

Thames Valley Silent Flyers



LIFT

ISSUE 75

JULY 2014



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Stallard's latest
creation.



Club Night Presentations



Wales Spring 2014



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Front cover and back cover photographs were taken by Alan Butterworth at Porth Ceiriad during the Welsh Expedition in May 2014. Many of the other photo's in this edition of LIFT were taken by Alan.



Do you know someone who would like our club newsletter? To order a copy of the next issue (November 2014) send a cheque to Tony Ridler, 109 Pierrefondes Ave, Farnborough, Hants. GU14 8NZ for £4.00 which covers P&P. A few back issues are available @ £2, email Tony for availability. Make cheque's payable to Thames Valley Silent Flyers. Orders must be received by the cut off date. - **18th October 2014 for the November Publication.**

Editorial

By Tony Ridler



With the death of **Norman Childs** a number of members assisted in sorting out the contents of his modelling activities. It was however quite a task as he was a prolific builder and Engineer.

In sorting through his garage a number of back issues of **LIFT** were found which Trevor passed on to me. Some of which were missing from the Archives.

However having opened a few I must confess the amount of information/knowledge in those early issues was quite staggering. Something I must aspire to.

One paragraph I spotted in the Editors corner is as valid today as it was then, The Editor in November 1998 was Brian Pettit.

"Once again I am appealing to Club Members to contribute articles for **LIFT**, to provide the local interest. Articles can cover any topic with a link to model building, flying and repairing. An article need not be long, a page is less than 280 words or so with a picture, but even half a page can be of interest. Although I would prefer your literary efforts on a computer disc, I will be pleased to receive typed or otherwise legible manuscripts. So get your thinking caps on. Your mandatory new year resolution for 1999 is: "**I must write at least one article for LIFT**". Just for the record I prefer email.

All I need to say your article will be published in the November edition of 2014, if I am inundated with articles in a following edition.

It is also interesting to note that the Friday night league for 1998 was run in 2 divisions, the Premier Division who the 3 top flyers were **Norman Elliot**, Chris Moynihan and Ian Lancaster, and the First Division Adrian Lee, Ken Glyn and Bill Hatton. The top 3 flyers of the first division were promoted to the Premier with the 3 lowest scores in the Premier moving to the First. Moving down that year were 3 well known flyers, Graham Stallard, Alan Butterworth and Terry Antill. Moving up included Peter Chance.

The 1998 "All Rounder" was **Norman Elliot**, the late **Norman Childs** was 5th that year.

I look forward to seeing you on the flying field, but in competitions don't try too hard as I want to be in the upper half or higher. Tony

Paddy was driving down the street in a sweat because he had an important meeting and couldn't find a parking place. Looking up to heaven he said, 'Lord take pity on me. If you find me a parking place I will go to Mass every Sunday for the rest of me life and give up me Irish Whiskey!'
Miraculously, a parking place appeared.
Paddy looked up again and said, 'Never mind, I found one.'

Chairman's Chat

By Graham Stallard



The longest day has just passed and the club eSoar has been completed. We are again flying from Pidwells but hopefully back on Oldlands soon. Innes McEwan has changed jobs and left Syngenta Friday 13th June. Syngenta assessed their options, one of which was to cease current operations. Thankfully Syngenta concluded it was beneficial to have a farming operation on site. So we are OK for flying for the time being. For the moment there is no replacement for Innes. To help tide Syngenta over while the business finds another manager Innes will help out on a part time basis. The people remaining who take care of the livestock and arable are feeling the pressure and we should be sensitive to their situation.

Lots to do in the coming weeks. The Friday night leagues are in full swing. The 2nd mini glider league Tuesday 17th June had a good turn with 9 competitors. A bit windy but some good soaring to be enjoyed. John Price planned ahead and brought down the tree retriever, which embarrassingly I needed to use. But John did save some of my blushes by also landing in the trees. Roger Stacy's height and reach helped with the retrieve.

The adventurous among the club members are visiting Up-Avon Wyvern Gliding club on Friday afternoon 11th July for some full size flying in a K21 or DG1000. Gordon Walker who is a club member was the key man arranging this invitation. Thank you Gordon. Fingers crossed the weather co-operates.

Also up and coming is the cub BBQ and 100S on the 3rd August. Hopefully the weather will co-operate and make this a very enjoyable day. Even further ahead is the club annual slope day out Thursday September 4th.

As you are all aware there was an unfortunate incident with a model landing in the Syngenta complex. All things considered this has not caused us a major issue to date. However as a result the committee have reviewed and concluded that the temporary no fly zone will remain for the foreseeable future.

The club was asked by Norman Child's window, Jacque, if we could help clear his garage as Jacque could not face doing it. Six/five club members took on the challenge and spent two Saturday mornings clearing the garage. It took some eight trips to re-cycling. A lot of things were dated or incomplete but we were able to rehome quite a few items and have collected £440. Well done lads. Jacque asked her thanks be passed onto the club. My thanks to Steve Elkin, Ian Lancaster, Trevor Hornby, John Skinner and Vic Harris for giving their time to do this. It was a far bigger task than I anticipated (24 man hours).

For those of a less competitive interest the Sunday morning is quite busy on the field with a number of glider guiders enjoying the available lift. So plenty to get you out and enjoy some soaring.

That's my bit of chat. See you on the field or slope. Graham 😊

Diary Dates

Date	Day	Item	Contact
1 July	Tuesday	Club Meeting - Graham Stallard - Electrics	
4 - July	Friday	Thermal FNL 4	CM
11- July	Friday	eSoaring FNL 5	PW
11- July	Friday	Upavon Gliding Trip	GS
13 - July	Sunday	Xcountry eSoaring	TH
15 - July	Tuesday	Mini Glider L 3	JP
18 - July	Friday	Thermal FNL 5	CM
20 - July	Sunday	Xcountry eSoaring - Reserve	TH
25 - July	Friday	eSoaring FNL 6	PW
1 - August	Friday	Thermal FNL 6	CM
2 - August	Saturday	TVSF Open F3K (2)	MF
3 - August	Sunday	Thermal 100" & BBQ	CM
5 August	Tuesday	Club Meeting	
8 - August	Friday	eSoaring FNL Reserve	PW
10 - August	Sunday	Miniglider L 4	JP
15 - August	Friday	Thermal FNL Reserve	CM
19 - August	Tuesday	MGL reserve	JP
22 - August	Friday	eSoaring FNL Reserve	PW
23-25 August	Sat/Sun/Mon	BMFA Nationals	GJ
29 - August	Friday	Thermal FNL Reserve	CM
31 - August	Sunday	Thermal Open	CM
2 - September	Tuesday	Club Meeting - Photo Competition	RS
4 - September	Thursday	Slope Day Out	GS
7 - September	Sunday	100"/Thermal reserve also Long Mynd Fly-in	CM
21 - September	Sunday	Miniglider L 5	JP
4-11 October	Sat/Sat	Wales week	CM
12 - October	Sunday	Mini Glider L 6	JP
14 - October	Tuesday	Club Meeting	
19 - October	Sunday	Mini Glider reserve	JP
2 - November	Sunday	Slope Xcountry reserve	TH
4 - November	Tuesday	Club Meeting - Table Sale	

WISDOM FROM MILITARY TRAINING MANUALS

'If the enemy is in range, so are you.' - *Infantry Journal*

'It is generally inadvisable to eject directly over the area you just bombed.' - *USAF Manual*

'Whoever said the pen is mightier than the sword, obviously never encountered automatic weapons.' - *General MacArthur*

'Tracers work both ways.' - *Army Ordnance Manual*

'Five second fuses last about three seconds.' - *Infantry Journal*

'Any ship can be a minesweeper. Once.' - *Naval Ops Manual*

'Never tell the Platoon Sergeant you have nothing to do.' - *Unknown Infantry Recruit*

'If you see a bomb technician running, try to keep up to him.' - *Infantry Journal*

'Yea, Though I Fly Through the Valley of the Shadow of Death, I Shall Fear No Evil. For I am at 50,000 Feet and Climbing.' - *Sign over SR71 Wing Ops*

'You've never been lost until you've been lost at Mach 3.' - *(SR71 test pilot)*

'The only time you have too much fuel is when you're on fire.' - *Unknown Author*

'If the wings are traveling faster than the fuselage it has to be a helicopter -- and therefore, unsafe.' - *Fixed Wing Pilot*

'When one engine fails on a twin-engine airplane, you always have enough power left to get you to the scene of the crash.' - *Multi-Engine Training Manual*

'Without ammunition, the Air Force is just an expensive flying club.' - *Unknown Author*

'If you hear me yell; "Eject, Eject, Eject!", the last two will be echos.'

If you stop to ask "Why?", you'll be talking to yourself, because by then you'll be the pilot.'
- *Pre-flight Briefing from a Canadian F104 Pilot*

'What is the similarity between air traffic controllers and pilots?

If a pilot screws up, the pilot dies; but If ATC screws up, ... the pilot dies.'

- *Sign over Control Tower Door*

Never trade luck for skill.' - *Author Unknown*

The three most common expressions (or famous last words) in military aviation are:

'Did you feel that?' 'What's that noise?' and 'Oh S...!'

- *Authors Unknown*

'Airspeed, altitude and brains. Two are always needed to successfully complete the flight.'

- *Basic Flight Training Manual*

'Flying the airplane is more important than radioing your plight to a person on the ground incapable of understanding or doing anything about it.' - *Emergency Checklist* →

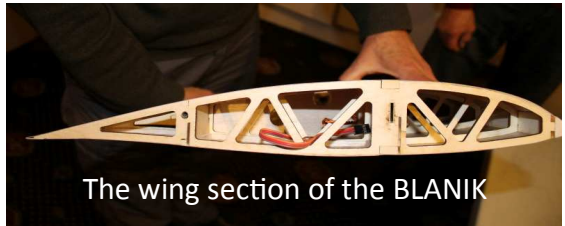
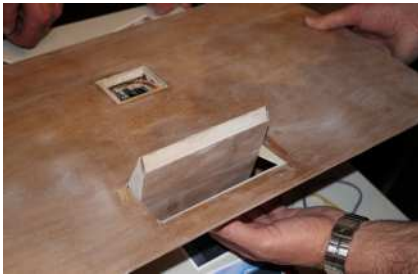
Club night Activities

March 2014

Following our normal meeting we had an informal “bring your latest project and discuss with the club members”.

Models varied from Colin's Diesel powered Monoplane (Sorry Colin, you will not be able to fly it at Moss End), to Clive and Bill's monsters.

Bill is building a BLANIK, the first details of this project were in last issue of LIFT. The airbrakes should slow the model down being quite large and presenting a large surface to the airflow.



Clive's model of a “Long wing KOOKABURRA” features a more open structure to the wings with a mostly sheeted fuselage.



Again this model was featured in the March issue of LIFT.

Club night Activities Cont.....March 2014

A Max Thrust YAK 54. £125 with all the electrics except RX and battery. 5ft wing-span and weighs just over 5lb. I have proved that it is pretty strong. The ESC cuts power quite suddenly to a very low level which resulted in a couple of hard arrivals. The only real damage was to the U/C mounting. In the air it had quite a presence and having lots of power it can do big smooth aerobatics.



Buying this model was a bit of luck really. Having previously owned and 'lost' a ¼ Swift I had had an increasing desire to fly another one.

The previous one I owned was no longer available, otherwise it would have been ordered ages ago. Anyway I researched a number of kits with a requirement that it was pretty close to scale and had an appropriate wing section (aerobatic).

DIFFERENT WAYS OF LOOKING AT THINGS:

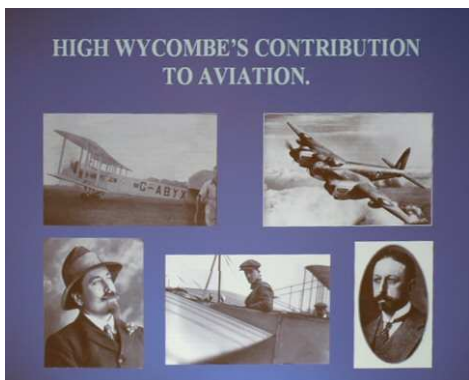
An old man goes to the Wizard to ask him if he can remove a curse he has been living with for the last 40 years. The Wizard says, 'Maybe, but you will have to tell me the exact words that were used to put the curse on you.' The old man says without hesitation, 'I now pronounce you man and wife.'

A blonde calls Delta Airlines and asks, 'Can you tell me how long it'll take to fly from San Francisco to New York City?'

The agent replies, 'Just a minute.' 'Thank you,' the blonde says, and hangs up.

"In the event of a sudden loss of cabin pressure, masks will descend from the ceiling. Stop screaming, grab the mask, and pull it over your face. If you have a small child travelling with you, secure your mask before assisting with theirs. If you are travelling with more than one small child, pick your favourite."

Club night Activities Cont.....April 2014



Our guest speaker for **APRIL** was David Scott.

The talk was based on a book, co-researched and co-written by Dave Scott and Ian Simmons.

Even before WW1 there were two notable aviation events, the landings local to High Wycombe, of Henry De Laval Astley in a Birdling Monoplane



and Cody in one of his own aeroplanes.

George Holt Thomas (Airco), Walter Henry Healey (representing the Furniture Manufacturers) and Geoffrey de Havilland were all instrumental in bringing aeroplane manufacture to the town in WW1.



Parts for the Airco DH4 & DH9, Sopwith Pup & Camel, SE5A and Farman were all produced in the town's furniture factories.

Holt Thomas went on to create, by 1919, the "World's Largest Aircraft Manufacturing Enterprise" producing aeroplanes, aero-engines, propellers, airships and flying boats.

Between the wars, Bleriot had lived in a property by the River Thames and Amy Johnson lived her last days in Woburn Green, before she lost her life ferrying an



Airco DH-4 Bomber Designed in 1916 by Geoffrey de Havilland,

Airspeed Oxford from Blackpool to Oxford. Cobham's Flying Circus also visited the town on several occasions in the thirties.

The outbreak of WW2 saw aeroplane manufacture return to the furniture industries, with parts being produced for the Tiger Moth, Miles Magister and Master, Airspeed Oxford, Spitfire, Wellington but most significantly the Mosquito.

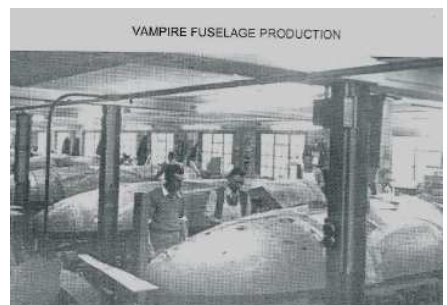


The machine in the foreground looking like an old-fashioned mangle is a hand-driven glue spreader. The rollers rest in a trough of glue, depositing it on the timber as it passes through. In the background are the cramping jigs where the spar booms are built up with these laminations of spruce timber.

Photo - ERIC HEATH

A series of pictures showed the detailed production of the Mosquito fuselage (a composite of ply/balsa/ply laminate), and the main and rear spars, both built in a box section with laminated Spruce upper and lower booms with 1/8" ply shear webs.

Post war only Dancer & Hearne continued with aeroplane parts, building the fuselage of the DH Vampire & Venom, using the same ply/balsa/ply laminate that had been used on the Mosquito.→



David Scott

Club night Activities Cont... May 2014

May 2014, our speaker was **Ray Watts**, a man of many talents. (See his article on the indoor meeting at the Barnsley Metrodome, elsewhere in this newsletter).

Rather than précis Ray's talk I have included his notes in full.



To start with, I'm going to upset some people.

I'd like to make it clear that I'm a model flyer and not a builder. I see building as a means to an end, and if I can avoid it I will.

That is with the exception of my indoor planes, which I am a bit obsessive with.

I started flying very early with a prize selection of rubber powered Sleek Streeks and chuck gliders.

At the age of 13 I was mad on fishing, but my much older brother built a control line plane and I was mesmerised. I had to have one. And that's when it started. I had virtually no money, but somehow managed to get together a profile control line Veron Provost with a DC Wasp 049. Flew it constantly in the school field next door. Then a Veron Cardinal free flight which I still have. This was later fitted with single channel ban bang radio, and later single channel proportional.

Then at the age of 16, I managed to buy a 3 channel radio and I was off.

Totally self taught, coming through the ranks of c/l, free flight, single channel, and multi, I had a good understanding of what made a plane work.

I started doing a lot of Slope soaring with older work mates who had cars to give me a lift.

Then Joined Firebirds at their start as a founder member.

At age 17 became club expert as only one flying solo, so become club instructor and chief display pilot.

Always flying other peoples planes and trying different types of planes so my progression rate was fast.

I then struck on the idea of getting our gliders up by piggy backing them on top of a power model

Couldn't aerotow at this stage as hardly any of my mates had big enough or strong enough gliders.

In the early eighties, I bought a second hand ¼ scale Pat Teakle Vega and did the aerotow circuit.

I loved the tugs, which were mostly ¼ scale cubs with 20 to 60cc engines. The tartan twin 44cc was popular. But these huge tugs were way out of my price range.

I'd already been flying other peoples big petrol planes but ownership was out of the question.

The Vega lasted a couple of seasons until my brother decided to push in down elevator to penetrate the wind at wings and wheels and the wings folded. I didn't even see it crash as I was busy hooking up Colin Bonds tug to another glider. GUTTED.

I then had a couple of 1/5 scale gliders, a Wik Speed Astir and a Slingsby Skylark 3, but really wanted to tow.

Then a chance discussion in 2006 gave me the chance to buy a ready to fly tug in the shape of a Titan with a Zenoah 62 for £500.

I was away. Attended Siege Cross farm in April one month later and started to fly at all the aerotows that

I could get to.



pilot. I also now had a 1/4 scale ASW24 but was so revved up by the towing, it usually stayed in the car.

Chris Williams calls petrol tugs, Satanic Vibrators. He's right, as several times I landed with wing bolts that had shaken loose. Things just get broke.

For a glider pilot, a good glider tow day would consist of maybe 10 landings, whereas a good tug day can consist of 90 landings or more (109 is the highest for me in one day so far) and it's landings that usually kill planes, not flying around. Undercarriages break exhausts and everything.

Mention Andy's 1/2 scale ASW 27 at Wallop.

2 years later I had the chance to join the big



The April event was a baptism of fire. See photo.

I was then asked to join the TVSA Thames Valley Scale Aerotow as I was such a keen tug





tugs when a new Rosenthal Red Bull with a DA 100 came my way. This turned out to be a monster at around 35 lbs...mention tip stalling, gyro, flaps etc.

Big crash with Phil Hoegger ripping wing bolts through foam and adding about 2 lbs. Great tug as its fast but can climb steep.

This plane has done a huge amount of flying with lots of 4 to 5 hours sessions in a day.

Then 3 years ago my dream came true when this baby, a 1 to 3.5 scale Frish Wilga came my way. My mate Dave Hoare had built it, but couldn't get it through his gate or get it in his Volvo estate without taking key parts off of it

Mention Steve Davis' 1/3 scale U/C

Trouble is being over 20kg at 28kg and the English weather, it was 3 months before I got to fly it properly. But it flies like a pussycat if you use the throttle correctly explain.



Talk about Binham crash last August. 28kg planes don't bounce.

Ok..I said about speed with the Red Bull.

The main thing about aerotowing is to stay in front of the glider...and that's it. You need to be just a bit faster than whichever glider you're towing.

And there's the problem.

In a glider queue they come in various sizes. Big small, big big, small small, and so on and you have to immediately adapt and that's what I love. Each flight is different.

A Flair K8 could be followed by a 28kg half scale DG1000, you never know.....mention Simon Cockers 6kg wing joiner and 7 min tow.

Towlines....Buy a strong kite line, around 305lbs I think, on a 100m reel. Cut it into 3 and

you have 3 towlines at just over 100 feet. Perfect. Shorter and towing gets out of shape quickly, and longer and the line sags and snatches.

Use a drag chute at the glider end for visibility as well as drag, and use swivels (size 4/0) at both ends with the glider end having a clip. Fix the swivels onto the line as the glider boys pinch them otherwise.

Technique. Take off and the glider quickly trims to be just above the tug, then just keep the wings level. The tug will drag you round the turns keeping the line tight.

Wing tip man technique. I can't stress this enough....Don't hold the wing tip. You can't accelerate anywhere near as fast as a tug.

Worse thing about tugs is the time they take to rig and take apart and the space they take up. The best thing is the amount of flying you get if you want to.

Last year at Sandhays I got through 24 litres of unleaded 97 octane for power and reliability in 2 days. One day was over 7 hours of stick time.

I only fly the tugs as tugs and nothing else. I have other planes for the other bits.

I also now have a 5m 1/3 scale ASW28 which is very strong and very aerobatic, but I still tend to leave it in the car as I love the towing so much.

You get to work as a team from the front and I love it →

Ray Watts



Club night Activities Cont.....June 2014

The guest at our **June** meeting was Dr Wayne M. Angevine Ph.D. whose presentation was titled **"The Science of Thermals"**. Wayne's presentation was very detailed and raised a large number of questions from the members. I have had to précis his talk as the full text would fill the entire newsletter!.

Thermals are the fuel of sailplane flight. This talk describes what thermals look like (if we could see them!) and how they behave. I hope that your flying experience will be improved by knowing a little more about thermals. To start with I need to say that the atmosphere is endlessly complex and capable of doing almost anything. I'm going to try to talk about the simplest and most common cases. That means clear to partly cloudy skies, light to moderate winds, and daytime.

For impatient readers, here are the basics: Thermals are like fat trees, with small, chaotic roots near the surface and large trunks above. The trees tilt and sway with the wind and change with time, and sometimes they let go of their roots and drift. Between the trees is sinking air.

Where thermals form, their exact shape, and how fast they change is hard to predict, since it depends on details of the interaction between the ground and the air. Key principles to remember are:

Thermals are driven by temperature contrast between the ground and the air.

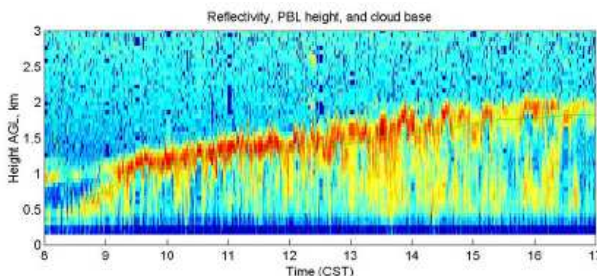
Air exists in parcels (blobs) that have mass and momentum as well as temperature and humidity.

Plumes near the surface look and act different from thermals well above the surface.

The boundary layer

The part of the atmosphere in which we fly is the atmospheric boundary layer (BL for short). It's the air that's affected by the ground surface on time scales of an hour or so. In the kind of conditions we're talking about, it's the lowest 500 - 2000 meters (1500-6000 feet) of the atmosphere. The BL is shallow (100-200 m) at night, builds up in the daytime as the sun heats the ground, and collapses again in the evening. BL height is governed by the amount of sunlight, the amount of moisture available at the surface, and the stability of the atmosphere.

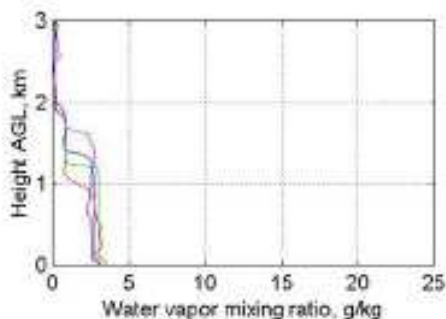
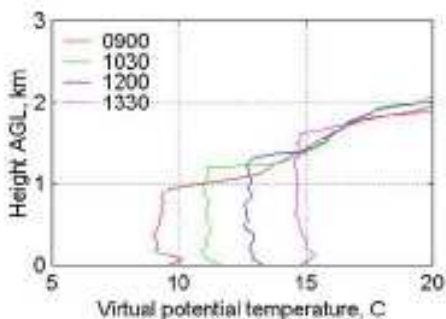
Figure 1 shows the buildup of the boundary layer. The main panel is the reflectivity measured by a special radar called a boundary layer wind profiler. It's sensitive to turbulence at gradients of temperature and humidity, so it sees the BL top



as a very strong signal.

The small panels show the virtual potential temperature and the specific humidity measured by weather balloons.

Virtual potential temperature is a direct measure of buoyancy; it's temperature corrected for the effects of humidity and for the heating and cooling effect of changes in pressure with height. If the virtual potential temperature line slopes to the left with height in a layer of atmosphere, that layer is unstable. If it slopes to the right, the layer is stable, and a vertical



line shows a neutral layer.

The boundary layer has three important sublayers, the surface layer, mixed layer, and entrainment zone. The surface layer is the lowest 100-200 m, so it's where model sailplanes fly a lot of the time. The mixed layer extends from the top of the surface layer to near the BL top. This is where cross-country models and full-size sailplanes spend their time. The wind speed is zero right at the ground, increases through the surface layer, and is roughly constant with height in the mixed layer. In fact, the mixed layer is called that because turbulent mixing causes all quantities (potential temperature, wind speed, water vapour, pollutants) to be uniformly mixed throughout the layer on average. That doesn't mean that differences don't exist at the scale of individual blobs; if everything were perfectly uniformly mixed there wouldn't be any thermals and we might as well stay home! The entrainment zone is the interface between the BL and the free atmosphere above, and is where clouds form. The surface layer is unstable, the mixed layer is neutral, and the entrainment zone and the atmosphere above are stable.

Thermals and plumes

The sun warms the ground, and the ground in turn warms the layer of air nearest to it. As soon as a parcel of air is warmer than its surroundings, it starts trying to rise. Air has mass and momentum and it's immersed in other air, so it can't just go to its desired level instantly.

Furthermore, the ground is not uniform, some parts are darker and/or drier and heat up faster, and some parts are moister or lighter in colour. The result is that there are blobs (parcels) of air forming, rising, and pushing other parcels out of the way. Some of those parcels end up at the ground, get warmed up, and want to rise themselves. All of this turbulent

motion leads to small plumes of varying shapes and sizes of rising and sinking air. Some of the rising parcels meet up with others and form larger blobs; others get torn apart by turbulence and lose their identity. The size of parcels in the surface layer is roughly proportional to their distance from the surface. The air within a plume is rising, but it is also turning in all three dimensions, its motion depending in a completely unpredictable way on the small-scale shape, colour, and moisture of the ground and the motion of all the other parcels in its vicinity. Plumes start out at the surface with no average horizontal speed. They pick up bugs, seeds, and sometimes trash, all of which help us to see where the air is rising.

The plumes converge as they rise (figures 2 and 3). By the time they reach the top of the surface layer, 100-200 m above the ground, they have joined into relatively large columns of rising air. The size of thermals in the mixed layer is roughly proportional to the BL height, so the columns are a few hundred meters to as much as a couple of kilometres in diameter. We could think of the thermal as a tree with a trunk in the mixed layer and roots in the surface layer. The air within the thermal still has horizontal and turning motions as well as rising, and those motions depend on the motions of the surface layer plumes that formed its roots. Remember too that these are fat trees, roughly as wide as they are tall (figure 4). Thermals are a degree or two Celsius warmer than the surrounding air, and they rise at 1-3 meters per second. The air in thermals moves horizontally more slowly than the surrounding

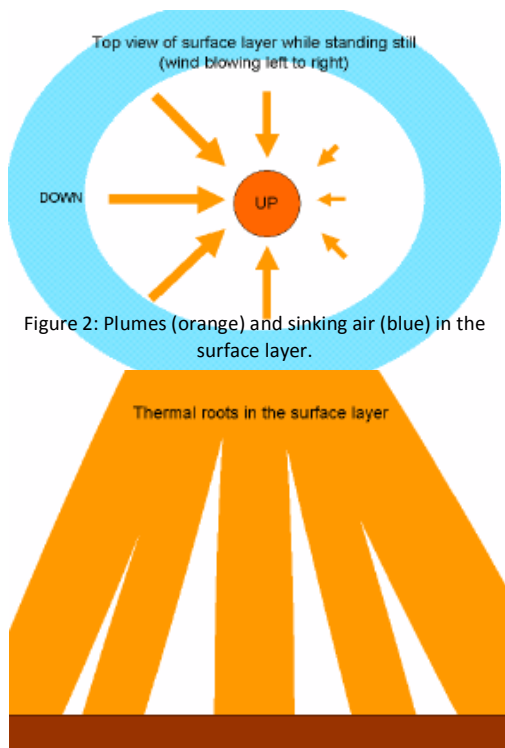


Figure 2: Plumes (orange) and sinking air (blue) in the surface layer.

A thermal as seen while traveling with the background wind

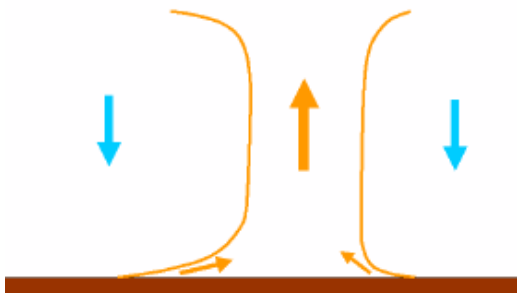


Figure 4: Side view of a thermal. Rising air is inside the orange outline.

Figure 3: Side view of thermal roots (plumes) in the surface layer. The vertical extent of this figure is 100-200 m. Real plumes are much more ragged and chaotic than this schematic drawing.

air because it "remembers" being near the surface where it was moving very slowly.

When rising air reaches the top of the BL, it spreads out, again like the top of a deciduous tree.

The air is now more dense than its surroundings, not because it has changed but because the air around it is warmer. You may remem-

ber from high school physics that a gas cools when its pressure is reduced, and that's true of rising air in the atmosphere as well.

Scientists often work with potential temperature, which corrects for that change. In any case, the air at the top of the BL is warmer in potential temperature than the air rising from the surface. In fact, that's what defines the BL top. If the air in the thermal were still warmer (less dense), it would continue to rise, and wherever air from the surface can reach in a short time is, by definition, part of the boundary layer. Sometimes the tops of thermals are visible as cumulus clouds. Because the rising air has momentum, it actually overshoots its level of neutral buoyancy before falling back. If the stable layer (sometimes called the inversion) atop the BL is weak, the clouds may build up and it may rain. Looking again at figure 1, we can see the tops of the thermals as rises in the reflectivity plot.

Another way to "see" thermals is with numerical models. Even with modern computers it's still too difficult to simulate the BL with full resolution. Large Eddy Simulation models (LES) resolve the main features of the BL. Figure 6 is a 3D rendering of LES output for the sort of day we're talking about. We can see the thermals as blobs of rising air of various sizes and shapes. The surface layer plumes are not resolved by the model.

Over flat, smooth terrain, thermals move with the wind. The measurement site in Illinois where the figures were made was specifically chosen to be as simple as possible, in fact, we called it the Flatland site. If stronger terrain features (hills, for example) or changes in surface characteristics (lakes, large parking lots) are present, plumes may tend to form over hotter or higher spots. This can make it easier to find a thermal.

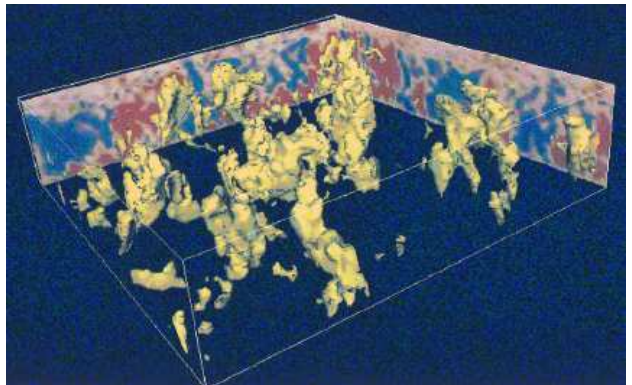


Figure 6: Perspective rendering of thermals in a computer model. Volumes enclosed by yellow surfaces are thermals. On the back and side walls, upward motion is in red and downward in blue. The resolution is 52 m in the horizontal and 21 m in the vertical, and the box is 5 x 5 x 1.25 km. Graphic copyright 1998 Peter Sullivan / National Centre for Atmospheric Research, used by permission.

The tendency isn't perfect, though, because other physical phenomena still play a role. For example, thermals may be kicked off by an obstacle that causes warm air to break away from the surface. Even over large hot patches of ground, a vigorous thermal may suck up all the warm air, bringing in cooler air from the sides, and the thermal will disappear while the ground warms the air again.

What happens depends on details of the patch size, wind speed, and temperature contrast. The wind in the mixed layer is roughly uniform with height, so thermals over uniform surfaces tend to move as columns with little or no tilt. Thermals kicked off by terrain features, on the other hand, move downwind as they rise. Model sailplane pilots, standing still on the

ground, have a different perspective than full-size pilots who are immersed in the moving air.

The local wind at the surface is the vector sum of the background wind and the flow into the thermal. A thermal upwind will reduce the local wind speed, or even reverse the direction if the background wind is light enough. A thermal downwind will increase the wind speed. Figure 7 is like figure 4, but it shows the wind vectors (in two dimensions) from the point of view of a stationary pilot.

Thermal myths

People naturally try to explain what they observe, often by making analogies, and sometimes those explanations grow into persistent myths. Probably the two most persistent myths about thermals are that they rotate in a particular direction because of the Earth's rotation, and that they are doughnut-shaped (Toroidal). Neither is true of observed or modelled thermals. The Coriolis force due to Earth's rotation is much too weak to act significantly on small, short-lived flows like thermals.

Thermals have rotation, due to the differing momentum of the plumes that make them up, but they don't rotate in any predictable direction or at a predictable rate. Even dust devils don't have a preferred direction of rotation. As for doughnuts, the only way that air can re-circulate is by going down to the surface and being reheated there.

Weak thermals

As the wind gets stronger or the sun weaker, buoyancy due to heating at the surface becomes less important. Thermals become smaller and less well-defined. It's hard to state a simple rule of thumb for when the wind is strong enough to have a major effect, because that depends on the strength of the sun and the surface moisture.

On overcast or very windy days, turbulence is produced by the wind shear, that is, the change in wind speed or direction across a layer. Shear driven turbulent motions are small compared to thermals, and can't usually be taken advantage of to keep a sailplane up.

Conclusions

I hope this talk has been helpful in explaining thermals and showing some of the latest methods of observing them. Remember that the atmosphere is very complex and almost anything can happen, but what I've described here is what happens in the simplest case. ➔

Dr Wayne M. Angevine Ph.D.

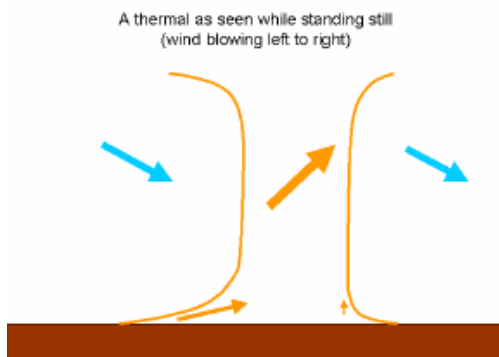
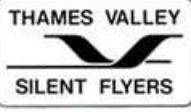


Figure 7: Thermal outline and wind vectors (in the plane of the picture) from the point of view of a model pilot standing on the ground.

All-Rounder as at 18.6.2014

Current Position	THAMES VALLEY  SILENT FLYERS		Indoor Chuckie	Mini Glider League	Hand Launch F/F	Friday Night League	Electric FNL	F3F	Aerobatic	Thermal Allrounder	Electric Allrounder	Slope Allrounder	Club total points
	2014	Pilots Name											
1	Peter	Williams	9	12	7	15	15	8	6	43	15	14	72
2	Colin	Hutchinson	8	15	10	10	10	9	8	43	10	17	70
3	Trevor	Hornby	6	8	8	14	14	7		36	14	7	57
4	John	Price	10	10	9			6	10	29	0	16	45
5	Tony	Ridler	2	9		11	12			22	12	0	34
6	Graham	James	3	7		10	13			20	13	0	33
7	Roger	Critchley				12	11		7	12	11	7	30
7	Graham	Stallard		11				10	9	11	0	19	30
9	Mike	Fantham		14						14	0	0	14
10	Steve	Cope				13				13	0	0	13
11	Roger	Stacey		13						13	0	0	13
12	Chris	Moynihan					10			0	10	0	10
13	Peter	Wood					8			0	8	0	8
14	Terry	Weeks					7			0	7	0	7
15	Alex	Gow	7							7	0	0	7
16	Bill	Cooke					6			0	6	0	6
17	David	Puddephatt						5		0	0	5	5
18	Chris	Hornby	5							5	0	0	5
19	Richard	Thornton	4							4	0	0	4
20	Steve	Elkin	1							1	0	0	1
21	Vic	Harris	1							1	0	0	1



Colin Hutchinson capturing the action



A beautiful sunset at Ceiriad

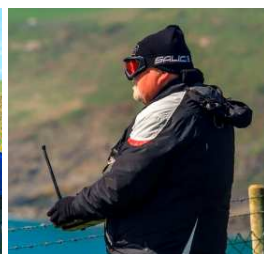


Photo's Alan Butterworth

Slop Soaring at its best, where would you rather be? Colin and Terry, relaxed flying at Annie's



Let it all hand out, Graham Stallard's new model showing its draggy side.



Trev's Modelling Tips

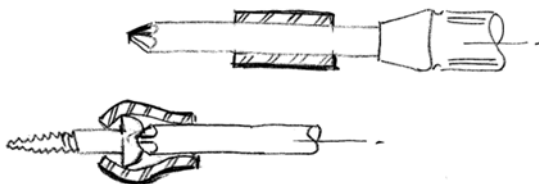
This is a new column from our own guru, Trevor Hornby.

The intention is to share Trevor's words of wisdom generated over the last "umty dumty years" with those newcomers to the club and the older generation who had forgotten the simple things of life.

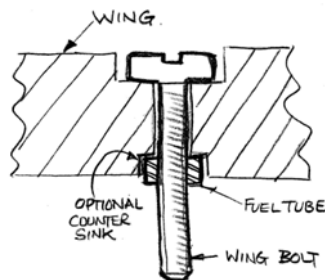
For this issue we have "What to do with that fuel tube now we are into silent flight".



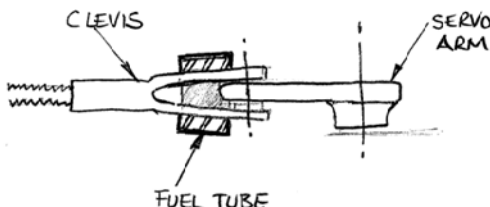
- To help hold the servo screw when directing it into a small space. Simply slide about 1 cm of fuel tubing on the shaft of your watchmakers cross point or screw driver, place the screw on the driver and push the tube over its head. With a bit of practice you can also include the washer if you like. Once the screw is started you can pull the tubing back and carry on as normal



- Wing bolt retainer or similar. No more lost bolts or rummaging in the grass. In this case simply slide a short piece of tube over the bolt on the opposite side of the wing to the screw head. For improved quality make a small countersink so that the tubing ring sits flush with the lower surface.



- The Clevis keeper. This is not really a tip since many clevises now come with this kind of tube keeper, but I find they eventually get lost or tare. I recommend you use a piece of Fuel tube however replacing in setae over the big end of the clevis can be a little tricky so use a set of point nose pliers to open up the tube bigger than the clevis and slide it over. →



Norman Childs 1948 - 2014

Norman Childs was a long serving member of TVSF, who held various positions within the Committee but was most well known as a Competition Secretary.

He was always known as a 'character' most especially by those who learnt to fly under his tutelage. To say he was a hard taskmaster would be describing his style very kindly. There is no doubt that he was an accomplished flyer but he had little patience for those novices who failed to quickly grasp his style of instruction.

He was prolific in designing his own models to take best advantage of the rules as they evolved; many a flying field debate was held over the acceptability of his innovations. One Friday Night League was delayed debating the merits of his new bungee which met the length criterion but was in fact a doubled length of bungee giving a very high energy launch.

He also came up with a novel slope foamy handicap system which never failed to produce a win for his own models.

Despite these attributes, Norman was a keenly competitive thermal and slope pilot, and I have many memories of him as we travelled the country doing BARCS comps.

During the rapid development of electric soaring, Norman devised a clever set of rules that matched the output of the motor to the total weight of the airframe, a system that was adopted by BARCS and the BMFA until technology and brushless motors overtook these developments.

The club was saddened when Norman suffered a devastating stroke in the late 1990's. He was in the Royal Berks for a long period of recovery and further surgery. But he made a good recovery and demonstrated his continuing skills by flying extremely well on the two Cim Farm trips that he came on subsequently.

He was nevertheless a changed character; gone was the confrontational Norman to be replaced by a more placid and equable persona.

Since then, less was seen of Norman and he suffered further cerebral incidents over the years that followed. His care became increasingly challenging for his good lady and he entered a care home some years ago, where he sadly passed away in early May this year.

Rest in peace, Norman.

Chris Moynihan, June, 2014

AND SO TO THE BIG ONE. THE EIM 2014

By Ray Watts

This years EIM was to be at a new venue, the Barnsley Metrodome, and on the day after the Alfreton Comp, we were treated to a free day there to try it out. Of course this meant another hotel night and group curry...getting the gist of this indoor flying? It's all about the curry really.

The first thing to note was that it wasn't as high as the Bradford venue, but there was no girder structure in the way either. The second thing was that it was big, really big, especially length-ways, and thirdly that it was draughty, being on top of a hill with roller shutter doors going straight out and not sealed. This was going to be interesting.

Also of interest was the pilot list. There were more foreigners this year. The Slovenian champion (designer of the Elanor) was coming, 2 Swiss guys, an extra Dutch guy and a new Irish guy, the later 2 being in B along with South African Craig Bavery. So a real mixture.

It all started on Friday after-noon when Flying Dog, the online shop, had hired the hall for everyone to use for prac-tice, and this went on until 10pm. A chance to see the opposition in action. Then it was back to the hotel for a good nights sleep before the action. Well some went to the bar, but not me. I had a cold by this stage anyway, and had lost my voice, Hooray, so there was no point.

DAY 2. THE DAY OF RECKONING

So, today, one round counts out of 2, and Simon Dawes managed to win one of his which put his chances high of a good place. The trouble is you don't get the last round score until the end, so you don't know the final places until the presentation.

I however got beaten by Simon Cole in both rounds, so had settled in my mind for second. Steve was doing really well in A considering the opposition and that he had the heaviest plane in A.

In Aeromusical everyone else upped their game, whereas I didn't so I actually ended up 9th with Steve in 5th, and in Team Freestyle, I had called Steve and I, Team 'We're Gonna Be



*Queuing for a practice flight on the Friday evening. Over an hour wait at its peak.
Note, all planes are now Mylar.*



Simon Dawes gets trophy for Third place in Pylon



Simon Dawes gets trophy for Second place in F3p C

Really Crap', and we were, ending up 5th out of 6.

Then there was The fun Py-lon Race at the end. I actually managed to hit the first pylon so got nowhere, whereas Simon Dawes came 3rd and Simon Cole came 4th, a good result.

So, at the end, in A, Steve came 6th with GB's Connor Stephenson in 3rd which is a brilliant result considering the people they were up against.

In B, I was shocked when they called Simon Cole as 2nd which meant that I had won, but it turned out by only 10 points out of around 900, so really close. Mikey Blake was a very creditable 3rd.

And in C, Simon Dawes came second by a very small margin to Mark Wilcockson.

So all in all, the practice really did pay off and the HMFA pilots brought home 4 of the trophies.

At this stage I'm not sure that I want to go through it all again next year, and I couldn't afford to do it the same way again anyway.

There is still one more comp to do in February, and that of course means another curry.

Damn this flying is hard stuff-Cheers →

Ray Watts



Simon Cole gets trophy for Second place and Ray Watts gets trophy for first place in F3p B



Some of the pilots at the end of EIM 2014

Some had left to catch a ferry.



WW1 Fighters at Middle Wallop

Wales trip to Cim Farm – May 2014

So the ten highlights, in no particular order, of the May 2014 trip to Cim Farm for me were:

1. Flying every day, all day, except Thursday when we only flew in the late afternoon.
2. The cliffs covered in drifts of blue Spring Squill, and the countryside covered in Bluebells.
3. Glyn's model being rescued by the Mountain Rescue – you should have seen the grin on his face afterwards.
4. Playing Scrabble, and winning the last game.
5. Flying at Annie's on the Friday with Graham S in some of the biggest lift ever – you should have seen the fast passes!
6. Excellent cooked breakfast every day, with great coffee!
7. Glyn directing me to drifts of Early Purple Orchids on the Abersoch Golf Course.
8. Only denting one wingtip on the Banana, and being able to fix it at home easily, without adding too much weight.
9. Some of the best views ever.
10. The fact that I am booked to do it all again in September.

Yes, the weather was good for May on the Lley, or at least that is the way it felt to me. Strong southerlies for most of the week meant only a short trip over the fields to the cliffs at Ceiriad, with a slight change to westerly on the Friday, meaning a short road-trip to Annie's. The longest journeys, whilst we were there, were to the pub!



Here is a shot taken from Annie's of Alan's Gulp coming in to land.

Spot Glyn's model

This is the sunset we saw after watching Glyn's model being rescued.

The one regret I had was not taking my Gulp, and having to watch Alan fly and enjoy flying his Gulp every day!

Roll on September. **Colin** ➔



Top Model ¼ Scale Swift

Buying this model was a bit of luck really. Having previously owned and 'lost' a ¼ Swift I had had an increasing desire to fly another one.

The previous one I owned was no longer available, otherwise it would have been ordered ages ago. Anyway I researched a number of kits with a requirement that it was pretty close to scale and had an appropriate wing section (aerobatic).



The Helmut Quabeck sections are popular for this with the purest using HQ 1.0/12 which is what the last Swift used. Anyway the shortlist came down to one, the Top Model Swift. There were a number of pluses with this kit in that a lot of the cockpit detailing was done, including seat tub and instrument panel, the canopy was fitted and finished and front hinged and there was a landing wheel fitted.

The price was good but I needed to come to terms with the £50 plus shipping, then currency exchange rates and bank charges. Also I could not find a club member who had brought one of the Top Model kits before to see how they rated the model for finish etc.

Where is the luck in all this, well I was dithering about buying when on I was on the T9 website looking for some other bits when I noticed there were distributing a number of new manufactures, one being Top Model. Interesting, do they do the Swift? Yes, is the one I want in stock? Yes (They do 6 versions). What's the price, a good one. I placed the order online and it was shipped the next day and with me the following day and all for £8.95, that's quite a saving on a direct order.

Was it worth it? Opening the box the fuzz was epoxy glass ✓, what was the canopy fit like ✓, how did the canopy hinge ✓, what was the interior like ✓, the tub like ✓ the landing wheel ✓ rudder fit ✓. I could find nothing amiss so it was onto assembly.

As I worked out what to do the elevator rudder servo tray was dropped for mounting brackets on the landing wheel assembly. The rear mounted elevator servo changed to mount off a plate, again with the landing wheel assembly using closed loop. This was to take weight out of the back of the model.

The 38gm rear wheel was changed for an 8gm one. In fact a number of things were changed including the operation of the ailerons and flaps. These were to be operated using a rotary drive system (RDS). I just fancied this as it's very neat and positive with zero slop if you get it right.

Rather than a full assembly description here is what I did different working from the back to the front.

The rear servo try was removed and a closed loop idle crank fitted. This was made from 2mm glass fibre sheet with a ball race centre and a 4mm carbon rod pivot. See photo. This provide a light no play control to the elevator. The actual driver to the elevator is a trapped 'L'. This also required a custom made horn to achieve the required movement. Making a

horn may seem like a lot of work but once the horn lengths are worked out it takes 10 minutes. (Tony says he wants an article on this for the next Lift).



The rudder control used a joggle and brass control arm. Joggles always introduce play and it's a big rudder. The piano wire drive was removed and the brass control arm changed for a small ball link driven by 2mm glass fibre rod (from a kite shop). The result was a lighter drive with the same co-efficient of expansion as the fuzz (more or less) and a control which could be detached if required. A further bonus was, Top Model had designed the rudder to be removable, nice one. With the rudder removed working on the back end of the model was far easier

The rear landing wheel axel was supported by just one layer of glass cloth and if the



backend 'slaps' down the axel breaks out. So the internal sides of the area where the rear wheel axel is mounted was increased by adding micro fibres and epoxy to the inside of the rear wheel bay. This results in a 3mm wide support each side for the rear wheel axel. Now a 'slap' down results in a broken wheel or axel which are easily replaced. The axel was piano wire now changed to 4mm carbon rod, another 10gm saved.

The next bit to get the treatment was the tailplane. It looks like the peg should be glued into the tailplane. Easily assembled until it breaks, then it's a pain to replace. So a tube was fitted and the peg tubes glued in in stages to ensure alignment. The tail horizontal alignment was good with the main wing. Had it not been the tail plane seat would have been adjusted. However the LE alignment in relation to the fuzz was ill defined so this needed lining up. I

have a favoured method for this which is simple and very accurate. It works for lining up wings as well, all in the horizontal plane.

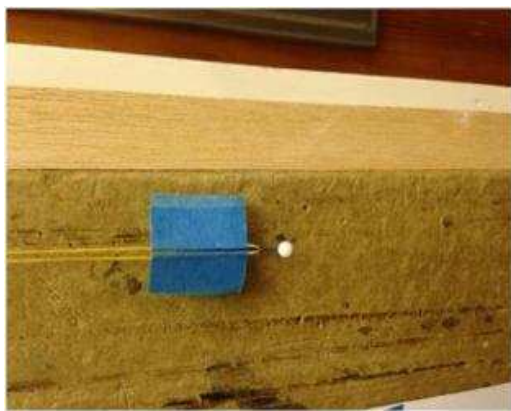
A pin sized hole is drilled into the fuzz as near to the nose as you can. In this case it was near the canopy release, see photo.

The hole is subsequently not easily noticed. Then put a pin in each end of the tailplane in identical positions, watch out for asymmetric tailplane, I have had one, see photos.



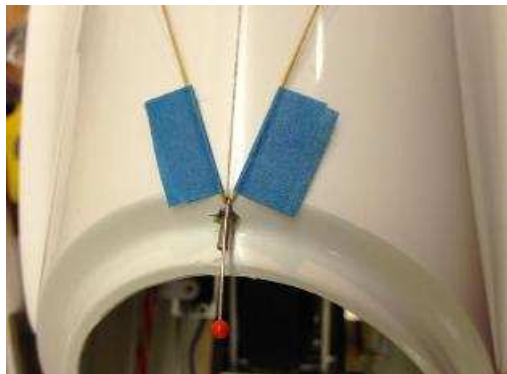
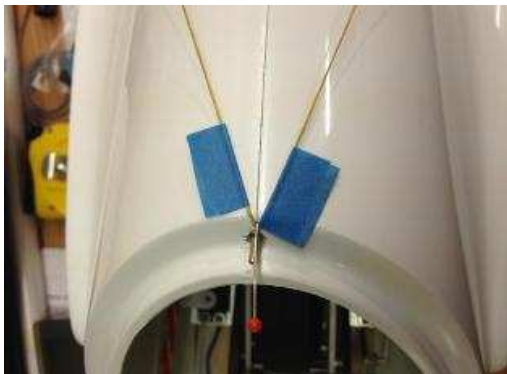
You then assembly the tailplane and using Kevlar thread or some thread with very low stretch. Tie a loop on one end and place around one of the tailplane pins. Run the thread around the fuzz pin and back to the other side of the tailplane and make another loop, see photo.

This needs to be taught but not straining the pins. You then take the fuzz pin out to release the thread and hang it in half by the two tailplane loops.



You then put two pieces of drafting tape near the half-waypoint and adjust so they are about 3mm up, see photos

Next refit the thread as before and rotate the tailplane until the tape is equidistant about the front pin. The first photo is out of alignment with the second spot on.



I am sure you get the idea. Once you are comfortable things align the next step is to glue the tubes in with the peg in. (Not the peg in the tube). Once this is completed you know each time the tailplane is fitted it's in the same place and perfectly aligned.

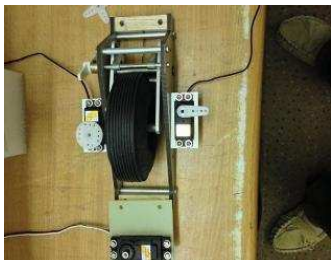
The next item to be addressed was the total lack of support of the rudder snake outer. With the servo static it gave a good impression of rubber band control! Not good. As the rudder end was free, I made laminated 1/16" balsa supports that were slid onto the rudder snake outer and then bonded to the fuzz. See photo. That fixed the issue providing a zero play control to the rudder.

The next task was to mount the rudder, landing wheel and elevator servo with the landing wheel. The landing wheel also needed a cover to keep the dirt out of the model. The landing wheel is removable, which allows it to be modified. With the landing wheel out it is also easier to work in the fuzz. Three brackets were made to mount the servos. These were fitted the landing wheel or made part of the land wheel fittings (elevator servo 'tray'). To fit the aluminium brackets the landing wheel need to be disassembled so holes could be drilled and counter sunk for mounting the bracket.



Once done it was all assembled and setup. See photos

As mentioned earlier the drive for the wing control surfaces was to be Rotary Drive which will be covered in the next Lift. The good news is the wiring and wing to fuzz connections (9 pin D type) are already fitted and the manufactures have done a nice job.



With all the assembly complete it was time for the lead. The roll balance was checked first and the first real issue with the kit identified. One wing heavier than the other requiring 50gm of lead to balance. The model was then put on my Multiplex balancer. Great tool. 650 odd grams of lead in the nose later and we had a balance mid-range of recommended settings. So ready to fly on the Friday, off to Wales on the Saturday and the maiden on the Sunday. All slightly ahead of the Andy Marshall time scale, but only just! No long wait to fly like a lot of reviews.

The model was assembled and the maiden flight was to be off Ceiriad. Terry Pelling stepped back to slowly, not really he was up for the launch. We took the model to the launch point and I offered the model up into the wind. The model virtually flies when right at the fence so any nasty characteristics can be felt before the actual launch. Terry put in roll and pitch controls so I could feel how the model responded. All seemed to be OK so we swapped model and transmitter and committed aviation.

The model soared away without any fuss, trims were fine and the response seemed OK. The model flew several times that week and is a pleasure to fly. Tweaks after the holiday was to ease one end of the main wing joiner, reduced the elevator drive end 2mm and the tailplane peg 3mm, all to make assembly of the model easier on the slope. The C of G could come back a bit and the ailerons could do with a bit more throw. All things to be tried in October.

Overall, was the model worth the money, YES. The engineering is spot on, as good as a German made model. It flies well, the finish is very good. The kit could be improved by making the wings so they are the same weight. The tailplane should be obeche covered to produce a tougher finish, it is balsa covered. I imagine to save weight. Being balsa leaves the surface prone to denting, really annoying. Finally fix the rudder outer to provide a positive control run to the rudder. The big pluses are it flies well, the landing wheel works faultlessly, the canopy is very good, the cockpit tub is spot on and the general design and fit is German. Oh and T9 have stock and shipping was £8.95. Looking forward to wringing it out again in October.

See the rear cover for Terry launching the swift. (Photo - Alan Butterworth) →

PREHISTORIC SLOPE SOARING SITES

Many slope soaring sites have remarkable prehistoric features. Here is a summary for any slope soarer's who are interested (admittedly many are not!)

The reason there are so many prehistoric remains on slope soaring spots is that Stone Age people often selected the same hilltops favoured by flyers as ideal areas for forts and burial mounds. In Stone Age times the lowlands were often densely forested while the hilltops were bare. So the hilltops were used for walkways that sometimes ran for a hundred miles or more. For instance the North Downs Way that passes flying sites such as Colley Hill and Thurnham Castle Hill was probably formed in Stone Age times, then used by the Romans, followed by the Saxons and later medieval Christian pilgrims.



Prehistoric forts were built on prominent hilltops for defensive reasons, but also for prehistoric partying (such as the summer solstice). An example is Trundle Hill, which has a Bronze Age enclosure and an older Stone Age fort within it. Whitesheet Hill has a large Bronze Age fort by its southwest slope. Maiden Castle is larger still – the world's largest Bronze Age fort. These days flyers sometimes fly from the ramparts (a

use the original builders probably never envisaged!) Many others exist, such as Mount Caburn, Wolstonbury Hill, Ivinghoe Beacon, Butser Hill and Cissbury Ring. Only recently, a 3000 year old Bronze Age village was discovered on Itford Hill.

Most of these hilltop enclosures began life about 5600 years ago, when there seemed to be a craze for building them lasting several hundred years. The labour involved in shovelling the earth into walls and cutting down trees to create wooden palisades must have been immense – and all achieved with stone tools. Later, perhaps around 3500 years ago, bronze tools were developed and the forts were enlarged. When the Romans invaded they often turned these forts into military camps.

Later the Saxons sometimes took over the Roman forts. Vikings even attacked a few. Now, more than a thousand years after the Vikings, the walls are often reduced to gentle grassy slopes – but still prominent enough to create lift to fly from.



Archaeological digs within the forts have found burials, flint Stone Age tools, bronze weapons, Roman coins and Saxon iron objects such as belt buckles and occasionally daggers. Even today it is not uncommon for walkers (and slope soarers?) to find artefacts lying around, such as Stone Age flint tools and Roman arrowheads.

Even older than the forts are burial mounds. Long Barrows (long ridges with stone tombs at one end, up to 5800 years old) are reasonably common, and smaller Round Barrows (circular mounds, probably slightly younger) are even more common. They are marked on Ordnance Survey Maps as 'tumuli' (as the Romans called them). For instance there are many at Firle Beacon and Bopeep Hill. At Firle there is a Round Barrow that slope soarers routinely use to shelter behind – probably without ever realising what it is. Many of the mounds have hollows in the top where Victorian treasure hunters dug into them. Whitesheet Hill has many mounds that were all but destroyed by Victorians following the discovery of a couple of gold items there. At most sites treasure was seldom found: the tombs generally contained a skeleton (or skeletons) and some Stone Age tools and bone beads.



A few slope soaring sites have ancient stone monuments nearby.

The slopes of Dartmoor overlook several stone circles and the remains of Neolithic houses, built at the time when people first settled down and started farming rather than roaming and hunting. Blue Bell Hill has several Stone Age megaliths near its base. These are like smaller versions of Stonehenge – except older than Stonehenge.

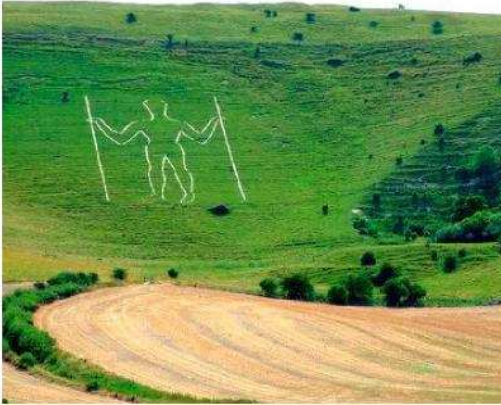


At Long Man Hill there are several Round Barrows and at least one Long Barrow. There is evidence of a Stone Age fort at the peak of the hill.

The reason the track to the top of Long Man Hill is so sunken is that it was a walkway in prehistoric times and then a major route in Roman times. Over the millennia countless thousands of feet have worn it into the sunken track that causes so much turbulence for slope soarers today.

The Long Man himself is made from concrete blocks less than a century old. However these concrete blocks were placed over an ancient Long Man that was probably there when the Romans arrived. This original prehistoric Long Man was somewhat different and may have represented a Bronze Age pagan deity.

Bronze Age tools may be younger than Stone Age ones but they are rarer and more valuable



The Long Man has a long history, but possibly not as long as the tombs on the summit

If the Stone Age is not old enough for you, some slope soaring areas have much older remains: dinosaurs. The Isle of Wight once had herds of Iguanodons roaming across it. Fragments of their bones can still be found on the beaches below the Isle of Wight's many slope soaring cliffs.

The shoreline below Beachy Head is a world famous fossil hunting spot. The beaches on the Isle of Sheppey are also known for fossils. Some of the slope soaring spots in Devon overlook beaches where fossil dinosaurs were first discovered.



A Stone Age tool can be hard to spot but this shows some of the signs: carefully sharpened edges, with the (originally black) flint turned white by millennia of contact with the chalky South Downs soil

Overall, there are too many prehistoric sites on slope soaring hills to list. In fact slope soaring sites with no prehistory are probably in the minority!

Well dressed for a bit of Neolithic slope soaring



These slopes can be seen on the Google Map link at: www.slopehunter.co.uk

TVSF Branded Garments



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Heavyweight Pique Polo Shirt



Sweat Shirt

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Recent Competitions

AEROBATIC COMPETITION RESULTS. 9.3.14

What a perfect day for a comp. We could not have wished for better conditions.

As we drove back, Colin and I discussed the comp and thought that it would be a close run thing between Graham and Colin.

Well I am as amazed as you will be that neither of them won. I DID !!! Obviously I knew that you wouldn't believe me so I went back and double checked all the numbers and it is true. My disastrous first round was offset by doing the higher K factor manoeuvres. It does make a tremendous difference.

John Price.....460.....Toplight Mega

Graham Stallard.....436.75.....Nyx

Colin Hutchinson.....406.25.....Vector 3

Roger Critchley.....366.25.....O/D Samurai

Peter Williams.....157.75.....Banana

Commiserations to Peter on his sad loss. The sport flying was fun afterwards. It was the first time I had seen Grahams awesome Nimbus. Those high speed passes 20ft above the slope with the wings bending downwards were amazing and scary!→



Outdoor Chuckie

On Tuesday 27th May, 4 flew in very soggy conditions with frequent trips to the barn to avoid the showers. Best flight of the day was Colin whose model eventually landed in Broad-ricks, needless to say Colin elected to leave it there due to the height of the rape seed, the soggy state of the situation and the fact we may have lost Colin when the rape closed over his head.

Order of merit 1. Colin Hutchison, 2. John Price, 3. Trevor Hornby, 4. Peter Williams. →



TVSF MINIGLIDER 2.....17.6.14

We assembled in Pidwells and at 18:45 it was still windy and turbulent. To compound matters there were large black bales of silage scattered all over the field.

9 stalwarts turned out despite the conditions and we had a vote to decide whether to hold the comp or not. 6 were in favour.

Because of the turbulence, restricted space and the bales, it was decided to dispense with the landing box in the interests of getting planes back onto the ground safely. A couple of bales were moved to create a reasonable landing area, which no one used!

One enthusiastic member noticed good air near the start and rushed to launch his Blaster and then watched helplessly as it looped and circled down wind into the trees. Yes, it wasn't switched on! However with the help of the Aero loop it was retrieved almost unscathed.

Worse was to follow. Another unnamed flyer, with his radio switched on, attempted to slope soar the down wind trees and his depth perception let him down and another Blaster landed high in a tree. Thanks to Roger and the Aero loop I got it back with almost no damage. There are a lot of trees in and around Pidwells but because of generous leafage they

are quite model friendly.

As the evening wore on the wind gradually dropped and conditions improved.

Here are some observations from Mike Fantham:-

“Graham Stallard was launching as high as the highest bungee flyers. The other hand-launchers were lower than the bungee flyers and ended up in height order.

Graham’s initial Free-Flight attempt didn’t seem to hurt him and in fact may have helped in that it pushed all his other flights later when the air seemed to improve. Because he was working in a group of three, there was a panic call for an extra timekeeper to assist for his last three flights which started with 12 minutes to go.....

I timed those flights. He seemed to be on a run at the end with his last 6 all counting in the eight best, 2:42, 3:00, 3:00, 3:00, 2:59, 2:35.

He was flying in the right places, using a combination of weak thermal/slopethermal and pure slope lift to keep the model in the air.

It was good to see the ex Nick Chitty Twister II back in the air in Tony Ridler’s hands and he took advantage of a nice patch to score a max about half way through the comp where several good flights were made.

108 flights, 8 maxes, 4 of them to the winner.”

THE SCORES :-	Graham Stallard	1000	Blaster 3	DLG
	Colin Hutchinson	830	Blaster 2	Bungee
	Roger Stacey	685	Sal Peter	Bungee
	John Price	606	Blaster 3	Bungee
	Tony Ridler	574	Twister 2	Bungee
	Trevor Hornby	566	Akcent 2	Bungee
	Mike Fantham	523	Twister 2	DLG
	Peter Williams	478	Blaster 3	DLG
	Graham James	323	Blaster 3	DLG

Very well done Graham S, a convincing win in tricky conditions. If only the Blaster had stuck in the tree for a couple of hours longer!

I believe Graham J. is planning to put a hook on his Blaster. It will be interesting to see his scores in future comps if that happens.

John Price.➔

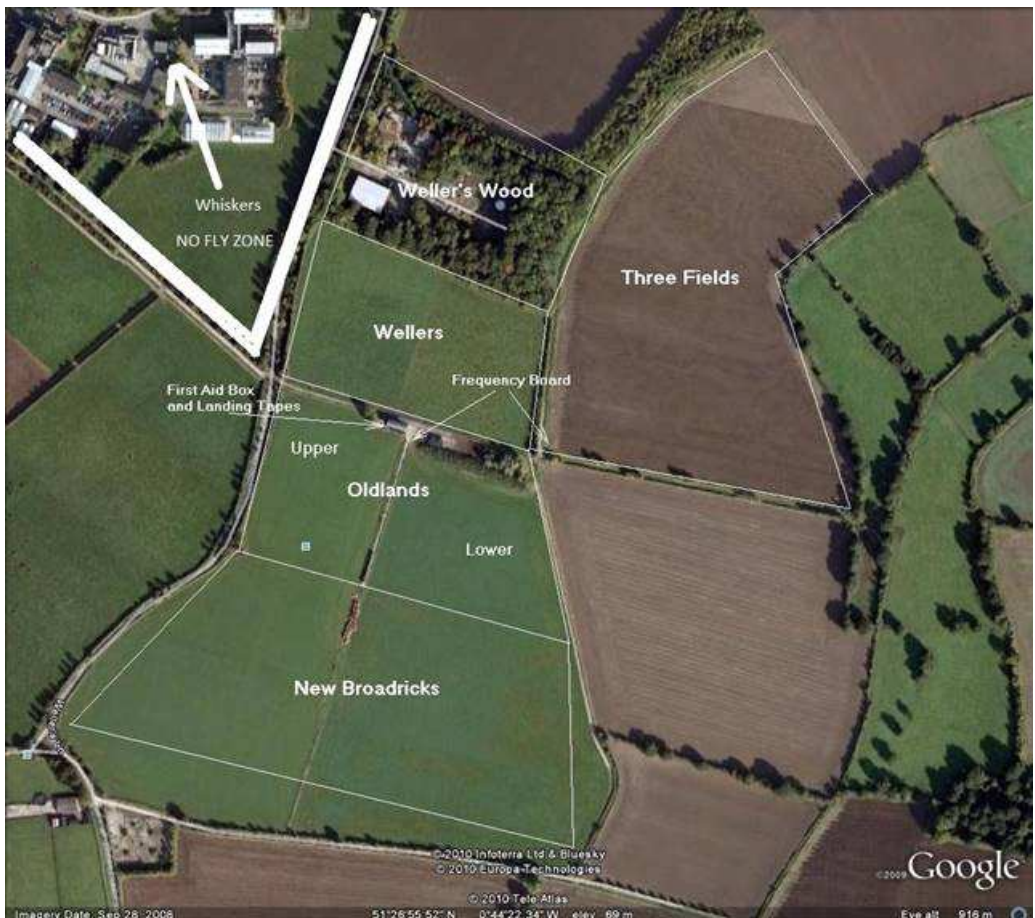
No Fly Zone

We had an unfortunate incident on Friday evening the 16th May where a model landed in the Syngenta complex. The damage to Syngenta property was minimal and the situation is contained. The committee have been involved at each stage of events and have unanimously agreed to impose a “No Fly Zone” in the quadrant bounded by Whiskers.

Please see attached JPG which identifies this area. Would all members please keep their model out of this area.

We have enjoyed a long relationship with the farm and Syngenta and we wish to avoid coming to the attention of Syngenta again as a result of any further unintended arrivals.

Your support with regard to this situation will be much appreciated and help safe guard our continued use of the Jealott's Hill Farm fields. ➔



TVSF Puzzle Corner

*The puzzle in the last issue was called "spot the aircraft", however they were in anagram form. **Answers***



- | | |
|---------------------------|-------------------------|
| 1. Arrest Coal Van | 1. Avro Lancaster |
| 2. Interfere Miss Air Pup | 2. Supermarine Spitfire |
| 3. Slander North Sud | 3. Short Sunderland |
| 4. Farsighted Ether Lock | 4. Lockheed Starfighter |
| 5. Pistol Cam Hew | 5. Sopwith Camel |
| 6. Civic Servo Stunk | 6. Vickers Viscount |
| 7. Bogus Drill Bolt | 7. Bristol Bulldog |
| 8. Daffy Iris Her Sow | 8. Fairey Swordfish |
| 9. Hurrah Ark Ice New | 9. Hawker Hurricane |
| 10. Radian Novo Tapa | 10. Panavia Tornado |

This issue the puzzle is "Name the Aviators". Just to make it a little different the names are hidden in code.

In order to find the names you will need your copy of the TVSF Handbook open to Page iv.

By looking down a set number of lines and counting across the characters you will find the letter you require, however you may still have to find the final twist in the names!

There are 3 famous aviators to find the names. The first number is the Line and the second number is the character on Page iv. However do not count decimal point or spaces.

--	--	--	--	--	--

3/13, 2/19, 1/3, 1/2, 2/13, 2/5

--	--	--	--

2/6, 4/11, 1/3, 7/12

--	--	--	--

7/9, 1/15, 2/8, 2/22,

--	--	--	--	--	--

7/3, 7/6, 4/5, 11/7, 4/8, 12/7

--	--	--	--	--	--	--

4/12, 3/6, 3/3, 1/13, 1/6, 2/13, 17/12,

--	--	--	--	--

11/13, 11/17, 11/6, 11/8, 11/5

Musings from my anonymous friend.

Many seek to uncover his true identity but only the editor knows, it is believed he is the wise man of Moss End.

Horace staggered home very late after another evening with his drinking buddy, Horatio. He took off his shoes to avoid waking his wife, Marjorie.

He tiptoed as quietly as he could toward the stairs leading to their upstairs bedroom, but misjudged the bottom step. As he caught himself by grabbing the banister, his body swung around and he landed heavily on his rump.. A whiskey bottle in each back pocket broke and made the landing especially painful.

Managing not to yell, Horace sprung up, pulled down his pants, and looked in the hall mirror to see that his butt cheeks were cut and bleeding. He managed to quietly find a full box of Band-Aids and began putting a Band-Aid as best he could on each place he saw blood. He then hid the now almost empty Band-Aid box and shuffled and stumbled his way to bed.. In the morning, Horace woke up with searing pain in both his head and butt and Marjorie staring at him from across the room. She said, 'You were drunk again last night weren't you?'

Horace said, 'Why you say such a mean thing?'

'Well,' Marjorie said, 'it could be the open front door, it could be the broken glass at the bottom of the stairs, it could be the drops of blood trailing through the house, it could be your bloodshot eyes, but mostly, it's all those Band-Aids stuck on the hall mirror.'

A man walked into his local ASDA supermarket and asked to buy half a head of lettuce. The boy working in that department told him that they only sold whole heads of lettuce. The man was insistent that the boy ask the manager about the matter.

Walking into the back room, the boy said to the manager, "Some old bastard wants to buy a half a head of lettuce." As he finished his sentence, he turned around to find that the man was standing right behind him, so he quickly added, "and this gentleman kindly offered to buy the other half."

The manager approved the deal and the man went on his way. Later, the manager said to the boy, "I was impressed with the way you got yourself out of that situation earlier, we like people who can think on their feet here, where are you from son?"

"New Zealand, sir," the boy replied. "Why did you leave New Zealand ?" the manager asked. The boy said, "Sir, there's nothing but prostitutes and rugby players there."

"Is that right?" replied the manager, "My wife is from New Zealand !"

"Really?" replied the boy, "Who'd she play for?"

That's all for this issue of LIFT, to be sure to get your articles to me early for the next issue.



Terry Pelling, launches Graham
Stallard's ¼ Scale Swift