

LIFT



Thames Valley Silent Flyers Newsletter
November 2011 Issue No:67

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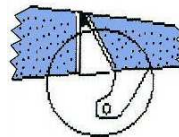


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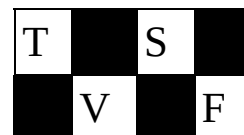


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Front Cover Photo:

Winner of the TVSF annual photo competition "A TVSF members model in flight" (Photo - Alan Butterworth)

Back Cover Photo:

Silhouette of some members flying at Ty'n Don (Photo - Alan Butterworth)

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Well, Wales 2 has come and gone with mixed weather, the summer has passed also with a mixed bunch of weather but there has been some good flying in-between rain and wind.

Congratulations to Peter Williams and Mike Fantham representing the UK in overseas competitions.

A new feature in this issue is the inclusion of our club night activities since the last issue of Lift.

Trevor has kept the website front page, calendar and forum fresh and it has proved to be a good vehicle for presenting our activities and keeping members up to date.

As you know I keep badgering members to give me articles I can publish. I am sure many of you have a project on the go, why not share with other club members. Just let me have a few notes and a couple of photo's. We have a number of new members who would be glad of some advice and help, so put the pen to paper and send to me any articles or photo's you would like other members to see. Your article could appear either in this publication or on the web (or maybe both).

I tried a new discipline this year, mini glider, it was unfortunate I was only able to get in one score but will be back next year, hopefully with a competitive model.

I know it's a bit early but as this is the last issue before Christmas so I will wish you the usual platitudes.

I have enjoyed being your editor this year so if you like what you see, vote for me to continue at the AGM ➔

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Chairman's Chat

By Graham Stallard



Well this is a time to look back and forward. Looking back club members have had a successful year. Peter Williams representing the UK in the Free Flight World Championships, Mike Fantham team manager for the UK F3K team in the first F3K world championships and talker to the Bronze winner in the fly off. Joel West, winner of the F3F Welsh Open. All of these achievements are in the company of the world's best and are a significant achievement.

The club was very well represented in our last BMFA eSoaring Open with Colin Hutchinson winning, Terry Weeks second and 7 TVSF club members in the top 11. Not bad eh. Well done guys. Then there are the personal wins. The first 3 minute flight from a DLG. Winning a club Friday Night Comp or the league. Doing better than your club mate who normally does better than you. Competitions do not appeal to everybody but they do provide an opportunity to see how it can be done and what can be achieved. Taking part does improve your flying. With the national comps taking place on our field, club members have the opportunity to pop along for a few hours and see how some of the best in the country/world do it. This again can improve your flying for the same reason.

As I said competitions are not for everybody and in our club we pursue more leisurely flying such as the Wednesday slope soaring group. Other members have been getting their fix aero towing. The club organises trips to Wales and a club day out slope soaring. All flying for the simple pleasure of soaring.

Looking forward, the building season and indoor flying is upon us. Tony Morgan has arranged indoor flying at the Woodley Park Sports centre better known as wall avoidance. See the club web site for details. As for building, I know there are at least 4 quarter scale models being built which should see the light of day in 2012. A few will be fettled over winter to once again ride the lift from slopes. Personally I have a few maintenance jobs to do and projects to be finished. While building this winter why not take a few photos of your project and write a page on it. I for one would be interested in what members are building whether it's a quarter scale or a repair of a DLG. I am sure other club members will also be interested. Oops, Tony says 'that's a good idea' I look forward to yours on your Nimbus.

Final thought don't rush it, savour the 'journey'.

Hope to see you flying soon indoors or outdoors. ➔

Electric Mystery's



What size motor do I need?

By Tony Ridler

I'm not an Electric Flight expert, but suppliers have guidelines for input power (not output as for engines). There is a small difference of opinion, but it would seem that 75 to 100 Watts/Kilogram gives a good performance for something like a Piper Cub, 150 to 200 Watts/Kilogram aerobatic, and above that 3-D and eSoaring.

At 200 Watts/Kilogram, an eSoaring model takes 25/28 seconds to achieve a 200 meters high launch. (My K2).

For those of you familiar with eSoaring launches will notice that some club members use 250/300 Watts per Kilogram thus allowing the model to get much further upwind before climbing almost vertical for the last 50 meters or so, all in about 15/20 seconds.

So size of motor can be determined by the all up weight of the completed model and the type of performance you require.

What is Kv?

Motors have a Kv, or rpm per volt rating, meaning that the motor will turn that many rpm for every volt you apply. However, the more prop-load on the motor, the less revs you get. The higher Kv rating means you require a smaller prop. In order to turn a large prop for an eSoarer and have a small diameter motor to fit into a slim nose, a gearbox is used and a higher Kv is used. This arrangement is normally an "Inrunner"



TYPICAL INRUNNER WITH GEARBOX

To use large diameter propellers without a gearbox it is usual to use an "Outrunner" with a much lower Kv. High Kv uses a small prop (or gearbox), a low Kv motor allows a big prop for the same thrust.

What Lipo battery do I need?

With a 2 Kilogram model, you could use just two cells, a 7.4 volt LiPo, to reduce the rpm if the motor's kV is high, but then you need 90 Amps to get 600 watts. A four cell (4S) LiPo battery rated at 14.8 Volts might suit a motor with low kV, and you need only 46 Amps to get 600 Watt with a smaller prop.



TYPICAL OUTRUNNER

However three cells (3S) seems to be about right. You get 3.33 Volts per cell when loaded (3.7v nominal) so a 3-cell pack is marked 11.1 V and gives 10 Volts on load. According to Ohm's Law, Watts equals Volts times Amps so to achieve 600 Watts you need 10 Volts with a 60 Amp supply.

The amount of power you can take from the battery is normally given as a "C" rating, therefore to get 60A at 20c you require a 3000ma 3 cell Lipo.

What Speed Controller (ESC)?

If you stick to 300 Watts and 30 Amps, a 40 Amp ESC is quite adequate, and most of them have a BEC which means your flight battery also supplies the radio. That's the simple and cheap solution, and in future you might be able to boost the power by going to a 4S (14.8 V) battery if the ESC will take it.

If you decide you want more power, and your current approaches 40 Amps, you will need a 50 or even 60 Amp ESC. These may not have a BEC to supply the radio so you need another unit called an UBEC or a separate battery for the receiver and servo's. Many of the latest ESC's have a switched mode BEC that will drive 6 servo's.

Remember if you want 60amp continuous then you should select an ESC at least 10% higher (not the Burst Current, this is normally quoted as only for 10 seconds).

Conclusion or not !!!

As you can see the combinations are endless, small/large motor, gearbox/no gearbox, inrunner/outrunner, low Kv/high Kv and that is only the motor, for the battery we have 2/3/4 or more cells, "C" rating (how fast you can get the power out), capacity in milliamps.

Generally speaking.

Decide on performance - Watts / Kilogram

Fast / slow flying - propeller size and Kv rating

Speed controller to take the maximum current.

Battery to provide the power.

Fortunately most supplier's provide quite detailed applications such as Puffin for the AXI 2820/12

Trainer up to 2600g, 3S LiPo, 40 plus controller, 12x6 propeller

Aerobatic model up to 2000g, 3S LiPo, 40 plus controller, 12x6 propeller

3D Aerobatic model up to 1500g, 3S LiPo, 40 plus controller, 13x4 propeller

Sailplane up to 2400g, 3S LiPo, Jeti Advance 40 plus controller (SPIN 44 if using more than 4 servos), 12x6 propeller ➔

CLUB NIGHT ACTIVITIES

Jealott's Hill Farm

Our guest speaker at our **July** club night was **Innes McEwen**, the farm manager at the Syngenta's Jealott's Hill Farm.

Syngenta's International Research Centre at Jealott's Hill is the largest site for new agrochemical R&D and product support. The site was founded in 1927 by ICI and today employs nearly 800 scientists and support staff who are continuing an 80 year tradition of innovation in agriculture.

Key activities on the site include research into discovery of new active ingredients and technical support for their product range. Jealott's Hill is also the site of the biggest glasshouse research complex in Europe, a £8.5 million development covering 4000 square metres.

The centre is surrounded by the 900 acres that comprise Jealott's Hill Farm. The area has supported agriculture since before Tudor times, and the 16th century farm buildings still exist today.

Today the farm grows both winter wheat and oilseed rape, and produces milk from its 190 cows. Each cow produces on average 9,900 Lts/year. The farm is highly automated and the Dairy and 900 acres are managed by Innes and 4 self employees. Its sustainable approach to agriculture was recognised in 2000 when it became a LEAF (Linking Environmental and Farming) demonstration farm.

A very interesting talk by Innes was appreciated by the members.→



Operation Black Buck

Our Guest speaker at the **August** meeting was one of our own members, in fact the last editor of LIFT, our own **Brian Pettit**. He gave a very interesting talk about the Vulcan bomber in the Falkland's conflict.



I think most members like myself knew of the bomb run at Stanley and the damage to the runway but did not know of the other six missions planned of which 5 were carried out, three were against Stanley Airfield, with the other two anti-radar missions using Shrike anti-radiation missiles.

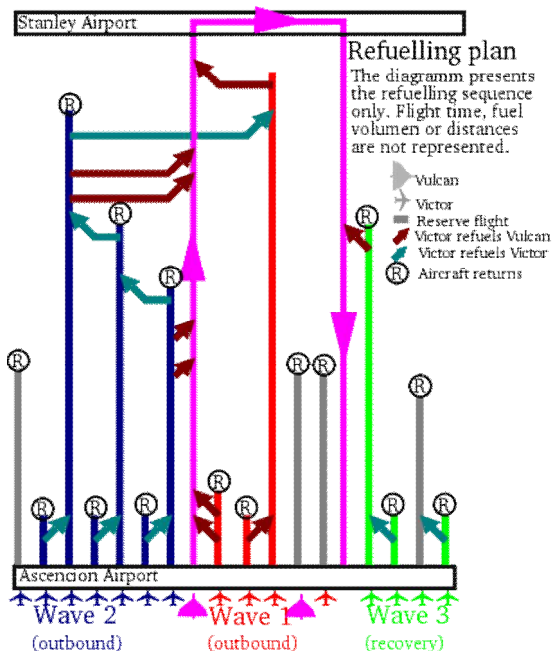
The Operation Black Buck raids comprised a series of five attacks on the Islands by RAF Avro Vulcan bombers of 44 Squadron, staged from RAF Ascension Island, close to the equator. The aircraft carried either twenty-one 1,000 lb bombs internally or two or four Shrike anti-radar missiles externally.

The Vulcan lacked the range to fly to the Falklands without refuelling several times, as it had been designed for medium-range stand-off nuclear missions in Europe. The RAF's tanker planes were mostly converted Handley Page Victor bombers with similar range, so they too had to be refuelled in the air. Thus, a total of 11 tankers were required for only two Vulcans, a huge logistical effort, given that both the tankers and bombers had to use the same strip.

The raids, at almost 8,000 nautical miles (15,000 km) and 16 hours for the return journey, were the longest-ranged bombing raids in history at that time (surpassed in the Gulf War of 1991 by USAF Boeing B-52G Stratofortresses flying from the continental United States but using forward-positioned tankers).

Brian gave us an insight to this very difficult mission and the logistics to carry it out including the one which went wrong with the aircraft having to make a landing in Brazil.

For those club members unable to make the meeting, missed a good evening.➔



XM607, the first Vulcan to participate in Black Buck

Club Night Activities cont.

Photo Competition

Our September meeting included the annual photo competition organised by **Roger Stacey**.

The winners of each of the classes were

- Class A - A TVSF member and model in action – 1st Alan Butterworth, 2nd Chris Moynihan
- Class B - A TVSF member's model in flight – 1st Alan Butterworth, 2nd Roger Stacey
- Class C - Photo of any TVSF activity (or lack of activity!) – 1st Peter Williams, 2nd Chris Moynihan
- Class D - A Civil Aviation photo – 1st Chris Moynihan, 2nd Chris Moynihan
- Class E - A Military Aviation photo – 1st Chris Moynihan, Joint 2nd Chris Moynihan / Tony Ridler
- Class F - Any Aero modelling activity - 1st Alan Butterworth, Joint 2nd Richard Thornton / Chris Moynihan / Roger Stacey

TVSF Favourite Photo – Alan Butterworth.
This issues front cover and also the Winner of Class B



Roger counting the votes



Alan Butterworth



Chris Moynihan



Thank you to everyone who took the trouble to enter. I am indebted to all the people who helped me stage the event so we could announce the winner on the night. This year, for the first time ever, there was a clear majority of votes for the TVSF Favourite Photo. Alan was a deserved winner with a photograph which clearly stood out for a large number of TVSF members. **Roger Stacey.**

Class A



Class C



Class D



Class E



Class F on the
Facing Page
“Dawn Patrol”



Club Night Activities cont.

F3K and the British entry to the first World Championships.

At the **October** meeting, **Mike Fantham**, the British Team Captain gave an interesting and humorous talk on the high points and the not so high points of the first F3K World Championships.

F3K is the international contest class for radio controlled, hand-launched model gliders. Although the roots of RC hand-launched gliders can be traced back to the late 1970's, F3K is a relatively new aeromodelling discipline, becoming officially recognised by FAI CIAM (the international body responsible for aeromodelling competition disciplines) with full official status in 2007.

The first official FAI F3K world championships were held in July 2011 at Arboga Airport in Sweden.

The UK sent a full senior team (3 pilots) Nick Chitty, Michael Stern, Richard Swindells and one junior pilot, Liam Hawes and the Team Manager, Mike Fantham.

Mike gave a very interesting talk and answered numerous questions on the equipment, techniques and construction of the Discuss launch gliders.

The Final Results were:

Senior

- 1 Joe Wurts New Zealand
- 2 George Morris USA
- 3 Michael Stern Great Britain
- 23 Richard Swindells Great Britain
- 56 Nick Chitty Great Britain
- 77 competitors from 24 Countries

Team Position - 10th Position

Junior

- 10 Liam Hawes Great Britain
- 17 competitors

→





The Team

L to R, Hayley Hawes, Richard Swindells, Liam Hawes, Michael Stern, Nick Chitty, Val Chitty.
Kneeling, Mike Fantham.

Diary Dates

Date	Day	Item	Contact
01 November	Tuesday	Club Meeting & Auction	
06 November	Sunday	Slope date 4	GS
12 November	Saturday	Indoor Flying, Woodford Park	TM
13 November	Sunday	Slope Date 5	GS
20 November	Sunday	Slope Day 6	GS
26 November	Saturday	Indoor Flying, Woodford Park	TM
27 November	Sunday	Slope Day 7	GM
4 December	Sunday	BARCS AGM	BARCS
6 December	Tuesday	TVSF - Annual General Meeting	
10 December	Saturday	Indoor Flying, Woodford Park	TM
11 December	Sunday	Slope Day 8	GS
3 January	Tuesday	Club Meeting & Trophy Presentation	
7 February	Tuesday	Club meeting & Chuckie Competition	

Final Farewell to Tom Neill

By Terry Pelling

Tom had been a member of the Wales Group since 2003, and had travelled to the UK from Lincoln Nebraska USA on several occasions to join us to fly off the slopes.



Tom was a very good slope racer and loved racing on Rhiw Mountain, his passion for flying always shone through on these visits.

Tom was unfortunately diagnosed with cancer in 2004/5 he had a remission and joined us in April 2006, but sadly lost his battle with the illness, and he died on 20th Oct 2006.

One of his last wishes was to have some of his ashes scattered on Rhiw Mountain.

At the beginning of 2011 Tom's widow Kelly asked Paul Wright if he would make arrangements for this to be carried out. Kelly informed Paul that she would be travelling with 3 of Tom's closest friends, and would he arrange the accommodation.

Paul willingly did this and organised 2 houses in Aberdaron, one for her guests, and the other for friends of Tom, these being Paul Wright, Paul Vale, Paul Harvey, Andy Marshall and myself.

During the week we managed to fly on nearly all of Tom's favourite slopes, but on the Thursday we managed to fly on Rhiw, this was the obvious day to carry out his last wish.

The ceremony was somewhat sombre but dignified, I am sure that Tom would have approved his wonderful send off.

Goodbye Tom, we know you will look after us all on the slopes, we will miss you.✈



From the Internet

One day the pilot of a Cherokee 180 was told by the tower to hold short of the active runway while a DC-8 landed. The DC-8 landed, rolled out, turned around, and taxied back past the Cherokee. Some quick-witted comedian in the DC-8 crew got on the radio and said, "What a cute little plane. Did you make it all by yourself?" The Cherokee pilot, not about to let the insult go by, came back with a real zinger: "I made it out of DC-8 parts. Another landing like yours and I'll have enough for another one."



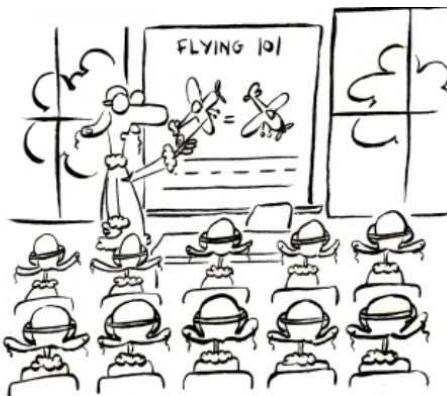
A PLANE CLOTHES BLICEMAN.



Insurer: It was pilot error.

Pilot: It was design error.

Insurer: I disagree. The pilot is at fault for trusting the designer.



"Remember, always try to keep the number of landings you make equal to the number of take offs you make."

Tower: "Delta 351, you have traffic at 10 o'clock, 6 miles!"

Delta 351: "Give us another hint! We have digital watches!"

From an unknown aircraft waiting in a very long takeoff queue: "I'm f...ing bored!"

Ground Traffic Control: "Last aircraft transmitting, identify yourself immediately!"

Unknown aircraft: "I said I was f...ing bored, not f...ing stupid!"

Smile

All Rounder Points at the

		Pilots Name	Indoor Chuckie	Mini Glider	Mini Glider League	Hand Launch F.F.	Friday Night League	Open Thermal	100s Thermal	Electric Xcountry	Electric FNL	Electric Thermal	F2F
2011			10	10	15	10	15	10	10	10	15	10	1
Maximums >>			10	10	15	10	15	10	10	10	15	10	1
					Fin		Fin			not run	Fin		
Graham	Stallard			9	15	9	13	4	7		13	9	
Peter	Williams	9	6	11	8	14	1				14	7	
Tony	Ridler	1		6	5	10	2				12	5	
John	Price	10	7	13	10								
Graham	James			9		11	1	4			6	8	
Colin	Hutchinson	8				15					15		
Roger	Critchley					12	6	6			9		
Ian	Kingsley					3	8	5			10	6	
Chris	Moynihan	6				4	9	8					
Terry	Weeks					5	7				4	10	
Paul	Harvey	7		10							8		
Alex	Gow		10	12									
Mike	Fantham		8	14									
Terry	Pelling							10	10				
Richard	Thornton	5					5	9					
Clive	Learwood					9	1				7		
Roger	Stacey			7	6								
Gordan	Walker										11		
John	Skinner	1				8	1						
David	Puddephatt	2			7								
Andrew	Pugsley			8									
Bill	Cooke					2					5		
Trevor	Hornby					6	1						
Joel	West					7							
Alan	Butterworth					1						4	
Andrew	Horne	1									3		
Richard	Edmunds	4											
Brian	Pettitt	3											
Martin	Gilbert							3					
Geoff	Bentley										2		
Graham	Griffiths										1		
Martin	Bell										1		
Ben	Martin										1		
Ian	Lancaster	1											
2011 Participants			13	5	10	6	15	14	7	0	17	7	

e 30th September 2011

F3F	Cross Country	Pylon Foamie League	Pylon Crunchie League	Aerobatic	Annual Pylon (foamie)	Annual Pylon (crunchy)	Thermal Allrounder	Electric Allrounder	Slope Allrounder	Club total points	Club Allrounder points	Club Position
10	10	15	15	10	10	10	100	35	70	205	205	
							57	22	0	79	0	0
							49	21	0	70	0	0
							24	17	0	41	0	0
							40	0	0	40	0	0
							25	14	0	39	0	0
							23	15	0	38	0	0
							24	9	0	33	0	0
							16	16	0	32	0	0
							27	0	0	27	0	0
							12	14	0	26	0	0
							17	8	0	25	0	0
							22	0	0	22	0	0
							22	0	0	22	0	0
							20	0	0	20	0	0
							19	0	0	19	0	0
							10	7	0	17	0	0
							13	0	0	13	0	0
							0	11	0	11	0	0
							10	0	0	10	0	0
							9	0	0	9	0	0
							8	0	0	8	0	0
							2	5	0	7	0	0
							7	0	0	7	0	0
							7	0	0	7	0	0
							1	4	0	5	0	0
							1	3	0	4	0	0
							4	0	0	4	0	0
							3	0	0	3	0	0
							3	0	0	3	0	0
							0	2	0	2	0	0
							0	1	0	1	0	0
							0	1	0	1	0	0
							0	1	0	1	0	0
							1	0	0	1	0	0
0	0	0	0	0	0	0	29	18	0	34	0	0



AGM 2011 Proposals

Proposal 1:

For a combined Electric and Thermal Friday League.

Proposed by: Clive Learwood

Seconded by: Geoff Bentley

It has been noted that over the course of the last few years the number of flyers participating in the "Electric Friday Night League" has been steadily increasing. Conversely numbers in the equivalent "Thermal League" have been decreasing, with a very low turnout on some evenings. This can be put down to a number of the existing members now flying "electric" only for various reasons, including the high cost of purchasing F3J machines. Also new members in general fly electric planes only for cost and ease of use, thus avoiding the nuisance and aggravation associated with winches.

The proposal is therefore to integrate the two individual Friday Night League events (thermal and electric) into one combined competition generally referred to as "Multi Launch." A participant would therefore be able to fly on any evening or in any slot whichever type of model he or she wishes or considers most suitable for the weather condition at the time.

Height limiters in electric models will remain set at 200 meters. Winch line lengths for thermal flyers would also remain at 150 meters as per other clubs now flying multi launch competitions

The overall number of rounds will be reduced to 10, with an additional two evenings allocated for spares. Scores from the best of 6 events to count in determining the overall winner. The overall number of rounds including spares is reduced it has been noted that it is sometimes difficult to run the spare events late in August due to failing light.

Advantage

A combined event would enable those who only have an electric model to fly on more competition rounds, thus enhancing the overall strength of Friday night events.

Disadvantage

Reduction in the overall competition types by one may have an effect on the club all rounder scores. ➔

2011 Moments to remember

A fine day at the Farm



Duration or Speed Vie?



A New Model



Slope day out at White Sheet



Friday Night League



Ty'n Don - April



A day at the museum *By Vic Thomas*



The intention was to go to Chichester Theatre to see Sweeney Todd but in finding a hotel the existence of the Tangmere Military Aviation Museum came to light. It was a simple matter to exchange a day round the shops for a day at the Museum, about 4 miles outside Chichester.

It appears to be run by volunteers, (RAF types in blazers), but none the worse for that. My original interest was in the use of the airfield by the SOE and the transport of agents to occupied France, mostly by Lysander on moonlit nights. The book “We landed by moonlight” by Hugh Verity tells the tale.

In reality the airfield, which is now a huge ploughed field, dated back to around the First World War but after a reduction in activity between the wars it then played a major role in the Battle of Britain, D day, etc., until 1989 when it finally closed. The Museum was established in 1982 and the collection now comprises one of the most important of its type in the country. (www.tangmere-museum.org.uk/museum)

It is difficult to highlight the most significant exhibits but the two actual aircraft which held the World Airspeed Records in 1946 and 1963 are on display, a Gloster Meteor F4 flown by Teddy Donaldson and a Hawker Hunter flown by Neville Duke.

Gloster Meteor F4 - The actual aircraft that captured the world air speed record of 616 mph in 1946



Hawker Hunter Mk3

The Hunter in which Neville Duke flew to secure his world air speed record of 727 mph in 1953



Apparently Tangmere was the base for these record attempts because the course was just offshore.

Other indoor aircraft include a replica Spitfire prototype, a Swift, a Hunter, another Spitfire Mk V, and a Hurricane. In a separate hanger there is another Hunter and a Lightning currently being treated for corrosion. Outside are a Phantom, Vampire, Sea Vixen and several others.

Elsewhere the thousands of exhibits, too many to mention, but include a couple of simulators, (I watched a chap trying to land on a carrier, he missed), but to me it was the small items which took my interest.

The SOE stuff, including special chocolate which made the “spies” breath smell of garlic, yards of maps printed on silk, 007 type kit and log books of all descriptions.

One can only absorb so much during a single visit but my abiding memories are the level of destruction when a plane crashes, the energy results in minute mangled unrecognisable bits, in fact remnants of 500lb bombs dropped on Tangmere were little different. And finally a silly thing, the beautiful handwriting in the pilots log-books.

A day well spent, and my wife enjoyed an unencumbered day around the shops!



How to Make Silicone Hinges

The following article first appeared in LIFT some 11 years ago but with new blood always joining the club I thought it was worth visiting again.

by Graham Woods

This is a simple way to hinge foam wings. I found this method very durable and I have even smashed a wing and found the hinge unbroken. The natural elasticity of the silicone rubber wants to pull the hinge back to its neutral position so there should be no problems with centring.

The technique does require some practice to get the size of the silicone bead just right. Practice first on scrap wood. Not all the varieties of silicone caulking that are available are suitable. I found that the most expensive one, Colour seal (UK brand), to be the best.

Applying the silicone

After you have cut the aileron or flap from the wing, Face the cuts with either 0.4 mm ply or fibre glass and epoxy. Make a temporary hinge with paper masking tape, leaving a small gap of 1-2mm

Mask off the area where you don't want the caulking to go with strips of masking tape. Press the tape down well. Hold the gap open and run a thin bead of silicone along the gap. Smooth out the silicone with a match stick or similar diameter rod. Excess silicone rubber will come off as you do this.



Aim to get the bead as uniform as possible and in contact with the surfaces along the length of the aileron and wing. A correct diameter bead means a light hinge; if it's too stiff you used too much! Mind you, for flaps you might want a stiff hinge.

The morning after ...

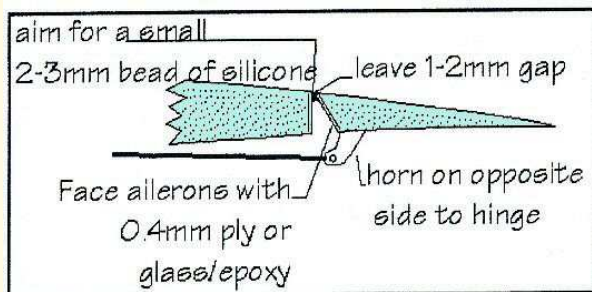
When you are satisfied with your efforts, remove the tape masking from the sides of the wing and aileron and return the aileron to the neutral position with tape at each end to secure it. Leave overnight.

When the silicone rubber has dried, carefully remove the temporary paper tape hinge from the top of the wing by peeling it slowly back on itself (Only use paper masking tape as this enables the caulking to dry effectively.)

Covering the gap.

To complete the hinge, some method of covering the chamfer gap is needed. Some folk use drafting film but I found chrome self adhesive handlebar tape (from Halfords) does the job nicely. It is stiff enough to stay flat, yet flexible enough to bend with the down-going aileron.

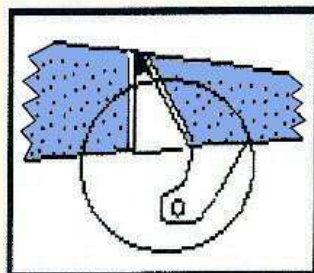
At around 22% of the chord (on my model) it may also be acting as a high speed turbulator strip - in fact, I extend the tape along the length of the wing.



Cut a strip wide enough to go over the gap and stick the tape in place on the wing.

To prevent the exposed tape from sticking to the aileron I cut thin strips of plastic from one of those clear plastic multi-punched pockets and stick them to the exposed tape.

Ensure the end of the control horn is inline with the bead to ensure correct up and down movement



With thanks to Mike Shellim © Web Master www.r-csoar.com →

BMFA Insurance Renewal for those members insured through TVSF

For your cover to continue for 2012 you must pay me before the end of December 2011.

Payment at the AGM with your TVSF subs would be good or you can post a cheque to me at:

2, Brook Cottages, Hughes Green, Arborfield, RG2 9JE.

BMFA subs have not yet been fixed but it seems likely to be £30.

Ian Lancaster, treasurer.

The 'C' Rating & Time to Charge



By Stan Yeo

Introduction

The maximum recommended continuous discharge current of a Lithium Polymer battery is the Battery Capacity (mAh) x the 'C' Rating, i.e. a 1000mAh pack with a 25C rating would have a maximum continuous discharge rating of $1000 \times 25 = 25,000\text{ma}$ (25Amps).

The 'C' rating is a reflection of the internal resistance of the battery and its ability to satisfy high current demands. Unfortunately not all batteries live up to the 'C' rating on the label. An indication of this is how hot the battery gets at high currents loads but within the maximum current recommended on the label. Remember the harder (hotter) the battery works the less life cycles!

The 'C' rating also has an impact on how long it takes to charge the battery particularly with auto detect chargers. There are four main factors affecting the charge time other than the residual charge in the battery.

They are:

- The internal resistance of the battery ('C' Rating).
- The degree of charge imbalance between the individual cells.
- The type and output capability of the charger.
- Charger set-up.

1. Internal Resistance

Just as the internal resistance of a cell determines it's current delivery capability it also affects it's charge performance in that a higher voltage will be required to deliver the same charge current (Ohms Law). Where this becomes apparent is when using chargers that automatically detect the battery capacity and number of cells. The smaller the physical size of a battery the higher the internal resistance is likely to be so a 'large' capacity battery with a low 'C' rating can mimic a smaller capacity battery with a high 'C' rating. This can result in the 'large' battery taking longer to charge and the smaller battery being charged at too higher rate. Even in cases where the batteries are of the same capacity but different 'C' ratings there is often a noticeable difference in the charge times and power output (lower propeller / rotor head RPM). Customers sometimes comment on this when discussing the performance of different battery brands.

2. Cell Imbalance

If the individual cells are out of balance with each other this will effect the charge time due to cell balancing bleeding off charge from cells in a higher charge state. If the imbalance is too great then the pack may have to be partially charged independent of the balancer, cell balanced and then balanced charged. If this does not work then try charging each cell individually.

3. Charger Output Limitations

All chargers have limits on the output current (amps), output voltage (number of cells to be charged) and output power (watts). Operating at any of these limits can affect the time it takes to charge the 'pack'. As an example a 3 cell 4000mAh pack charging at 4 Amps would require at least 48 watts ($12\text{v} \times 4\text{A} = 48\text{W}$) of power.

A similar 6 cell pack would require double this i.e. 96W ($2 \times 48\text{W}$) but if the charger could only deliver 72W then the charge current would only be 3A ($72\text{W}/24\text{v}$) extending the charge time by 25%. Unfortunately high output chargers are quite expensive. A less costly alternative would be to use 2 x 3 cell packs in series and have two less expensive chargers.

4. Charger Set-up

The recommended charge current for most Lithium Polymer batteries is 1C i.e. the capacity of the pack in Amps ($3200\text{mA} = 3.2\text{A}$). Obviously selecting a lower charge current will result in a longer charge time. Setting a higher charge current will charge the battery quicker but does run the risk of permanently damaging the pack. Our advice is stick to 1C.

Summary

I hope you have found this article useful try to present technical information in an easily digestible form so sometimes a little licence is used in the terminology and 'maths' but it is the concepts that are important rather than precise detail.

One final point, I have just checked the LiPo batteries I am going flying with today. Both batteries were fully charged after the last flying session as per recommendations. One would not accept a charge because it was still fully charged whilst the other needed topping up. LiPos are not supposed to self discharge but they do, albeit no where near as rapidly as Nicads or /NimHs so our advice is that if the batteries have not been used for a number of weeks give them a top-up charge to avoid them discharging below the dreaded three volts per cell. ➔

Article by kind permission of Stan Yeo of Phoenix Model Products

<http://www.phoenixmp.com/>

TVSF Puzzle Corner

The puzzle in this Issue of LIFT is a word search for Multiplex models and some popular Gliders.

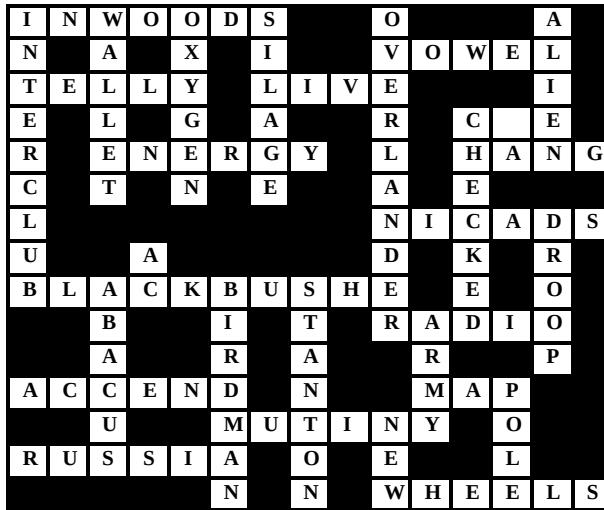
AcroMaster, Ava, Avalon, Bingo, Blaster, Blizzard, Cularis, Dogfighter, EasyGlider, EasyStar, Elf, FunCub, FunJet, Gemini, Graphite, Longshot, Merlin, Mentor, Multiplex, ParkMaster, Pulsar, Scorpion, Sprite, Supra, Twin Star, Xeno.

The “Names” are up, down, left and right but not diagonal.

The first person completing the puzzle wins the right to buy the Editor a pint.

N	O	L	A	V	A	P	F	U	N	C	U	B	Z	W	E	M
A	S	D	F	G	H	J	K	L	O	U	N	C	E	U	T	R
M	N	B	V	C	X	Z	R	A	S	L	U	P	M	F	S	S
E	T	I	H	P	A	R	G	U	I	A	O	P	U	A	C	J
R	E	T	S	A	L	B	N	U	J	R	K	L	L	V	O	X
V	D	M	R	T	G	L	B	T	W	I	N	S	T	A	R	R
C	G	E	M	I	N	I	D	C	A	S	Z	P	I	E	P	A
X	E	R	V	G	A	Z	R	F	F	L	E	R	P	I	I	T
Z	F	L	F	H	R	Z	C	G	H	U	A	I	L	M	O	S
L	B	I	R	J	P	A	R	K	M	A	S	T	E	R	N	Y
X	E	N	O	K	U	R	W	E	F	T	Y	E	X	E	T	S
B	Y	Q	G	M	S	D	S	Q	I	T	G	F	N	I	E	A
F	U	N	J	E	T	D	E	T	H	R	L	U	N	D	V	E
Y	H	S	B	N	J	S	D	O	G	F	I	G	H	T	E	R
H	N	C	Y	T	B	I	N	G	O	E	D	N	U	L	A	R
N	M	E	L	O	N	G	S	H	O	T	E	C	R	I	R	T
J	J	A	C	R	O	M	A	S	T	E	R	B	S	W	N	S

Solution To July Puzzle



P = The problem logged by the pilot.

S = The solution logged by the mechanic.

P: No. 2 propeller seeping prop fluid.

S: No. 2 propeller seepage normal. Nos. 1, 3 and 4 propellers lack normal seepage.

P: Autopilot in "altitude-hold" mode produces a 200-fpm descent.

S: Cannot reproduce problem on ground.

P: DME volume unbelievably loud.

S: DME volume set to more believable level.

P: Friction locks cause throttle levers to stick.

S: That's what they're there for!

P: The T/C ball seemed stuck in the middle during my last turn.

S: Congratulations! You've just made your first coordinated turn.

P: Number 3 engine missing.

S: Engine found on right wing after brief search.

P: Mouse in cockpit.

S: Cat installed.

Wales Slope Soaring

October 2011

By Chris Moynihan



The TVSF team returned to Ty'n Don for the second time this autumn to enjoy the exquisite pleasure of the slopes on the Lleyn Peninsula.

We numbered seventeen this time, with two newcomers in the shape of Vic Harris and Richard Edmunds. It was good to see some of their models, rescued from a long sojourn in a loft I suspect, flying on the slopes....and with Fleet radio too!

These two gentlemen shared a bungalow with Trevor, who didn't have to lift a finger all week, or so he tells me.

And spare a thought for Tony Morgan, who booked the wrong week with his employers! He managed to finesse time off from the Wednesday which coincided with the weather turning foul, so he didn't get in any flying at all.

It has to be said that this was one of our unluckiest trips for weather. Apart from the Saturday we were troubled with very high ie excessive, winds and lots of low cloud and driving rain. The Tuesday on Ceiriad and the Wednesday at Annie's were reasonably good, though even here the rough winds caused some launching whoopsies and some near misses.



Some hardy souls chose to barbecue their evening meals early in the week, but I for one did not relish the dining experience of huddling under an umbrella in the wind, drizzle and fading light, no matter how good the kebabs turned out.

The Sun saw most of our dining during week while the other half of our team patronised the Tudwals in Abersoch.

The Sun group were anxious to do well in the Wednesday pub quiz, but the truth is we failed, coming second from last; we did alright on most categories but failed spectacularly to identify the pictures of celebs and pop stars.

With the weather being unkind, it seemed to me that the individual units and lack of a social meeting up place made it even more tricky staying in touch with everybody.

There is no doubt that the location is fantastic, but all in all Cim Farm makes for a more integrated week. So it is likely that we'll be making Cim our permanent choice in future and I'll also try to bring the autumn trip forward a couple of weeks into September to see if we can improve a little on the weather we have been having at this time over the last three years. ➔



SPOT THE LONE GULP FLYER ON RHIW



The New Website -

A Quick intro and Basic User Guide to The Forum



By Trevor Hornby

The Forum is accessed through the toolbar in the front page.

Note: all internet users can “read” the contents of the Forum



Joining The Forum

.. as a Forum member it allows you to create and answer as well as read

People wishing to join the forum follow these steps (note: we only allow TVSF members to join)

1. On the forum Page ‘Create an account’. Once this has been submitted it will send out 2 emails, one to the new user, another to the administrator who will approve if appropriate.
2. The user will have to click on the confirmation email they receive – this will then display a message saying they will have to wait for Admin to approve.
3. The administrator will then email the user to confirm their account has been approved.

The account is now live.



The New Website cont.....

Using the Forum

The Forum toolbar allows you to navigate. For newcomers its worth reading the "HELP" section

HELP covers:

- Reply to an existing post;
- Create a new post of your own;
- Format your post;
- Lists;
- Edit your own post;
- Visibility and notification of your favourite posts;
- Subscribe;
- Favourite.

RULES: You will find these helpful.. Please read these before you proceed

PROFILE: allows you to change your Avatar (the personal picture) and set up your preferences. If you click on edit in the upper right hand corner you should see something like this.

Profile for Trevor Hornby (Trevor) Back

[User Account](#) [Profile Information](#) [Avatar Image](#) [Forum Settings](#)

Edit User Information

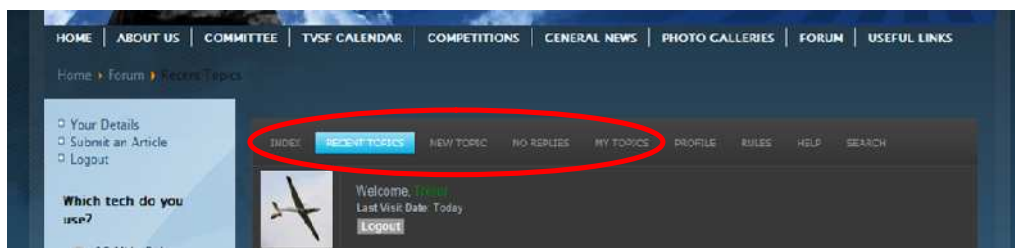
User Name:	Trevor
Name	Trevor Hornby
E-mail	trevor_hornby@hotmail.com
Password:	
Verify Password:	

NOW ONLINE
Rank: Moderator
Register Date: 08 Mar 2011

The New Website cont.....

At this point you can select:

- User Account: where you can reset your password
- Profile Information: optionally where other personal details can be entered
- Avatar Image: where you can change your picture (as I have done here with the fox image).
- Forum Settings: for setting preferences. In my set up I have:
Preferred Messaging Order: last post first
Hide Email: No
Show Online: Yes



INDEX: provides the Directory of the four areas that all the topics fall into:

- General;
- Slope;
- Field;
- Indoor.

You can navigate through this way to find all the topics.

RECENT TOPICS: are those that have been actively written on most recently

NEW TOPIC: kicks off a new topic. You will need to decide its category and subject before you can post it.

NO REPLIES: lists the topics without a response

MY TOPICS: lists all the topics you have initiated

Further Help: please contact Trevor if you are stuck with anything trevor_hornby@hotmail.com

Next LIFT will include the details of sizing and attaching photos into your forum topics→

A Day Off

By Ian Lancaster



You know how it is: - all that chat about aeroplanes, weather and possible Scrabble words. No flying; high winds and rain forecast. So I thought a solitary day exploring a little of the Llyn peninsular might be in order.

I've always wanted to visit Porth Dinllaen, halfway up the west coast, which features in many pictures of the peninsular and on the cover of one of the OS maps.

An itinerary then; Aberdaron for lunch, then a wander up the west coast to Nefyn, Pistyll and through Yr Eifl mountains (the Rivals) to Llaanelhaearn. (Try spelling that without a map). While there I might visit Trefor in honour of our own T Hornby.

There's a hotel in Aberdaron – Gwenty Ty Newydd Hotel – which looks out over the beach to a beautiful view, so a good place for a pint and a plate of whitebait which was excellent; so a good start.

I kept on the more minor roads as far as possible and used the satnav to help when I lost the way. Motoring along these lanes is a joy, almost no traffic and one can stop to admire the stunning views and take a photo without causing a traffic jam.

At Porth Dinllaen I parked up and walked along the beach towards the headland where there is a lifeboat station close to the tip of the promontory. The bay is just about a perfect setting with sandy beach with cliffs behind leading to a few picturesque cottages and, best of all, a pub, the Ty Coch Inn, right on the beach.



As I approached the Inn I was heartened to see a drinker sitting outside with a pint in his hand. I hailed him saying how pleased I was to see the pub was still open, what consternation when he told me the pub had shut ten minutes before and he had to finish his drink outside. Very disappointing.

A spectacular drive through the mountains in beautiful light and the on to Trefor where I followed the school bus through the high street with about 6 inches to spare on either side. Not a good place to park. A chat with the Trefor postmistress who seemed to be struggling to remember English; bought a postcard from her and sent it home.

An excellent day out but how nice to be back discussing Scrabble, models, weather, etc. with all those lovely chaps. ➔



Ty'n Don, Porth Neigwl, North Wales