I'd try to fit the former through the wing joiner

hole. ~ It was a doddle. ~ Now to secure them with a touch of ciano so that I could safely prod some chopped wetted carbon tows around the tube and ply formers without disturbing them. This was solved by putting a short length of brass tube into a bottle of Ciano ~ putting my thumb over the other end to seal the tube off ~ feeding the tube through the wing joiner hole in the fuz up to the ply former, removing my thumb to let the ciano trickle out ~ easy peasy ~ It's possible to get into all sorts of difficult corners using this method.

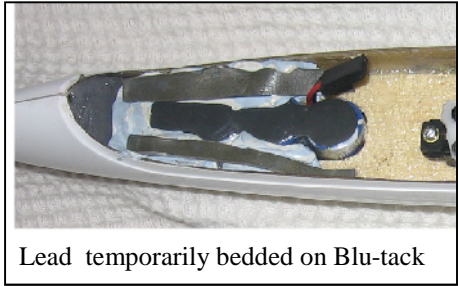
Forgot to mention it!! It's vital to position the CofG mark on the ballast tube inline with the model's CG (marked on the fuselage) before gluing starts. This can be done by lining both marks up by sighting through the hole the wire loom plug is eventually glued into.

Next the fuselage servo tray:: This goes from the front ballast tube former right into the nose. It has holes cut for the servos, battery and one to thread the wing servo leads through. I cut another one for the switch.



A method I use to glue difficult to get at parts ~ sealing the end of the tube with your thumb keeps any ciano trapped in the tube until you release your thumb.

I loosely fitted the servos in the tray and placed it in the fuz; checked that the servos arm height lined up with the push rods, marked its position, removed servos and glued it in. I then put a layer of fibreglass over the whole tray bonding it to the fuz itself. This should toughen up the front end considerably. However, it meant that I would have to cut my lead cast nose weight in two; one half over the ply tray and the other half under it, ~~ At this point I'll mention the Blu-tack in the nose:



Lead temporarily bedded on Blu-tack

Because a glued in lead nose weight is usually inaccessible and awkward to remove small bits if the nose turns out to be too heavy, I always keep the initial weight on the light side and top up with something that can easily be added to or subtracted from. In the case of the Vector, I killed two birds with one stone. I packed a bit of Blu-tack around the battery to prevent any chance of it falling out of its plywood recess when flying inverted and at the same time giving something to bed a touch more lead on to bring the CG to the suggested place. This meant the Cof G could easily be tweaked on site if necessary. Mark over did the nose weight in his model and had to dremel quit a chunk out



Multiplex plug epoxied into the slight recess on the fuz. . I glued a piece of balsa wood between the wing recesses inside the fuz. (access through the wing joiner hole) This was to stop the wiring loom from fowling the wing joiner when it's being inserted

The last job was fitting the wiring and wing servos. I first threaded all the wiring harness in position and connected all servos up so that I could check out throws etc before fixing things permanently.

Everything was OK so I epoxied the ply servo trays in the wings and the multiplex plug in the fuselage.

Later, after final check, I used a hot gun to fix the wing servos ~ I'd first tried this on a model previously and I'd found it reasonably easy to remove a servo if necessary

Mark Ollier had glue the multiplex plugs in before me and found that it needed a small piece of balsa

gluing to the top and bottom wing skins to hold the wing plug firmly in place while the epoxy dried. I thought it also

advisable to smear Vaseline on and around the fuselage plug to prevent any chance of the plug and socket sticking together when the wings were positioned

in place during the alignment

of the plug and socket while the epoxy set. .



Barn door like flaps certainly slow the model up on landings ~ Important to pop them in just before touch down ~ puts an awful lot of strain on the servos if you don't

Performance on the slopes ::

Up to now I haven't flown my Vector in the sort of lift where you can go from one manoeuvre straight into another. Nevertheless, it has done loops and bunts without any tendency to screw out or fall off the top ~ rolls and stall-turns were no problems and it didn't seem to mind which way up it was; inverted with hardly any down. I've not tried a knife edge yet.

Both carbon tailplane joiners were a little slack (no slop) but I thought that the tailplane may slide apart during flight. This is cured by smearing a touch of Pritt Stick on the carbon joiners.

After only a limited amount of time on the slopes, I've come to the conclusion that if there is any limitation as to what this model is capable of it will lie with the pilot. Another pleasant surprise was that for a model with a symmetrical wing section it flew well in those marginal conditions that tested more conventional planes.

Up to now my worry about a weakness in the fuselage have been

unproven but maybe that's due to those large flaps that slow landings down to a walking pace even in low wind conditions.

Finally! If you are someone who just likes stooing about; ~ setting altitude records or breaking sound barriers, this is not the model for you. But! If you want something challenging to fly; something that will respond when you stir the sticks, it's a model worth putting on your must have list.

Price £320



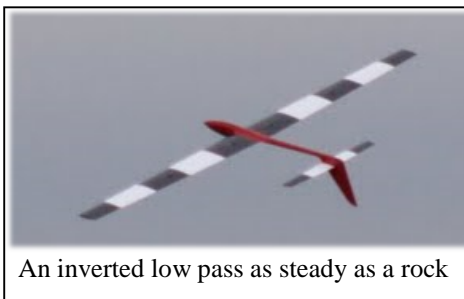
Dave's Bit.....

I had seen photos of the Vector and thought it was nice but it wasn't until I saw one flying on the Orme that I decided to spend the money. We collected the models from Sloperacer and I have to say that the proprietor Warrick Smith was very enthusiastic and helpful. In fact he is/ has been a member of our club and knows many of the members. We were all most impressed that he had done something that nobody else had managed to achieve ..... He'd actually got Ivan to spend good money on a new kit! Of course I'm not referring here to Ivan's legendary small pockets but rather the fact that he is a clever sod and has always preferred to make his own designs rather than buy someone else's kit. Anyway having got them home I was impressed with the general build quality. The only area of suspect weakness is the area immediately behind the wing. I'm sure my landings will test my suspicions very soon.



Dave Gains was chosen to demonstrate this essential bit of very expensive equipment because he's undoubtedly the best looking one out of the three of us. It's used to look down the inside of dark fuselages.

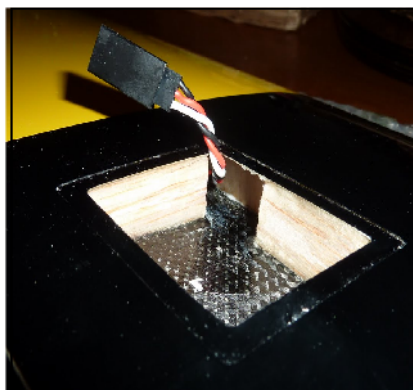
I had read of a previous area of weakness around the front of the wing seat but this seems to have been addressed with a good portion of extra carbon. The build was, as Ivan states very easy with the only tricky part being the installation of the rear ballast tube support. I went for the over technical option and screwed a bicycle spoke into the plywood support to pull it in and out to position it. When in place I unscrewed the rod. At this point I also used a small torch positioned inside the nose to provide enough light down inside the fuselage so that I could see what was I was doing. When Ivan and Mark saw this idea they must have liked it because they both laughed a lot and made lots of comments about my 'nose torch'.



An inverted low pass as steady as a rock

The only other area that Ivan has not mentioned was the advice from Warrick to glue in some extra support inside the wings between the top and bottom skin around the servo bays. This helps to stiffen up the wing skin that the servo is glued to and decreases any unwanted movement at the control surface. Seems to work!

To date I have only had chance to fly it on two days, both were the two extremes of weather conditions. The first was a calm day with only a breath of wind at Edge top, the type usually reserved for very light models - not good condition to test fly a new model but I'd driven a long way so off she went. I had expected it to struggle but I was pleasantly surprised with its smoothness and ability to stay up in next to nothing. Being gentle on the controls I



Stiffening up the top and bottom skins around the wing servo box with balsa wood

was able to cruise around and I managed a few loops and rolls. The control response was very good and I was fired up to try it properly on a good day.

The second day was one of those days where you could hardly stand up on the edge of the slope. Having struggled to get the model down to the pool site I foolishly considered that if I could launch it I'd be alright standing down in the dip, out of the wind. I loaded it up with full ballast and braved the slope. It was a rough day and I really shouldn't have launched a new model into this either.

Nevertheless off she went. After a few moments of sheer terror as I battled against the strong turbulence close in she finally got up and away. The Vector handled the wind well and I was able to try all the manoeuvres that I knew and it willingly obliged. - Yes I'm going to enjoy this model! I flew for about an hour and thoroughly enjoyed it but with cold fingers I had to brave the landing. I tried the flaps and she stops really well, (these are really big flaps). So I walked over to the top of the hill to land and despite the rough conditions she came in lovely and controlled, all the way down. In the event I didn't need



Elevator quite smooth considering its an acrobatic model



Ray Sutton with his Thunder King. This model started off as a free flight thermal soarer in the late 40's early 50's and was an ideal platform for the early radios ~ When you compare this to the modern all carbon glass ship it gives you some idea how far models have developed over the years

the flaps due to the strength of the wind.  
I'm really hoping for some better flying weather soon so that I can fly it properly but I'm already confident that I'm going to be pleased with it.

## Letters

Dear Ed.

### Batteries

I was browsing through one of these modelling forums on the internet the other day when I came across a thread that wasn't half slating airborne NIMH 4 cell battery packs. Quotes like "I wouldn't put 'em in one of my clapped out foamies let alone a six servo model". There were several other replies in the same vein. This was in answer to some guy's question asking advice on what batteries he should use with a six servo model.

Although there were a few saying that they had never had any problems with RX packs made up from 4 NIMH's I was surprised at the number of modellers slagging them off.

I have never used anything other than a 4 cell Nicad or NiMH's in my models. Some I've bought all ready made up, many I've made up myself, and, I've never had a problems with any of them. Mind you!! Since seeing the rapid fall off in voltage on a transmitter pack of NIMH's once it had reached a low of 8.8 volts, I have never ran any of my batteries close to the knuckle particularly the RX pack . Any recycling has always been done on the bench, never by flying on the dregs of a charge

On one occasion I had a duff cell in a pack of 12 batteries that I'd bought from Maplins. Since then I've always tested individual cells before making them up into a 4.8V pack or 9.6V pack and, I've always recycled them before use

As far as I am aware, most of the guys in our club use four cell packs in their models. It would be interesting to find out if any of these members have had any problems with their 4 cell Nicad/NiMh's RX packs?

Regards Fred B

This is our first letter from a modeller's wife...

Dear Editor,

Are there any ( real) modellers in the club? This is a question I asked my husband who many moons ago made all his own models from balsa wood, solarfilm, tissue and dope. I know that over the years technology and materials have improved. This has lead to some models being cheaper to buy ready made than those designed and made by ones self. This has happened in knitting and dress making also.

Did he make his own models because he liked making things and this was his main interest flying them only to see how good they turned out, OR, did he make them because he liked flying and at that time he had no other option. It raises the question of `which came first, the chicken or the egg?

Next question I asked was "How many members would there be in the club today if making your own model was still the only option you had if you wanted to fly"?

A finally a question to all members! Do you think that those modellers who make or have made their own models, have a better understanding of how to get the best out of their models? In other words make for better fliers!

I wait with baited breath for your replies

Signed:: One who has read every edition of the LMMGA's newsletter



# Fly For Fun Comp



These are most of the guys who flew at this years first Fly For Fun Comp ~ Just a word of warning if you're thinking of coming to the next one and you don't like laughing; think seriously about it ~ It could seriously damage your health

The weather forecast for our first comp of the year said that it would be showery with a south west wind. The wind direction was spot on but we had none of the showers at the Mermaid until just after the competition was over 3-30pm. There was a couple of close calls and one almighty flash of lightning but no rain.

Fourteen members turned up but only 10 competed in all the rounds. Most flew a mixed bag of foamies but two flew pucker glass ships. There were four events in all:

1. Most loops in two minutes ( There was 30 seconds to gain height)
2. Flying a series of figures of eight round two poles:
3. Guessing a distance: Most laps round a distant pole. If you turned

too soon the lap didn't count.

4. A 5 lap pylon race with three up at a time  
1st 2nd 3rd not timed There were five rounds in all

The competition was in two parts with a one hour dinner break in the middle. During this time general flying took place.

Throughout the day there was loads of banter and false advice been given out. The guy who took most stick was Gary Furnival because he was beaten in most founds by his son Josh

The day was finished off by everyone who competed having a in the luck bag  
The prizes range from a 6 channel receiver to couple of push rods.; Some of the prizes were inappropriate for slope soarer such as a propeller and a fuel tank, but this all added to the fun.

Oh Incidentally, the winners were::

1st Ian Buckley

Joint second Mark Ollier and Scott Ravenscroft

But hell— Who gives a dam who won?? ~ Most of us only go for the laughs anyway.



Combat session Note dark sky but no rain



Ted Horton having a dip in the bag

## Why Become an Aeromodeller

A couple of issues ago your editor asked for our reasons for taking up flying model aeroplanes. Whilst each of us will give different answers, these will be conditional to some extent by the world that we grew up in  
Baby boomers and their children will find it hard to even imagine what it was like in the pre-war years. Whilst I lived in London I only saw one model before 1939, kite flying was the thing and many of these were home made. My father made these out of brown paper pasted round a string and bamboo cane frame. Magic to a four year old and the memories

in the sub-conscious were probably the trigger for future aeromodelling. Other things also had an influence upon an impressionable child. Croydon was the major aerodrome of those years and it had a viewing area for the general public. Few cars for the working class so it was a trip across London by bus on a sunny Sunday morning. Eating an ice cream and watching a Handley Page doing a stately take off was a once in a blue moon treat.

The Hindenburg and Graf Zeppelin were, for a few short years, seen as the epitome of luxury air travel. One evening, just after night fall, one of these flew over where we lived. It was quite low and all lit up with the city lights reflecting off its silver paint. Colossal in size, it was majestic as it made its headway against the night sky.

All of my grandparents lived in south Derbyshire, one set living in Castle Gresley. A recreation ground adjoined the back garden beyond which was the railway between Ashby and Burton. In 1916 a zeppelin had endeavoured to bomb a train which then took refuge in a long tunnel, half a mile or so from grandmother's house. She had watched it all happen and I never tired of listening to her account of it. I was also shown a crater caused by a bomb from the "Zep", all fascinating to a young boy.

Three or four times a year we would go to Gresley, by train of course. A few minutes after leaving St Pancras we would pass Hendon and usually see some fighter bi-planes of that era. Twenty miles further on was the Hanley Page factory and air field, where one might see Herefords and Hamptons, all of great interest.

Back in London, sky writing was becoming popular, a washing powder being the most advertised item. I wasn't interested in the washing powder but the way the pilot did it had me guessing. In 1937 I was taken to Alexandra Palace to see the latest gizmo. A flickering screen about eight inches in diameter was the centre of attraction showing something called television. Of far more interest was a small rubber powered model aeroplane being flown nearby. About 24" span, a yellow model would climb to the height of telegraph line, cruise horizontally for a hundred yards or so and then land. Like the kites it was another large step into becoming an aeromodeller.

Come the war years and I was shipped off to my maternal grandparents. During the blitz one could see the Ack Ack over Birmingham and Derby and the uneven beat of the German aero engines was unmistakable. In 1942 the first British jet prototype flew over Gresley, very noisy, as fast as a Spitfire and a thing of great interest to yours truly. By 1943 the

bomber bombardment of Germany was well under way with many Lancasters and Halifaxes flying from airfields in Staffordshire and Shropshire. Wave after wave would fly over Gresley in late evening and the thunder of hundreds of engines would last for some minutes, awe inspiring and even more so in 1944 and 1945.

By then I had tried to build an Astral Hurricane and learnt the hard way that both wings were not the same ( planes need a left and right wing). On VE day a kite string had broken and the kite had landed in Sir Nigel Gresley's wood. I had succeeded in making my own mortar using own made gunpowder. The shell would go off a few hundred feet in the air and course much panic to the local ARP warden. Grandma detested him and I always had a perfect alibi.

This endeth the lesson on how to become an aeromodeller . There after followed twenty odd years of the best that aeromodelling could offer until radio control took over and cheque book depth started to intrude with the "must have" mentality so common today.

*Methuselah*

Ivan B coming in for an inverted landing with his newish Javelin . Some folks will do anything for a bet.



Well on mine it's just gusting over a gnats fart