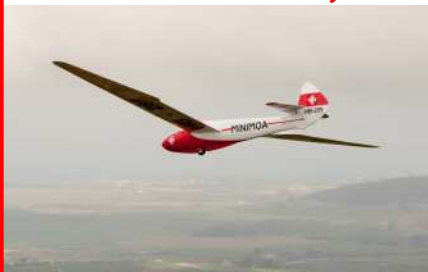


LIFT



Thames Valley Silent Flyers Newsletter
July 2012 Issue No:69

A Taste of Wales April 2012



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Cover Photo - Terry Pelling launching Clive Learwood K8 (Photo: Alan Butterworth)

Editorial

By Tony Ridler



I am writing this editorial in early summer (or so they say) watching the rain stream down the widow and the wind whistling in the eaves.

Due to the inclement weather we have already lost a number of competitions and if the forecasters are right we will loose some more before the year is out.

By contrast, our last 4 club nights have been first class with Joel West, Brian Pettitt, Martin Bell and a very interesting evening at Jealotts Hill Farm hosted by Innes McEwen.

There are some very interesting articles in this issue ranging from Nostalgia and Indoor flying to Projects and Reports. Your scribe has also penned an article on adding flaps to an existing model.

Many of you have been asking when the Handbook will be revised. There has been many hours of discussion and lots of re-wrights, updates and corrections but we are there at last and the members at the club night will receive the fully “up-to-date and current” handbook inserts.

Following the BBQ those long time members who do not hold a piece of paper which actually confirms the fact they have been piloting for many years, including those who have many trophies will have the opportunity to take their “A” certificate. Club members without an “A” should only fly if accompanied.

Safe flying and enjoy this copy of LIFT, send your articles / photos for the next issue in good time, don't leave it to late or you may be disappointed.→

TVSF Committee

Chairman	Graham Stallard (GS)	01344 481275
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(PW) Peter Williams 01252 842120 (TM) Tony Morgan 01189691027

Chairman's Chat

By *Graham Stallard*



Where has summer gone or did it happen in March. The weather has had quite an impact on the Friday Night Leagues with the last three consecutive comps being cancelled due to high winds.

A change to deciding if a Friday Night League should be run will avoid unnecessary travel and the option to do something else, maybe take advantage of the wind and go slope soaring. Still we did have a cracking day for the club annual eSoaring comp.

We again have a number of new members joining the club who are progressing well. All being well they will be in a position to take their A test in the coming weeks, weather permitting of course.

To help the club members who are competent flyers but have not got their A test the club has arranged a test session on the afternoon of the club BBQ. What could be better, a free BBQ and lots of flying?

Change is on the horizon. Innes has sold the dairy herd and is switching into beef. This will mean in the coming years there will be cattle on Oldlands some of the time. It is unclear how this will work but one way or another we'll have a field to fly from somewhere on the farm.

The club was invited to have its June meeting on the farm in an historic barn followed by a tour. Again the weather was not that kind. The meeting was a bit different in such a historic location.

We were treated to a tour of the research centre and then onto a familiar location, Oldlands. Innes gave a talk at both locations which was very engaging and informative. Towards the end of the talk on Oldlands we were treated to the sight of a Barn Owl hunting over church field.

After the tour we returned to the Barn for a few bevy's, tea and coffee and a chat with Innes, Tim and Ben who help Innes run the farm. It was a cracking evening.

Well a bit of summer has arrived today so the Mini Glider should be interesting this evening. Best grab it while we can.

Hope to see you flying soon one way or another. ➔

Graham

[See the full report on page 12]



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ORDERING

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Richard Thornton:

rickthornton@ntlworld.com

Or see him on club night.

Don't forget to give a contact telephone number.

Thames Valley Silent Flyers



Diary Dates

Date	Day	Item	Contact
3 July	Tuesday	Club Meeting - Gordon Walker; Glider Maintenance	RE
6 July	Friday	eSoaring FNL 5	GS
8 July	Sunday	TVSA Seige Cross	
10 July	Tuesday	Mini Glider L 3	JP
13 July	Friday	Thermal FNL 5	PW
15 July	Sunday	Xcountry eSoar reserve	TH
20 July	Friday	eSoaring FNL 6	GS
22 July	Sunday	Mini Glider L 4	JP
27 July	Friday	Thermal FNL 6	PW
29 July	Sunday	Thermal Open	CM
31 July	Tuesday	Mini Glider L (Tuesday reserve)	JP
3 August	Friday	eSoaring FNL reserve	GS
5 August	Sunday	Thermal 100" then BBQ & General Flying	CM,++
7 August	Tuesday	Club Meeting - Frank Ford Concorde Flight Engineer	RE
10 August	Friday	Thermal FNL reserve	PW
12 August	Sunday	Mini Glider L 5	JP
19 August	Sunday	Thermal 100" reserve & Open Thermal Reserve	
25 / 26 / 27	Sat/Sun/Mon	BMFA Nationals	
2 September	Sunday	AMC eSoaring National Event	M Bell
4 September	Tuesday	Club Meeting - Photo Competition	RS
6 September	Thursday	Club Day Out	
8/9 September	Sat/Sun	TVSA Middle Wallop	
9 September	Sun	TVSF eSoaring National Event	M Bell
15-22 September	Sat - Sat	Wales Week	CM
30 September	Sunday	Mini Glider L 6	JP
2 October	Tuesday	Club Meeting - Hot Air Ballooner	RE

Continued Page 7

Diary Dates continued from page 6

6 October	Saturday	TVSF Open F3K (2) National Event	MF
7 October	Sunday	Mini Glider reserve	JP
14 October	Sunday	Slope Cross Country reserve	TH
28 October	Sunday	60" Pylon	GS
5 November	Tuesday	Club Meeting - Club Auction	TP/TH
11 November	Sunday	Slope F3F	GS



Do you know someone who would like our club newsletter?
To order a copy of the next issue (November) send a cheque to
Tony Ridler, 109 Pierrefondes Ave, Farnborough, Hants. GU14 8NZ
for £4.00 which covers P&P.

Make cheque's payable to Thames Valley Silent Flyers.

Orders must be received by the cut off date. - **18th October 2012 for the November Publication.**

Club Night Activities

March 2012 - Martin Bell

Martin Bell gave an extensive and informative presentation on eSoaring. Included in his talk were the background to the eSoaring competition and the minor variations to eSoaring (UK) rules for 2012;

An introduction to the F5J FAI competition and the differences with eSoaring.



Delving into the useful features of the height limiter data on the PC.

His spread sheet for electric setup/configurations.

About five years ago it became clear to Mike Proctor that the then current BEFA and BARCS rules were not a good test of thermal soaring skills and he and subsequently Neil Stainton and others ran some experimental events limiting the electric motor's power and energy.

These were well received but running the contests was a nightmare, with time consuming tests required to ensure all the entrants complied with the power limitations.

When in 2008 height limiting switches became easily available they solved the two remaining problems, ensuring all contestants start the flight at the same height, and eliminating powertrain checking.

Martin championed the RC Electronics devices, checking their accuracy and reliability with test events and lab equipment, and started making them available to UK fliers. He drafted a new set of Height Limited Thermal Soaring Rules, and after much discussion these were adopted by the BMFA as an approved UK event.

In 2009 we ran a UK league to these rules with many eSoaring contests being held in England and Scotland. Now they are run here in the UK and overseas.

But now there is a new kid on the block with the rules for F5J. This takes the basic principles of eSoaring but with a number of subtle differences.

The Event Described

In brief, F5J is an electric glider event that calls for a 10-minute thermal flight in a 10-minute window with one motor run.

The pilot decides how long to run the motor up to 30 seconds, when an on board data logger will stop the motor. The pilot can opt to stop the motor earlier and at a lower height. The data logger records the maximum height gained in the period up to 10 seconds after the motor stops (so that zooming is no advantage) and the height gained is penalised (0.5 points per metre up to 200 m, and then 3 points per metre after that). So, the idea is to stop at as low a height as judged advisable (preferably lower than 200 m) and then to look for thermals to prolong the flight. Flight timing stops when the model touches the ground. If landed within a graduated landing circle, a landing bonus of up to 50 points is earned as long as the landing is executed before the 10 minutes expires.

One more point is the motor can not be restarted to “get back” if you are low down wind. This puts the electric glider in the same situation you would be in if you are unable to make the field with a thermal Soarer.

Whether club competitions will follow the same route remains to be seen.

Thank you Martin for a very interesting evening with a lot to consider for the future. (ED- Martins Calculation sheet can be found at;)

<http://www.electricsoaring.co.uk/POWER%20Calcs%20Basic%20.xls>

April 2012 Joel West

“BMFA F3F National League 2011 Champion **Joel** had an exceptional season, setting a very high standard of flying. He has not only excelled in our national league but also competed and finished 6th in the Euro tour out of a total of 196 pilots. The Euro tour result was achieved by 3rd in Norway, 3rd at the North of England Open and finally winning 2011 Welsh Open”.



As you can see from the preceding paragraph we had a very illustrious speaker who is also a TVSF member. Joel introduced us to the intricacy's of F3F competition including buzzer men, sight lines, RDS servo's and many other fascinating items.

His details of the course layout, timekeeping and competition protocols were very interesting and provoked quite a lot of in-depth questions. He also described what functions can be set up on his latest Transmitter, the detail is quite amazing depending on the conditions on the day.

His talk titled “F3F What's it all about then” covered Stet ups, styles, and much more. ➔

May 2012 -

Brian Pettitt

Brian gave a very interesting talk on Sir Frank Whittle cataloguing his life from Boy Entrant in the RAF in 1923 right through to his final rank of Air Commodore in 1986.

In January 1923, having passed the RAF entrance examination, Whittle reported to RAF Halton as an aircraft apprentice. He lasted only two days: just five feet tall and with a small chest measurement, he failed the medical. He then put himself through a vigorous training programme and special diet devised by a physical training instructor at Halton to build up his physique, only to fail again six months later, when he was told that he could not be given a second chance, despite having added three inches to his height and chest. Undeterred, he applied again under an assumed name and presented himself as a candidate at the RAF Cranwell apprentice school instead. This time he passed the physical, and in September that year, 364365 Boy Whittle, F started his three-year training as an aircraft mechanic at the No. 4 Apprentices Wing, No. 1 School of Technical Training.

Whittle showed his engine concept around the base, where it attracted the attention of Flying Officer Pat Johnson, formerly a patent examiner. Johnson, in turn, took the concept to the commanding officer of the base. Encouraged by his Commanding Officer, in late 1929 Whittle sent his concept to the Air Ministry to see if it would be of any interest to them.

The RAF returned his comment to Whittle, referring to the design as being "impracticable".

Pat Johnson remained convinced of the validity of the idea, and had Whittle patent the idea in January 1930. Since the RAF was not interested in the concept they did not declare it secret, meaning that Whittle was able to retain the rights to the idea, which would have otherwise been their property. This was the start of a long trail cumulating in the Gloster E.28/39. A full size replica can be seen at Farnborough, mounted on the Whittle runabout outside the TAG gate to Farnborough Airfield.



The Gloster E.28/39, the first British aircraft to fly with a turbojet engine

Brian continued his narration with the development of the turbojet engine and the formation of Power Jets Ltd and the Financial difficulty's experienced.

The stress of the continual on-again-off-again development and problems with the engine took a serious toll on Whittle.

"The responsibility that rests on my shoulders is very heavy indeed. ... either we place a powerful new weapon in the hands of the Royal Air Force or, if we fail to get our results in time, we may have falsely raised hopes and caused action to be taken which may deprive the Royal Air Force of hundreds of [conventional] aircraft that it badly needs. ... I have a good crowd round me. They are all working like slaves, so much so, that there is a risk of mistakes through physical and mental fatigue."

He suffered from stress-related ailments such as eczema and heart palpitations, while his weight dropped to nine stone (126 lb / 57 kg). In order to keep to his 16-hour workdays, he sniffed Benzedrine during the day and then took tranquillizers and sleeping pills at night to offset the effects and allow him to sleep.

In January 1940, the Ministry placed a contract with the Gloster Aircraft Company for a simple aircraft specifically to flight-test the W.1, the Gloster E.28/39. They also placed a second engine contract, this time for a larger design that developed into the otherwise similar W.2.

In April the Air Ministry issued contracts for W.2 production lines with a capacity of up to 3,000 engines a month in 1942, the contract was eventually taken up by Rover. In June, Whittle received a promotion to Wing Commander.

Problems between Rover and Power Jets became a "public secret" and late in 1942 It was decided to trade the jet factory at Barnoldswick for Rolls-Royce's tank engine factory in Nottingham, sealing the deal with a handshake. The official handover took place on 1 January 1943.

Brian continued his talk detailing the continued involvement of Sir Frank through the war and after with the Americans.

He also gave us a run down on the multitude of awards Sir Frank achieved in his lifetime.

Thank you **Brian** for a most interesting lecture and the presentation using archive video that few of us had seen.➔



The W2/700 engine, or W.2B/23 as it was known to the Air Ministry. The W2/700 was the first British production jet engine, powering early models of the Gloster Meteor.

June 2012 - Jealotts Farm Visit with Innes McEwen



A very interesting evening starting with a short meeting of the club activities' over the past month. The meeting took place in a 16th century barn. The barn which has been restored to its original glory is now visitors centre . Coffee and biscuits laid on by Innes.

Innes gave a short introduction about the 650 acre Jealott's Hill Farm and the Syngenta's International Research Centre . 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. It is in the process of changing over from milk production to beef.

Its sustainable approach to agriculture was recognised in 2000 when it became a LEAF (Linking Environmental and Farming) demonstration farm.



Following the introduction we climbed aboard our highly sophisticated transport for a tour of the farm, stopping at various points for Innes to show us the various crops and margins that had been planted to provide food and habitat for insects, bee's, butterfly's, birds and other small creatures.

Photo on the right shows Innes in full flow with his interesting and amusing dialogue.



A very good evening, when we arrived back at the barn, Innes had laid on Coffee, Tea and Beer/Lager.➔

Vindaloo— An exercise in indoor model design and construction.

By Peter Williams



I have been flying an R-Vin built from a Paul Harvey kit from the early days of TVSF indoor sessions and have found it really good to fly. The AP05 motor gives an excess of power which is particularly good for getting out of trouble. My R-Vin has suffered many wall events and mid-air's and had several fuselage front end replacements. After the last indoor session this year it was finally too battered to repair so time for a new plane.

Like most of the other flyers I got an Extra 300 last year and was surprised that in spite of it's delicate construction it has survived well and is very good to fly because of it's light weight.

I wondered whether similar construction could be applied to an R-Vin size plane with some saving in weight and thought about covering in Mylar film as used on my F1A tail planes. Some testing showed that, with care, Mylar film could be used on foam. More recently I saw mention of Profilm Light in a free flight newsletter and that it could be obtained in the UK. I found that Wheelspin Models can supply together with the heat activated adhesive. The film comes without adhesive so that weight can be saved by only coating the structure. I got a roll of Profilm Light – Indoor and a pot of adhesive. The problem is that the adhesive attacks depron. This means that the only way to apply it is to coat the film. Although not ideal this works and does not add much weight. Of course the iron temperature has to be much lower than we normally use.

Having established that the film would work the next step was to design a plane. I decided to strip out the R-Vin gear and put it in a similar size plane. The gear is a Spectrum AR6310 receiver with 3 Blue Arrow 2.5gm servos and the AP05 motor and a 2S ESC. After some sketching I drew the design direct on to card to make templates for all the foam parts. I used a piece of old aerial tube sharpened to make the radiused corners and cut the panels out with a fresh scalpel blade. This is not as good as a computer controlled cutting machine but does the job.



Side view of the Fuselage and fin parts



Plan View of the
Vindaloo parts

Putting foam planes together needs careful consideration of the sequence and which type of glue for each joint. I used Cyano for the fuselage, bracing and motor mount and UhuPor to attach the wings. I put the film on all the parts before any assembly and it went on easily. It relaxes after cooling and all the parts stayed reasonably flat, just a little curving of the tail parts. I assembled the whole fuselage, tail and gear first. The wings were attached last and the bracing was fixed with the plane held inverted on a flat board. Reinforcement of the bracing points was made with

thin ply (no nice plastic mouldings like the Extra 300). Some colour was put on using permanent ink. This is not ideal but better than nothing..

I have been using a pair of Miniaviation 180mAh single cell LiPos on my R-Vin but have adopted Hyperion 2 cell 120mAh for the Vindaloo. This increases the weight by 0.3gm but is more convenient.

The overall weight of the Vindaloo with battery is 58.5gm compared to the R-Vin at 64.3. A saving of 5.8gm doesn't seem much but it is 9% so worth having. Hopefully flight tests will show some reduction in minimum flight speed. It is worth noting that the Profilm Light – Indoor is 17gm/m² so a further weight saving could be made by using 5gm Mylar. A bigger saving of 4 or 5gm may be possible using a different spectrum receiver with built in servos and ESC.

All I need now is a really calm evening to allow outdoor flight testing. →



The completed Vindaloo

Indoor Flying 2011/12

It's been a while since lift has had an article about the clubs winter indoor flying activities, so wait no longer here it is!!

By Tony Morgan

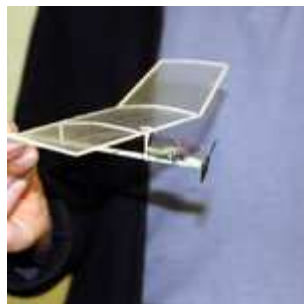


There's three main topics that are at the heart of the indoor flying participants, venues and models.

The participant's aspect revolves around that the email list peaked at 26 fliers with a registered interest. Several have since informed me that have quit indoor flying for various reasons. At Woodford Park we just about hit the break even point financially with an average of 9 fliers per meeting. This number on several occasions has involved more visitors to the group than TVSF members. Without the visitors the activity would have ceased due to a financial deficit.

Woodford Park, Woodley has been the preferred choice of venue due to its five badminton courts size and good overall condition. The hall is difficult to book in the early winter months as other groups must share our thoughts for their activities. The communication process becomes a one way street with what seems to be a lack of interest in addressing potential customer bookings. They tell me that have targets to meet set by the local council for various activities usage of the facility. I guess keeping local aeromodellers off the streets and out of the pubs, not to cause trouble is not high on the list of priorities!

We used Edgebarrow Sports centre in winter '11 to fill some gaps in the calendar. This is a slightly smaller hall (four badminton courts), high usage due to the neighbouring schools daily usage, with a lot more sports 'furniture' to catch the models. The staff was helpful and bookings were flexible. This was to be the group's salvation to let us play with our toys when.....



I mentioned in a TVSF club meeting of the fixtures problem. Richard Edmunds (Club secretary) mentioned that his wife worked at Waitrose HQ in Bracknell, and we might be able to use the Sports' club's hall through this contact. This venue used to be the old Panasonic Club until they vacated premises and Waitrose moved into these sites. The arrangements were made and the expectant groups massed at the Sports hall. We had a nice surprise a good size hall,

not much associated furniture, excellent condition and easy car parking. The hall is about 2 metres each way larger than Woodford Park result! I have only received positive comments about the Waitrose Hall, confirmed by the record 14 ish fliers who flew at these events. The venue is within easy access for the majority so it scores top marks.

We need to thank Richard Edmunds and Mrs Edmunds for there help in securing this site for us to fly at, and the committee/staff involved with the Waitrose Sports Club. Many thanks.



That only leaves the models! The trend over the last 2 years has been towards out of the box ARTF models. E flite continue to innovate and improve their products coupled with Spectrum R/C. There good value no build time and fly very well. The model of choice is the E Flite Extra 300 UMX, 17 inch wingspan, 33 grams flying weight and it flies for around 8 minutes, on a 1s battery.

We have had a swarm of about 8 of these flying at once; they bounce quite well but are fragile. The larger F3P models interest has reduced. Large and small do not mix and the micro models are good enough make the larger models redundant.



That about it. We will kick the indoor season off hopefully in late October '12 to mid March '13 →

LATEST CLUB ALL-ROUNDER

		Pilots Name	Indoor Chuckie	Mini Glider	Mini Glider League	Hand Launch F/F	Friday Night League	Open Thermal	100s Thermal	Electric Xcountry
Maximums >>			10	10	15	10	15	10	10	1
					post 2		post 2			
Peter	Williams	7			11	9	15			
Graham	Stallard				13	8	10			
Alex	Gow	1			15	6	13			
Paul	Harvey	10			10	3				
John	Price	8			8	10				
Chris	Moynihan	3			9	5	5			
Trevor	Hornby	6				7	12			
Colin	Hutchinson	9					9			
Graham	James	1					8			
Tony	Ridler	1			7	2				
Terry	Weeks									
Roger	Critchley						14			
Mike	Fantham				14					
John	Skinner	5								
Roger	Stacey				12	1				
Martin	Bell									
Joel	West						11			
Richard	Edmunds	4					6			
Richard	Thornton	2					7			
Andrew	Horne					1				
Colin	Davies									
Bill	Cooke									
Vic	Harris	1				4				
Paul	Vale						4			
Peter	Woods									
Peter	Chance									
David	Puddephatt	1				1				
Chris	Baughan	1								
Ian	Lancaster	1								
2012 Participants			16	0	9	12	12	0	0	0

R POSITION- 21 June 2012

Electric FNL	Electric Thermal	F3F	Cross Country	Aerobatic	Annual Pylon (foamie)	Annual Pylon (crunchy)	Thermal Allrounder	Electric Allrounder	Slope Allrounder	Club total points
15	10	10	10	10	10	10	100	35	50	185
post 1										
11	4			7			42	15	7	64
14	5						31	19	0	50
3	8						35	11	0	46
9	2			9			23	11	9	43
				10			26	0	10	36
13							22	13	0	35
				8			25	0	8	33
	10						18	10	0	28
10	7						9	17	0	26
6	9						10	15	0	25
15	6						0	21	0	21
							14	0	0	14
							14	0	0	14
8							5	8	0	13
							13	0	0	13
12							0	12	0	12
							11	0	0	11
							10	0	0	10
							9	0	0	9
	1			6			1	1	6	8
7							0	7	0	7
5							0	5	0	5
							5	0	0	5
							4	0	0	4
4							0	4	0	4
	3						0	3	0	3
							2	0	0	2
							1	0	0	1
							1	0	0	1
13	10	0	0	5	0	0	23	16	5	29

RADIOGLIDE 2012 REPORT

by Graham James



Radioglide was again spoilt by bank holiday weather. I was convinced the jubilee organisers would have arranged things better for us. In the event we had 3 quite reasonable days and one complete washout resulting in the cancellation of the Multilaunch comp.

Six TVSF associates flew, with Mick Cope as honorary team captain (he didn't know), winch dog and butt of cruel comments. Mike Fantham flew F3K, Terry Weeks and Martin Bell Electric, Glynn Chambers Electric and 100s and Graham James and Terry Pelling Electric, F3J and 100s, allowing Graham to pick up the Victor Ludorum for top BARCS pilot over three events.

Electric and F3K were flown on Saturday in dull conditions to start with. F3K started at around 9.30 with electric waiting until the cloud base to rise, which allowed us to stand and marvel at the launch heights the DLG's were achieving. I can't give a detailed report on F3K as I was on the other side of the field but 11 pilots flew 8 rounds of the various tasks available. One score was dropped for the final placing's, with Richard Swindells inevitably taking the win with 6962 points.



Over on the electric flight line, nine competitors split into slots of 3 to fly 7 rounds. Round 1 slot 1 saw GJ and TW pitched against each other with GJ just piping Terry. At this point there was little lift about and so it was a bit of a min sink float around.



But as the day progressed, the lift came in and most slots were flown out. All TVSF pilots took slot wins but it was TP who led our little pack to finish 3rd overall with 5835, one drop round, behind Peter Allen on 5941 and Cliff Hannam on 6000. It should be said that Peter could have also scored 6000 and taken the event on count back, had he not accidentally powered up on landing approach. Switches, throttle and spoilers on same stick..... bound to end in tears.

As I said Multilaunch was a washout and about 11pm, a squall hit the campsite, ripping the BARCS marquee from the ground and throwing over a caravan to land between it and the next without damage to either. Terry Weeks's canopy and Glynn's tent were also damaged.

F3J had 25 pilots including the British WC members Neil Jones, Peter Allen and Austin Guerrier. Conditions were very good, if a little chilly and lift was available right from the start. There was much moulded exotica on show including the new Pike Perfections, Maxas, Lightweight Tragi Clusters and Explorers as well as the stuff us mere mortals fly. Unfortunately at the time of writing this, the final scores are not available but needless to say none of your TVSF heroes made it to the fly off.



The usual familiar names Colin Paddon, Graham Wicks, Mark (Fozzie) Devall, and Peter Allen featured along with Chris Glover, Austin and Neil suffering pre WC nerves perhaps. It was Colin Paddon who once again took the honours, narrowly beating Wixy.

Tuesday dawned dull but flyable and with the forecast of rain later in the day, the 100s got off to a prompt start. Fifteen Trackers, Eliminators, Sagittas and a Chieftain took to the sky. Regular 100s flyers from East Anglia turned up to show us how to do it and ballasted their Trackers, even in the relatively light winds to get phenomenally high launches and punch forward to the wave lift upwind of the field. All slots were flown out and your intrepid trio GJ, TP (defending RG Champ) and Glynn Chambers all managed slot wins, though some did miss that big landing box but I'll leave you to guess who. Five rounds flown and no discards but unfortunately the rain arrived at 3pm as forecast and play was curtailed without a fly off.



Terry Pelling pleased with 3rd place in ELG

The three of us were back in 'the field' with Jon Hullett taking 3rd, Alan Morton 2nd and RG newcomer Mick Thorpe taking top spot.

All in all a good week-end no broken models, only tents and egos. Great camaraderie, thanks to TP for laying on accommodation and yes I'm going again next year and not just because I've got to as BARCS President. It would be good to see more of the UK's premier silent flight club, that's you lot, joining me.

→



F3J WORLD CHAMPIONSHIPS RAFFLE

As mentioned before, this year is F3J World Championship year and the UK are sending a team of 4 including team manager to South Africa 3 -11 August. BARCS and BMFA both provide funding but none of the guys are 'professional pilots' and the manager doesn't even get to fly.

With travel, accommodation, entry fees etc. and models at £1000+ each the team have to find other ways of raising monies. They have organised a raffle and I have tickets to bring to club meetings if anyone would like to support. Prizes are Multi-plex Cockpit SX m-Link Radio, Cularis Glider, Alex MiniSloper or Electric, 4 KST Digital Servos, £100 worth of Sloperacer/Fu-Fix hardware and accessories.

Tickets are £5 each, with discounts for multi-buy. More details can be found and, if you don't get to see me, tickets purchased at www.teamf3j.co.uk. Please support the team, like F1 the technologies that are developed for these events filter down into everyday modelling, so we all benefit. →

Our headline ran, "Virgin screw British Airways." We'd have rather preferred 'British Airways screws Virgin,' but we had to run with the facts. — News Editor, 'The Sun' newspaper.

BUILDERS

This is a story about the bond formed between a little girl and a group of building workers. It's allegedly true and might help to confirm your belief in the goodness of people and that there is hope for the human race.....

A young family moved into a house next door to an empty plot. One day, a gang of building workers turned up to start building on the plot.

The young family's 5-year-old daughter naturally took an interest in all the activity going on next door and started talking with the workers. She hung around and eventually the builders, all with hearts of gold, more or less adopted the little girl as a sort of project mascot.

They chatted with her, let her sit with them while they had tea and lunch breaks, and gave her little jobs to do here and there to make her feel important. They even gave the child her very own hard hat and gloves, which thrilled her immensely.

At the end of the first week, the smiling builders presented her with a pay envelope - containing two pounds in 10p coins. The little girl took her 'pay' home to her mother who suggested that they take the money to the bank the next day to open a savings account. At the bank, the female cashier was tickled pink listening to the little girl telling her about her 'work' on the building site and the fact she had a 'pay packet'.

'You must have worked very hard to earn all this', said the cashier. The little girl proudly replied, 'Yes, I worked every day with Steve and Wayne and Mike. We're building a big house.'

'My goodness gracious,' said the cashier, 'And will you be working on the house again next week?'

The child thought for a moment. Then she said seriously:

*'I think so. Provided those w*****rs at Jewsons deliver the f*****g bricks on time.'* ➔



----- Anonymous

Crossed Wires



By Stan Yeo

Recently I was asked to finish fitting out a four servo wing sports soarer and program the transmitter. No problem I thought, three or four hours toil and the job would be finished. Wrong. I ended up spending nearly fifteen hours on the job. A number of things went wrong prompting me to write this article and make a mental note not to take over a part completed task in the future!

The problems I encountered ranged from poor servo installation, non-conventional wiring and programming an unfamiliar transmitter. Servo installation is an article by itself and is frequently covered in kit instructions, reviews and plans etc. Programming the Tx. Well just because the word computer is used in the product description is no excuse to adopt the computer industry's habit of writing instruction manuals to baffle all and sundry. To add insult to injury they are in my experience getting worse rather than better. To give credit where credit is due the technical departments of the importers are generally very good at answering your questions when they are contacted.

This leaves one problem, that of wiring etc. I am aware that not all radio control systems sing from the same hymn sheet when it comes to wiring, the colours used are frequently different as is sometimes the connection lead wiring order. Being aware of these differences etc. should have protected me from cross wiring mistakes. Unfortunately when I carried out polarity checks on a pre-wired wing I was working on I failed to spot the red and black wires were reversed. Result four blown servo amplifiers! I am not the first to do this and undoubtedly will not be the last.

This article is therefore a discussion of various the wiring tasks associated with today's radio control systems.

Transmitters

An increasing number of modellers, particularly those with computer sets are replacing their original transmitter batteries with higher capacity ones to give longer Tx. usage times. Unfortunately the set chargers are seldom able to deliver the higher charge currents required to charge the batteries properly so a higher capacity charger is needed. A word of warning though. Most transmitters have a diode (electrical non-return valve) in the charging circuit to prevent the Tx battery being discharged through the charging socket. This means that cycling Tx batteries in-situ is not possible and there is a danger when fast charging of 'blowing' this diode if the charging current is too high.

All the main UK imported R/C systems (Futaba, JR, Hitec Sanwa) use a similar DC power socket for charging but, there are two sizes and two ways of wiring them. One uses the centre pin as negative whilst on the others the centre pin is positive. Likewise there is a difference in size of the centre pin, one is 2.1mm diameter and the other 2.5mm. The plugs are also available in two lengths so always buy the longer one.

Tx Charging Socket Polarity Table

Transmitter	Hole Diameter	Centre Pin Polarity
JR	2.1mm	Negative
Hitec	2.1mm	Positive
Futaba	2.5mm	Positive
Sanwa	2.5mm	Positive

Some Tx batteries have pressure or push fit connectors whilst others have a polarised plug and socket arrangement. When buying replacement packs from other than the equipment importer it is not always possible to buy a pack with the correct plug fitted. However most plugs can be made to fit but this usually means the plug is not polarised so be very very careful. Check and double check that the wiring is the same as the original when you plug the battery in otherwise you could have an expensive repair bill on your hands.

Airborne Wiring

Fortunately all the current production R/C systems mentioned polarise their airborne equipment the same way i.e. Negative, Positive and Signal (but be careful if you have any old Sanwa black plug equipment as the positive and negative are reversed!). Unfortunately there are two plug and socket systems and four different colour codes! The main difference is Futaba has a polarising tab whilst the others are polarised with bevelled corners on the top face of the plug. A tip if mixing plugs and sockets and they are tight, scrape the sides of the female with a scalpel blade as opposed to trimming or filing. This reduces the grabbing effect of a slightly rough surface finish.

Airborne Equipment Colour Codes.

Sometimes it is not always possible for a number of reasons to use matching colour coded servo wire when manufacturing wiring looms. If this is the case please do not make up your own colour code but use the colours indicated in the table for the different polarities i.e. Negative should be either Black or brown. This will help you and subsequent owners should the wiring require modification or repairs.

Make	Negative	Positive	Signal	Plug
Futaba	Black	Red	White	Futaba (tab)
JR	Brown	Red	Orange	'Uni-Plug'
Hitec	Black	Red	Yellow	'Uni-Plug'
Sanwa	Black	Red	Blue	'Uni-Plug'
Multiplex	Black	Red	Yellow	'Uni-Plug'

Aileron Extension Leads

When the aileron servo lead needs to be extended to connect the servo to the Rx please do not cut the servo lead and insert an extra length of cabling. Try and use a propriety servo extension lead. This way the servo is easier to replace should it fail or get damaged and it does not invalidate the warranty. To pass the extension lead through the wing remove the plastic holder from the Rx end of the lead. The connectors are held in the holder either by a plastic tongue on the holder or a metal tongue on the connector. Either way disengage the tongue using the point of a scalpel knife and remove the connector. After passing the extension lead through the wing re-assemble the plug ensuring all tongues are properly engaged and the wires are in the correct positions.

Where the aileron servo lead, including any extensions, exceed 500mm it is possible for the lead to act as an aerial and pick local transmitter signals and feed them back into the receiver thereby increasing the risk of interference. One way to minimise this risk is to fit Toroidal Chokes to the servo lead as close to the receiver as possible. These chokes look like lamb's tail docking rings i.e. small fat rubber bands. The value of the impedance (alternating current resistance) produced is a function of the square of the number of turns so the more turns the more efficient they are. To fit them dismantle the servo plug as above and wrap the lead around the choke.

Batteries

Finally a brief note about battery charging as most early life battery problems can be attributed to inappropriate charging. A standard charge is a charging current of 10% of the capacity of the battery i.e. a 600mAh battery would be charged at 60mA. A fast charge is one where the charging current is typically the capacity of the battery i.e. for the battery above 600mA. Some batteries can be fast charged at 2 times the rated battery capacity but this is not recommended as it shortens the life of the battery and the charge is not as complete as it would be if charged at a lower current. Basically the faster you put it in the less you get out. Likewise the faster you take it out the less you get out! (batteries are rated at their 5 hour dis-

charge current). Also it is recommended that the first few charges are standard charges to condition the battery. If charging at currents greater than 10% of the capacity of the battery then it is recommended that a peak detect charger is used to avoid overcharging and damage to the battery.

Farewell

I hope the above has been useful. If you do carry out any of the above tasks please take care, be methodical, produce wiring diagrams before you start, follow the colour code conventions, use a small pointed soldering iron, thin multi-cored fluxed solder and heat shrink sleeving to insulate solder joints. Do not use insulating tape, it looks untidy and offers no support to the solder joint. Also be aware that modifying you R/C equipment will in all probability invalidate your guarantee.

Finally my apologies to the professionals. I am aware of your views re modifying equipment etc. but a lot of modellers are going to do it no matter what advice to the contrary they are given so in my view the safer option is provide assistance in order to reduce the number of mistakes made. For other associated model flying articles please visit my website. ➔

Article by kind permission of Stan Yeo of Phoenix Model Products

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

Chuckie Night

A band of merry
competitors



Annual Electric Open

Fly-off group

See Spread-sheet in the
centre pages for results
of all Comps to Date.



Nostalgia ain't what it used to be

By Vic Thomas



This may well be an interim account of what may be one of the Club's oldest models. It is a Junior 60 built by Alec Miles who was a member over 20 years ago. He was a very good builder, and his finishing was much admired. He had retired due to ill health and although he never really took to flying, he undertook building to order.

It arrived with me from Chris with a couple of servos and the remains of a geared, brushed motor. Although dusty, almost as good as when it left Alec's hands.

After a year in my garage, getting more dusty I decided to convert it to free flight. This required the insertion of engine bearers to suit my ED Comp Special. This engine, given to me by Richard, had resided unrun on a shelf since having a broken lug repaired.

The red tank is the same width as the bearers so side thrust has to be via the bearers which my butchery did not achieve. At the Easter SAM meeting, a beautiful day, (I only go on beautiful days) . Fuel up, prime and flick. It fired giving me a nasty crack on my flicking finger, a lot more bite than a Mills .75! I had another Comp Spec as a boy and its sound "brought it all back". More nostalgia. Having judged that little fuel was left, aviation was attempted. Gosh, it left my hand with enthusiasm and went into a huge stall from which it recovered with some height loss, repeated several times until the height ran out. Apart from the U/C fixing coming adrift, no damage. Lets revert to good old electric and RC.

The U/C was given a structural solution and 2.4Rx, a cupboard brushless, all of 10 years old, and off to the field. Here the circus act started. The first flight was exciting, again with huge power stall but at least it was controllable. Adjustment of the mounting screws and peace, as one would expect from a venerable old lady was restored. Now re-motored we now await a gap in the rain to try again. ➔



A Junior 60 similar to Vic's model

To Flap or not to Flap

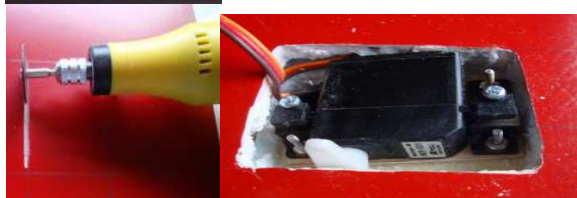


Last year flying my Kimbo in Wales I found *By Tony Ridler* problems on landing. With no braking system each high speed landing would shake the Fuz causing the "T" tail fixing screw to shear. As I had to have a pocket full of $\frac{1}{4}$ " whitworth plastic screws I decided to take a scalpel to the wings and make some flaps. As the model had no rudder I decided to add this at the same time also 6mm bolts.

First stage was to mark out the wing prior to cutting. I measured the flaps on my Discus and found the Flaps were about 10% of the wing area so I made the Kimbo flaps the same.

Using a guide, I carefully cut through the glass wing surface and foam core. Using a hot wire I removed $\frac{1}{16}$ " of foam along the cut edges.

Using 1/16th Balsa I faced off the edges of the flap and the wing. Next I marked off the position for the servo and cut the glass surface with a fine saw and hollowed out the foam and fitted the servo. →



It was well worth the effort, I now have controlled landings

Early History of Flight

Humans try to fly like birds

Around 400 BC - Flight in China

The discovery of the kite that could fly in the air by the Chinese started humans thinking about flying. Kites were used by the Chinese in religious ceremonies. They built many colourful kites for fun, also. More sophisticated kites were used to test weather conditions. Kites have been important to the invention of flight as they were the forerunner to balloons and gliders.

Humans Try to Fly like Birds

For many centuries, humans have tried to fly just like the birds and have studied the flight of birds. Wings made of feathers or light weight wood have been attached to arms to test their ability to fly. The results were often disastrous as the muscles of the human arms are not like a birds and cannot move with the strength of a bird.

Hero and the Aeolipile



The ancient Greek engineer, Hero of Alexandria, worked with air pressure and steam to create sources of power. One experiment that he developed was the aeolipile which used jets of steam to create rotary motion.

Hero mounted a sphere on top of a water kettle. A fire below the kettle turned the water into steam, and the gas traveled through pipes to the sphere. Two L-shaped tubes on opposite sides of the sphere allowed the gas to escape, which gave a thrust to the sphere that caused it to rotate. The importance of the aeolipile is that it marks the start of engine invention - engine created movement will later prove essential in the history of flight.

1485 Leonardo da Vinci - The Ornithopter and the Study of Flight.

Leonardo da Vinci made the first real studies of flight in the 1480's. He had over 100 drawings that illustrated his theories on bird and mechanical flight. The drawings illustrated the wings and tails of birds, ideas for man carrying machines, and devices for the testing of wings.



1783 - Joseph and Jacques Montgolfier - The Flight of the First Hot Air Balloon



The brothers, Joseph Michel and Jacques Etienne Montgolfier, were inventors of the first hot air balloon. They used the smoke from a fire to blow hot air into a silk bag. The silk bag was attached to a basket. The hot air then rose and allowed the balloon to be lighter-than-air.

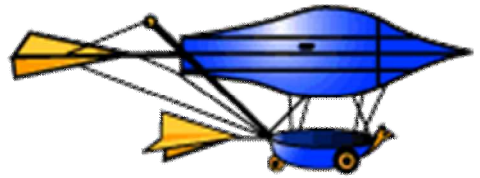
In 1783, the first passengers in the colourful balloon were a sheep, rooster and duck. It climbed to a height of about 6,000 feet and travelled more than one mile.

After this first success, the brothers began to send men up in hot air balloons.

The first manned flight was on November 21, 1783, the passengers were Jean-Francois Pilatre de Rozier and Francois Laurent.

1799-1850's - George Cayley - Gliders

Sir George Cayley is considered the father of aerodynamics. Cayley experimented with wing design, distinguished between lift and drag, formulated the concepts of vertical tail surfaces, steering rudders, rear elevators, and air screws. George Cayley worked to discover a way that man could fly. Cayley designed many different versions of gliders that used the movements of the body to control. A young boy, whose name is not known, was the first to fly one of Cayley's gliders, the first glider capable of carrying a human.



For over 50 years, George Cayley made improvements to his gliders. Cayley changed the shape of the wings so that the air would flow over the wings correctly. Cayley designed a tail for the gliders to help with the stability. He tried a biplane design to add strength to the glider. George Cayley also recognized that there would be a need for machine power if the flight was to be in the air for a long time.



George Cayley wrote "On Ariel Navigation" that showed that a fixed wing aircraft with a power system for propulsion, and a tail to assist in the control of the airplane, would be the best way to allow man to fly.

1891 Otto Lilienthal

German engineer, Otto Lilienthal, studied aerodynamics and worked to design a glider that would fly. Otto Lilienthal was the first person to design a glider that could fly a person and was able to fly long distances.



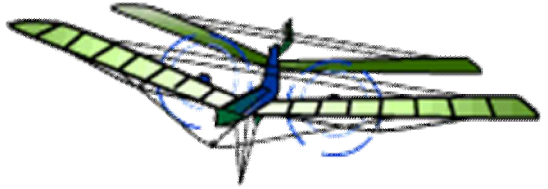
Otto Lilienthal was fascinated by the idea of flight. Based on his studies of birds and how they fly, he wrote a book on aerodynamics that was published in 1889 and this text was used by the Wright Brothers as the basis for their designs.



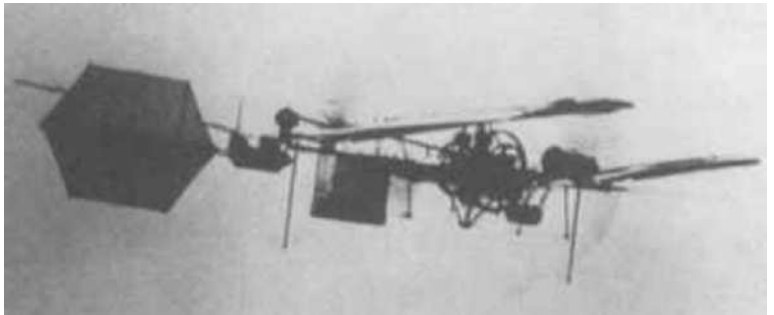
After more than 2500 flights, Otto Lilienthal was killed when he lost control because of a sudden strong wind and crashed into the ground.

1891 Samuel Langley

Samuel Langley was physicist and astronomer who realized that power was needed to help man fly. Langley conducted experiments using whirling arms and steam motors. He built a model of a plane, which he called an aerodrome, that included a steam-powered engine. In 1891, his model flew for 3/4s of a mile before running out of fuel.



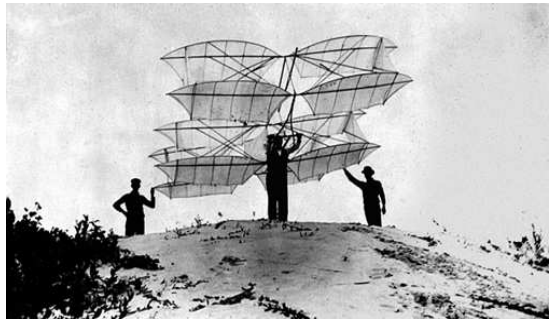
Samuel Langley received a \$50,000 grant to build a full sized aerodrome. It was too heavy to fly and it crashed. He was very disappointed. He gave up trying to fly. His major contributions to flight involved attempts at adding a power plant to a glider. He was also well known as the director of the Smithsonian Institute in Washington, DC.



Model of Langley Aerodrome

1894 Octave Chanute

Octave Chanute was a successful engineer who undertook the invention of airplanes as a hobby, after being inspired by Otto Lilienthal. Chanute designed several aircraft, the Herring - Chanute biplane was his most successful design and formed the basis of the Wright biplane design.



Octave Chanute published "Progress in Flying Machines" in 1894. The Wright Brothers used this book as a basis for much of their experiments. Chanute was also in contact with the Wright Brothers and often commented on their technical progress.

1903 The Wright Brothers - First Flight

Orville Wright and Wilbur Wright were very deliberate in their quest for flight. First, they spent many years learning about all the early developments of flight. They completed detailed research of what other early inventors had done. They read all the literature that was published up to that time. Then, they began to test the early theories with balloons and kites. They learned about how the wind would help with the flight and how it could affect the surfaces once up in the air. The next step was to test the shapes of gliders much like George Cayley did when he was testing the many different shapes that would fly.



The Wright Brothers designed and used a wind tunnel to test the shapes of the wings and the tails of the gliders. After they found a glider shape that consistently would fly in the tests in the North Carolina Outer Banks dunes, then they turned their attention to how to create a propulsion system that would create the lift needed to fly.

The "Flyer" lifted from level ground to the north of Big Kill Devil Hill, at 10:35 a.m., on December 17, 1903. Orville piloted the plane which weighed six hundred and five pounds.



The first heavier-than-air flight travelled one hundred twenty feet in twelve seconds. The two brothers took turns during the test flights. It was Orville's turn to test the plane, so he is the brother that is credited with the first flight.

Humankind was now able to fly! During the next century, many new airplanes and engines were developed to help transport people, luggage, cargo, military personnel and weapons. The 20th century's advances were all based on this first flight at Kitty Hawk by the American Brothers from Ohio. ➔



TVSF SLOPE AEROBATIC COMP. 18.3.2012.

Report - John Price

A late start was planned as the wind was forecast to veer through 90 degrees during the morning. This did happen and we assembled in White Hill car park at 10:30 to find a NW wind blowing straight onto the slope.

The idea was to start the comp at 11:00 but a couple of models were damaged during practice. Flying eventually got under way about 12:00 with Peter flying a Zagi.

The lift varied from poor right up to mediocre. Sometimes the wind dropped and at others it was not square to the hill, causing turbulence close to the slope. As a result we all did low K factor manoeuvres that did not require a lot of speed.

Trevor flew a scale Discus , about 2.6m span. Paul flew a Typhoon (2m mouldy), Andrew a Viper foamy wing and John a Toplight Mega (2m mouldy). Trevor thought that his scores should have a factor of 2 applied to them as he was flying a scale model. That did not happen.

Andrew was very brave to enter as he hasn't done a lot of sloping and he didn't have a very aerobatic plane. Half way through his slot he ran out of lift, speed and ideas simultaneously, but he was not downhearted!

We had the hill to ourselves all afternoon and the weather was fine apart from a 5 minute shower of rain and hail. Despite the testing conditions it was an enjoyable afternoon's flying. No models were damaged during the comp which proves that practicing for comps is more dangerous than taking part. ➔

RESULTS :- John Price.....149 Paul Harvey.....143 Trevor Hornby.....128

Peter Williams.....117 Andrew Horne.....60

TVSF Puzzle Corner

In this issue the puzzle is World War 2 aircraft. You have to find famous aircraft using the following clues. Good Luck.

- Used to drop agents into France
- City near Leeds
- You would not want to be stung by this insect
- A cyclonic tropical storm
- US Carrier based aircraft
- Think of the Coliseum fighters
- North Atlantic storm
- This is some old boot.
- Wild horse
- Associated with tall boys
- Buzzing insect
- Hermann Goering wanted a squadron of these fine machines
- Carrier based fighter of a famous Battle of Britain aircraft.
- Often referred to as the workhorse of aviation
- German terror bomber
- Manufactured by North American
- Attacked Peel Harbour
- The only rocket powered fighter of WW2
- Mk 1 versions required 140 turns of the hand crank to raise the undercarriage
- Biplane manufactured by Hawker

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



BLACKBUSHE MODEL AIR SHOW