

# Severn Valley Microlight Club

## AIRSCREW

March 2004

### This month's meeting

This month Robbie Keen will be telling us about his role as Competition Director at the World Microlight Championships last August, the background to the tasks set and the problems of levelling the playing field between the faster aircraft and those like the Lazair. It should be a fascinating talk – don't miss it! We will be aiming for an 8.15pm start.

### Membership Fees

Have you paid your membership fee for the current year? If not, give or send it to the Treasurer as soon as possible. As noted in last month's Airscrew those members who have not renewed by the time next month's Airscrew goes to print (14<sup>th</sup> April) will cease to receive the newsletter.

### Safety

A member took his sister for her first flight in a flexwing microlight one day. He was careful to brief her on all the usual things before the flight paying particular attention to those items which should not be touched. The flight went off without incident until return to the field and on final approach when it proved impossible to reduce the engine revs below 4000. Decision – fly away and try to find out what the problem was.

At a safe height efforts again were made to reduce the revs to tick-over but the engine was having none of it. So, back to the field, set up an approach and at the point where it was certain that a safe landing could be made the engine was cut. An uneventful landing was achieved with the passenger commenting "I enjoyed the flight but not the landing!"

Well, what was the problem? Investigation revealed that the passenger had not touched anything –at least not intentionally – but had

gripped the side of the seat support so firmly that she had pulled the outer of the Bowden cable out of its housing thus effectively applying more throttle. The moral is to tell your passenger where and what they can grip safely. (*Certainly a "gripping " experience for the pilot! - Ed*)

### Quote of the Month

It's all right if your automobile goes wrong while you are driving it. You can get out in the road and tinker with it. But if your airplane breaks down, you can't sit on a convenient cloud and tinker with *that!*

*Katherine Stinson, 1917.*

### A Ferry Pilot's Tale by Adrian Lloyd

#### Part one

On 11th May 2003 I was involved in ferrying Kitfox G-CJUD to its new owner just outside Kirby Lonsdale in Lancashire. This aeroplane, ex Dave Garret's, had already been ferried by me from Leicester to Milson for the new owner to undergo type conversion. For the trip back from up North, Mr Bumble – err sorry – Brian Finch had come along with his Kitfox Speedster.

Some weeks before last Christmas I had received a call from the owner who basically explained he was moving into Northern Scotland and there was nowhere to base an aeroplane. Would I put the word around that it was for sale again. Duly the aeroplane was sold – the new owner living in Hereford. He needed a tailwheel conversion so would I ferry the aeroplane back to Herefordshire for him! Never one to turn down a Kitfox, I said "Yes" and rang Brian. We would arrange a day over Christmas when we were both available and there was a weather window. At this time of year weather windows are somewhat rare to

say the least! The day before we went Brian rang with a forecast – “bit ‘iffy’ with very possible fog patches”. On the morning in question Brian rang again – he would, weather permitting, meet me at Milson at 10.30am. I stood waiting on the airstrip at 10.30 in very dubious visibility! About 10.35 I heard the unmistakable sound of a 912 which grew louder. Surprisingly I could not see the aeroplane! Surely he wasn’t coming by road! Suddenly from behind a belt of trees Brian appeared! The date was 30th December 2003.

Chatting on the ground following a call to Kirby, where apparently there were clear skies, we decided to delay and wait for the visibility to improve. We knew that time was a very critical factor in this exercise and had to be carefully weighed against conditions.

Eventually with visibility showing some improvement I phoned Kirby, said we were on our way, gave an ETA but forewarned them that there was a chance we would have to turn back.



***Dodgy Visibility!***

Off we went. Visibility was nothing to write home about but at 2000 feet we could at least see the ground although in a few places there were some thick patches off to the sides of our track. We reached the Manchester Low Level Corridor and bombed through – the colour screen of the GPS clearly showing us to be smack in the middle. Clear of the corridor we climbed and the weather was now lovely – blue sky and excellent visibility. Over the snow-covered mountains it looked beautiful but uninviting!

About 10 minutes before our destination I said to Brian that I hoped the aeroplane was out

and ready – we would have a quick couple of sarnies and a coffee and be on our way back. Overhead the strip it looked deserted. A quick couple of circuits around the tiny village to wake up the owner to our arrival and we landed. It was cold! Dragging out the mobile I phoned and announced that we were “here”. “Where?” came the reply. “On the airstrip” I replied, keeping my tone suppressed!

Brian and I chatted and about 10 minutes later the owner and vehicle appears across the fields. Pleasantries exchanged, Brian and I munch and slurp our way through the delicious roll and coffee while a leisurely emergence of the aeroplane takes place. Yes it’s fuelled and ready. Suddenly the owner realises that he has left the keys back at the house! He disappears. I busy myself putting my ancient GPS and clobber in the aeroplane. Of course, all the while time is ticking away. Brian and I agree that a 2.30pm departure is the absolute deadline for the 110 miles South against a slight headwind.

The owner returns and I comment “I hope the engine starts”. “Yes,” the owner says, “I started and ran her yesterday”. I ask him to start her as he knows the aeroplane. As soon as the engine turns I know it is not going to start – it’s turning too slowly. I exchange glances and a “watch this” look with Brian! Three or four attempts later I blurt out to the owner that the engine is not going to start. He looks rather shocked. I tell him it’s cranking too slowly and we need jump leads. Perhaps the rising tone of my voice conveys a sense of urgency for he says he will get the leads from home! While he disappears again, off come the top two cowls and the battery cover. It’s now gone 2.00pm, sunset is just after 4.00pm and JUD cruises at 70 – 75 mph for the 110 mile trip. I am a little tense!!

The owner returns and we set up for a jump lead start – great care needed here – his vehicle is very close to the aeroplane. This time I sit in, mags selected “On” and the button pushed. Instantly the 582 roars into healthy life. Run it to warm it up, shut off, jump out, cowls on, jump in again and start – she does!

Maps and kneepad sit on the seat – sort them out when airborne. Everything rushed and I am aware of two things – this is **not** the way

to go about things and 2.30pm is a few minutes away. The GPS comes on line and I know I have to get 60kts groundspeed to get back about 15 – 20 minutes after sunset. This is critical.

I taxi out, Brian following. All checks complete and we roll. She lifts, hold down to pick up speed and we climb. Two hundred feet and we turn 30° onto heading with the snow covered mountains beckoning in the distance. Climb speed 60mph IAS. I'm climbing at 75mph – I have to get a move on! The GPS shows 60kts. I hear Brian call he is rolling. We are on our way at last! *(To be continued next month)*

### **Ninth World Championships** by Richard Rawes

#### **Part one**

Having reclaimed the Solo title in the National Championships, I entered the 9<sup>th</sup> World Microlight Championships at Long Marston, with confidence at a high and with a determination to win. Notably for me, it was at the previous UK hosted International, the 1995 European Championships, that I won my first medal, a Bronze, could I take home a Gold this year?

Borrowing my boss' caravan I elected to live in relative comfort this year rather than survive in my, now well used, frame tent. The caravan proved ideal and I am now in the market for one! (Any offers?) As usual, the first week was dedicated to preparation and practice and the first flight on the first day, a local area familiarisation sortie, went well. However, what happened prior to the next sortie was, to say the least, expensive.

From mid-season my engine had been reluctant to start and this day proved to be no exception. Fortunately, resident with the Team for this practice week was Conrad Beale and, with his assistance we determined that I had low compression on the engine's forward cylinder. I had little option now but to strip the engine and resolve this problem. Over the next few hours, engine parts began spreading themselves around the aircraft until the cylinder head had been removed. A dash to a local garage to have a leaking valve ground-in proved fruitless, as a special tool was not available to remove it. Undeterred, Conrad

offered to take the head home with him that evening, manufacture the required tool and grind the valve. The following morning, he returned and began the process of rebuilding the engine. This was a disappointing occurrence given that I had spent considerable time and effort preparing the engine during the winter season, but one that I could not afford to dwell on at that moment.



***A familiar landmark!***

Re-building always takes longer than stripping - much more cleaning and preparation of surfaces, gaskets and seals to be located and fasteners to be wire locked. So, it was not until late afternoon on day 2 of the practice week that the engine was again running, this time starting with ease.

Due to lost time, the practice week continued with a greater degree of urgency. Final fuel burn figures were determined and local features committed to memory to aid navigation during the actual competition.

#### **Opening Ceremony**

With the Teams of all competing Nations gathered, the real highlight of the opening ceremony was a stunning performance by the Red Arrows Aerobatic Display Team. Some credit for their display is claimed as it was I who initiated the request for their appearance.

The show was a tremendous success and truly appreciated by all.



**The Red Arrows**

### **The Twister**

With the party was over, the real work began. Despite fine weather throughout the practice week, day one of the Championship dawned overcast and gloomy. Task one, named 'The Twister', was a real wake up call and set the tone for the rest of the competition. A spiral route had to be flown, along which photos of ground features had to be recognised and plotted on our charts. Having plotted these ground features, it was possible to link groups of them with straight lines that intersected at a point outside the spiral. This intersection identified a landing field that finished the task. If you were unlucky and did not spot sufficient ground features, a solution contained within a sealed envelope was provided. To add to the pressure and to prevent crews from repeating the course, an overall time limit was applied. A bonus was also awarded to the fastest finisher. The gloomy weather certainly added significantly to the severity of this task making navigation particularly difficult.

I have to admit to being off-track on more than one occasion and spent a significant amount of time relocating myself. Whilst I finished this task without opening the envelope I was by no means the fastest.

The end of task one merged with task two - a precision touch-down. Marked within the landing field by tape and cones, a 6 metre deck subdivided into 1.5 metre sections, provided the challenge. The first segment of this deck scored maximum points and that is exactly where my wheels hit.

### **Triangulations**

The issuing of briefing packs for the third task of the day followed a short lunch break. This task involved flying a triangular route at a pre-declared ground speed. Along each of the 3

legs of the triangle, ground markers depicting Roman numerals had to be identified and plotted. Having successfully identified the 3<sup>rd</sup> marker, the ground-speed element of the task was complete. Lines from each of the 3 features identified on the triangle, drawn to the opposite corner of the triangle then had to be plotted. The intersection of these 3 lines formed a second triangle and located 3 further turn-points at which photographic features had to be identified.

Accuracy was the key to this task, both in flying to a constant ground-speed and with in-flight plotting - not so easy in an open cockpit single seater. Compounding the difficulty, were dummy photographs of features very close to the intersecting lines that we had plotted. Many competitors fell foul of these dummies and lost very valuable points. Thankfully, I didn't and subsequently gained a high finish.



**You know where!**

Task four, like task 2, merged with task 3 to form a precision landing back at Long Marston. This landing was in the normal 100 metre landing deck, again sub-divided into scoring segments. The difference with this landing being that the aircraft had to both land and come to a full stop within the 100 metre deck to score. Maximum points were achieved, but video evidence, viewed later in the bar showed just how close I was to touching down inches before the deck!

With a welcome and tiring end to day one, almost as much flying had been achieved as in the whole of some previous International

competitions. And, there was more to come.  
(To be continued next month)

### **A Ewe turn! Centenary Celebrations - December 17th 2003**

By Andrew John

I had been planning for some time to fly my Himax on the 17<sup>th</sup> December to celebrate the centenary of the first powered flight at Kittyhawk. However, due to circumstance I found myself many miles from my aircraft as dawn broke that day over west Wales, ironically promising a perfect day for flying. I had agreed to trailer a pregnant Ewe from Lampeter to Shipston on Stour in Warwickshire and intended to make an early start. Due consideration for my cargo was needed, so this was to be a very steady journey up over the mountains and via the twisty A40 to Abergavenny then on to the M50 at Ross on Wye.



**Centennial Flight!**

The weather was perfect and the scenery through Wales quite stunning but this only frustrated me further with my commitment to deliver the ewe on time and my desire to get into the air. Decision time came as I approached Junction 2, the Gloucester intersection, so I turned off for Hartpury where my Himax is hangered. Leaving the car and trailer with its occupant for a rest, I fuelled up and soon had all the pre-flight checks completed. I left the ground at 1205. The flying conditions were indeed perfect and visibility at 2000ft excellent. I stayed aloft for thirty five minutes before landing and putting away my aircraft for another day. I delivered the ewe later that afternoon and in the evening joined with other members of the

Severn Valley Microlight Club for our annual Christmas Dinner which concluded with a toast to those intrepid aviators Orville and Wilbur Wright. The ewe had twins three weeks later!

### **Smart Plugs**

In our sport we are always looking to make things simpler. With this in mind Ken Cole suggested that I use the Internet to get information on Smart Plugs which are available in the USA. These plugs are marketed as a replacement for traditional plugs and cut out some other ancillary equipment associated with them. The company concerned has developed a simple ignition system for Rotax 503 engines; a Continental O-200 is being tested; and many other applications are in the works.

The SmartPlug was invented by Mark Cherry, because he "was intrigued by the simplicity of the Cox Dune Buggy's ignition system," when he was ten years old. He asked his Dad why the family car's ignition system had to have so many parts, in contrast. He couldn't get a satisfactory answer; so he got four patents, and the result is the Smart Plug

How do they work? SmartPlugs are like glow plugs, in that the compression itself generates



enough heat to ignite the mixture. SmartPlugs work in diesel, petrol, natural gas, and alcohol-burning engines, thus making their future certain across the spectrum of internal combustion. The SmartPlug itself has a rod inside a pre-combustion chamber. The length and diameter of that rod are matched to the chamber, based principally on the fuel's characteristics and the engine's mechanical compression ratio. The actual pressure inside the pre-combustion chamber, coupled with the amount of fresh (unburned) mixture available to the rod, is what starts the controlled ignition. This ignition system does away with such early 20th-Century devices as mechanical advance distributors, and can even do away with late-20th-Century devices such as ignition computers, knock sensors,

and so on. The result is a very lightweight, essentially tamper-proof, non-electric (except for starting) ignition system, that will continue providing ignition, even if the entire electrical system falls out of the airplane. Once the engine is up to running speeds and temps, no battery, no magneto, no computer, no spark plugs -- not even any "spark plug wires" -- none of that is required. To shut off the engine, turn off the fuel. *(Seems like a good idea. I wonder what the BMAA Technical Officer would make of it if he received a request to use these plugs? Any reaction, Guy?)*

**The London Air Show 2004** - ticket discounts via the GAAC

The Fly! London Air Show 2004 is billed as the first indoor air show and promises to be unlike any air exhibition you have seen before. The event runs for 3 days, April 16th-18th at Earls Court London and its features include Sporting and Recreational Aircraft. Air Sports. Seminar Theatre Survival at Sea, Simulator City, Build Your own Plane, Careers in Aviation, Red Arrows, and many others. For tickets at up to 50% discount and other offers please see the GAAC website at <http://www.gaac.co.uk/members/FlyShow2004.htm> or quote booking code GAAC when booking advance tickets for the Saturday or Sunday.

### **Sun 'n' Fun**

By the time we gather for the April Club meeting a number of our members will have just returned from Florida. Hopefully they will have some articles and photographs for publication in the May edition of *Airscrew*. Perhaps some of them can be persuaded to give us a talk in the autumn to remind us of long days of hot sunshine and every sort of aircraft stretching from horizon to horizon!

### **Radio Course**

Five Club members signed up for the Radio Course run by the Training Officer – the first for a few years! After three weeks things are beginning to make sense and fluency is improving. However, the introduction of headsets and a PTT button appeared to slow down the brain and tie up the tongue! Hopefully, some will be ready to take the test

after the final session. We wish them all the best of luck. What the students need now is less perspiration and more inspiration!

### **Dates for your Diary**

**13<sup>th</sup> – 18<sup>th</sup> April** Sun 'n' Fun, Lakeland, Florida

**1<sup>st</sup> – 2<sup>nd</sup> May** Popham Microlight Fair

**9<sup>th</sup> – 11<sup>th</sup> July** PFA Rally Kemble Airfield

**10<sup>th</sup> – 11<sup>th</sup> July** "Wings and Wheels", Fish Meadow, Upton-on-Severn. Includes a Microlight Fly-in PPR only. Contact Aerolite on 07770 680195

**27<sup>th</sup> – 31<sup>st</sup> July** EAA Airventure, Oshkosh, Wisconsin, USA

**4<sup>th</sup> – 5<sup>th</sup> December** International Airsports Exhibition, Telford

### **Editor's note**

To the best of my knowledge this is the largest edition of *Airscrew* published to date and is due entirely to the articles submitted by two members. I hope this trend will continue and that many more members will feel that they can contribute a few lines to future editions. The test will be the June, July and August editions when, hopefully, there will be a lot of flying going on and our monthly meetings at the Farmers' Club will be suspended.



**Photos are always welcome!**

**Photographs in this issue were taken by Richard Rawes Brian Finch and Andrew John – not including the one above!**

**Bill Austin (Editor)**

**01684 833484**

**bill@austin65.freeserve.co.uk**