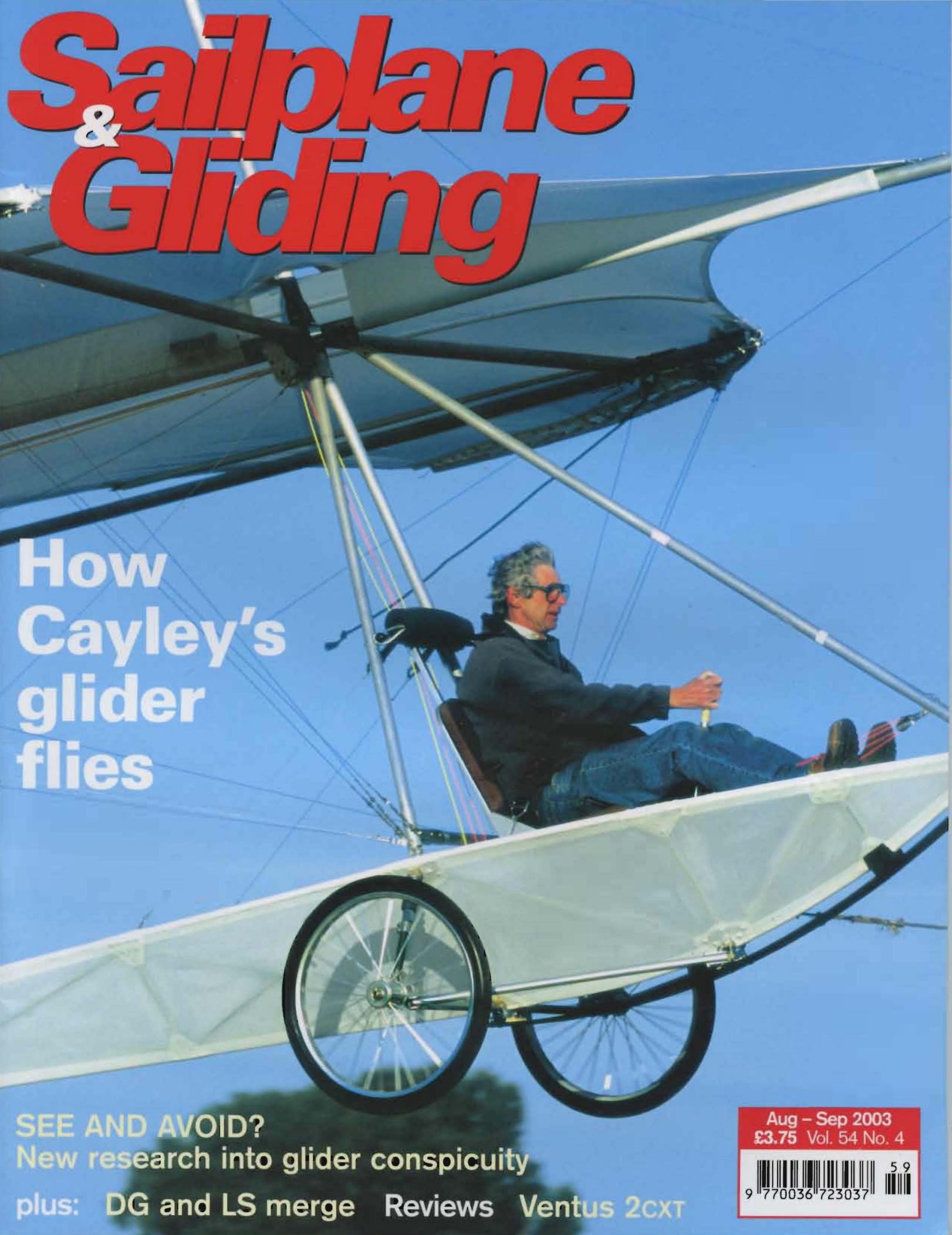
Sailplane & Gliding



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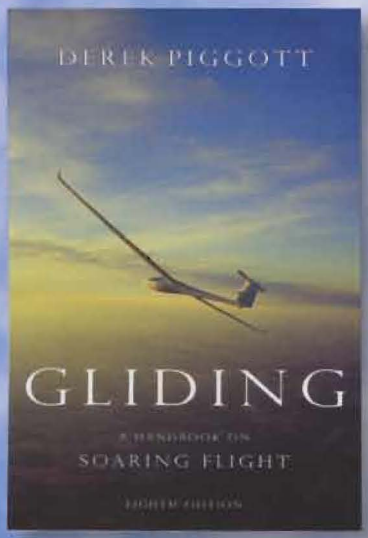
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New research into glider conspicuity

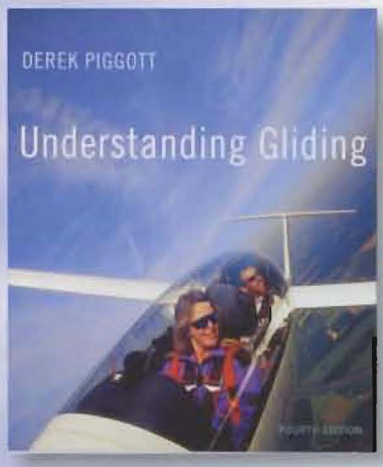
plus: DG and LS merge Reviews Ventus 2CXT

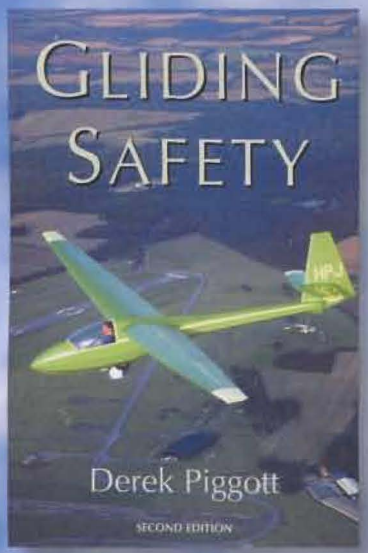
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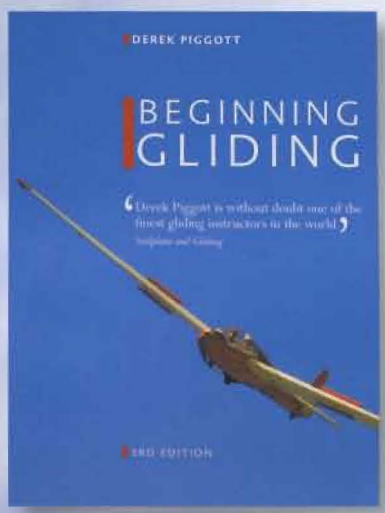
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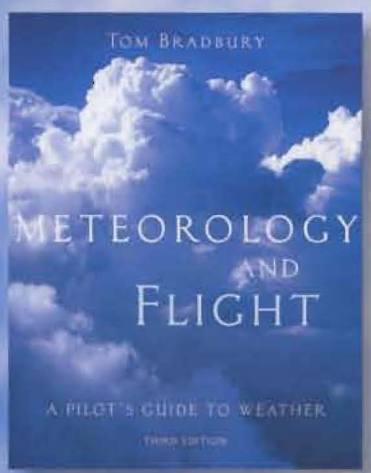
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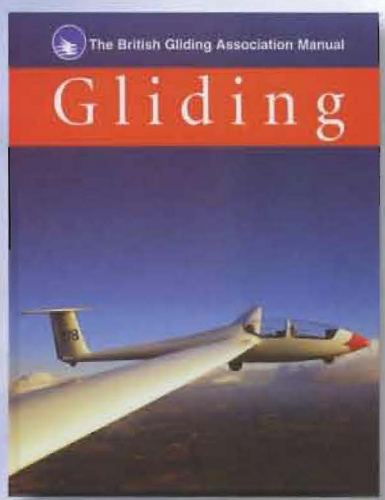












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August ~ September 2003
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Club News	August 12
Advertisements	August 25
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December 2003 ~ January 2004

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Never mind the so-called "centenary" of flight. In July, Richard Branson re-enacted the first manned glider flight – of half a century earlier. Ailan McWhirter, above, test-flew the Cayley replica. See p15 and pp34-37 (the ***White Planes*** picture co.)

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Jochen Ewald reveals why an "x" marks the spot where the new Ventus differs from earlier ones – and wonders why they didn't call it the Ventus 3

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Is 42 years between your first flight and your Diamond Badge some kind of record, Cotswold GC's **Jane Randle** wonders...

28 **See and avoid?**



Tony Head from the College of Aeronautics at Cranfield University, reports on the outcome of recent research into conspicuity, conducted at Bicester

34 **150 years later...**



Wolds GC's Deputy CFI, **Allan McWhirter**, has been flying a newly-built replica of the Cayley Flyer, which he put through a series of test flights at Pocklington

40 **It should be easy**



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From the BGA chairman

YOUR EDITOR is very understanding – but only for me – when it comes to deadlines. She realises I might just have been flying recently, with some cracking days – mostly during the working week, of course – but like several pilots I can sometimes juggle work to take advantage of those days. A 360km starting just before 3pm was one; so working in the morning is an option!

There are several national issues I should like to bring to your attention. Firstly, the BGA is about to start the **recruitment process** for Barry Rolfe's successor. Barry is due to retire as BGA Secretary in May 2004, after some 33 years' sterling service. The Executive Committee has given considerable thought to the future scope of the role and drawn up a job specification and recruitment brief that focuses on the many challenges ahead. We shall be advertising the job (which will carry a new title) in the October-November *S&G*, to be published in late September, as well as in various specialist aviation and national press. It will be on *www.gliding.co.uk*, the BGA website, in September. So, potential candidates please take note and start polishing your CV. The deadline for applications will be in mid October and the BGA aims to announce the successful candidate by the time of the AGM on March 6, 2004, if not sooner.

The **BGA coaching operation** has had a successful existence at RAF Bicester for several years, courtesy of and thanks to the RAFGSA. However, the RAFGSA has to move off Bicester in the first half of 2004, as the Ministry of Defence, the landowner, has other plans for the site. Unfortunately, it is not possible for the RAFGSA to offer the BGA in the near future a joint operation at nearby RAF Halton, and so the BGA Executive Committee has been looking at a few alternatives as a short-term base for at least 2004 and probably 2005. From the short-listed locations, The Soaring Centre at Husbands Bosworth has been chosen. All being well and with an agreement in place, the BGA coaching operation will move there shortly after the turn of the year. Hus Bos, as it is still affectionately known, has excellent facilities both on and off the field. Although the hangar and the airfield are not as large as Bicester, these factors are more than made up for by the domestic facilities for BGA courses, with an excellent clubhouse, restaurant, bar, and briefing room as well as sleeping accommodation. And of course it is as central a location as one can get, Scottish clubs apart (apologies, Scotland). For the longer-term future, we have established terms of reference for a working group to be led by BGA Vice President Dick Dixon (BGA Chairman 1996-2000) to study all the options for the future shape, size and location of BGA coaching operations. I anticipate that we shall put a long-term location out to tender to clubs in 2004, as we did a few years ago, which led then to continuing at Bicester.

The International Gliding Commission of the FAI has awarded the British Gliding Association – and Hus Bos the venue – for the **World Junior Gliding Championships** in 2005. This is a considerable achievement, made easier by the visible successes of our Junior pilots at international level, as well as those of senior pilots, in recent years. It will be overseen by a joint venture group from The Soaring Centre and the BGA, chaired by Andy Davis, who will have competed in 12 consecutive world championships (including World Standard Class Champion 1993) by then. See p15 for more details.

On the international regulatory scene, the **European Commission's proposals** for mandatory third party and passenger insurance continue to grab our attention. I reported on this in *S&G* in April and again in June. The latest position appears to be that the majority of the working group of the EU Council of Ministers seems be intent on removing the Commission's proposed exemption for non-powered aircraft and "ultralight" powered aircraft, whilst the European Parliament seem content to maintain the exemption. Whilst for UK gliding we should have no real objection to legally required third party and passenger insurance, since we already have BGA self-regulated rules in this respect for member clubs and private owners operating from BGA clubs, it would still be preferable to maintain the voluntary and responsible approach with indemnity limits determined by the BGA rather than a European civil service. Further, this European initiative includes mandatory cover for war, terrorism, and so on, cover not generally included in our policies at present. Our colleagues in other airsports likely to be included by this legislation, particularly the hang gliding community, would be severely affected by this imposition at the levels of indemnity proposed, as the insurance market is not providing that level of cover.

'We now enter a phase when widespread lobbying is required of all UK Members of the European Parliament... so please act'

So we now enter a phase where some **widespread lobbying is required** of all our UK Members of the European Parliament. The BGA and Royal Aero Club, combining with Europe Air Sports, have already carried out effective lobbying of the UK MEPs most directly involved in the review of this proposed legislation, but I suggest now that clubs and individual glider pilots contact their MEP to press the case for exemption, or at worst if exemption is not achievable, sensible indemnity figures and extent of cover. By the time you read this there will be guidance on the BGA website to enable you to construct a letter with the key information to contact your MEP in time for their views to be relayed in the second reading in the European Parliament. So please act.

On the more domestic level, **membership statistics for UK gliding** have continued to cause concern. In February's *S&G*, based on clubs' annual returns, we published statistics that showed a total membership of 9,166 in 2002, an apparent increase on the previous year. However, further analysis reveals that this figure, whilst excluding temporary members (reported as 31,407, but actually 32,434), includes dormant life members of clubs and members other than full flying or active life members. If one deducts this last category to get to the membership on which the BGA capitation fees are levied, the resultant figure is 8,424 full flying adult and junior members and active life members.

Measuring membership across clubs with different membership categories, subscription years and financial years does not lend itself to absolute precision. But the BGA needs sound and reliable membership statistics to see whether the movement is growing, stagnant or in decline, quite apart from the equitable basis as between clubs when it comes to generating the necessary revenues for the BGA's national role. So we need to review further this issue of how we measure club membership.

Finally, how can I get through another "Chairman's piece" without mentioning **EASA**? I thought you would have heard enough from me on this by now but suffice to say, at the time of writing, we are in the middle of the very short consultation period on the proposed implementing rules ("IRs") for airworthiness certification and maintenance (response by Europe Air Sports by July 18). Whilst there is much disquiet in the UK civil aviation industry in general with many of the proposed rules and the lack of transparent process, the European Commission appears intent on seeing them enacted by the deadline of September 28 this year, set in the Regulation 1592/02 last September. In the meantime, we continue to represent your interests at the highest level to try to find an acceptable outcome.



David Roberts, Chairman
July 1, 2003
d.g.roberts@lineone.net





Photos: Belgrave & Portman Photography

This year's Royal Aero Club Awards

TWO PILOTS who have been active in supporting the gliding movement for many years were recognised at the Royal Aero Club's 2003 awards ceremony.

Terry Slater, who was awarded an RAeC Silver medal, needs no introduction to *S&G* readers. He first took to the air in a glider at the age of 13, at Upavon with the RAFGSA, and subsequently flew at GSA clubs in Germany and the Middle East as well as in the UK. He became CFI of an RAFGSA club in 1970, a Senior Examiner in 1987 and was Chairman of the BGA Instructors' Committee for four years. Now a member of the BGA Executive, he is well known for his support of junior pilots. "When I was young," he explains, "I had lots of help, and I just think it's a worthwhile thing to do." Terry, who has recently played a major role in negotiating the introduction of the NPPL, paid tribute to the team who worked on the project on behalf of the BGA, especially Max Bacon and Pete Stratten. When airborne, his taste runs to racing and cross-country flying, with the odd foray into competition aerobatics.

OSTIV President Prof Loek Boermans flew to the UK to thank Cedric Vernon, who was awarded the FAI Pirat-Gehriger Diploma, for his contribution to gliding. (The award was first announced in 2002.) Cedric, a member of the London GC, became an airworthiness expert at the CAA in the early 1950s, joining the OSTIV glider technical committee soon after, where he contributed to a range of specifications from the Standard Class in 1958 to the recent World Class. For many years he was secretary of the OSTIV Sailplane Development Panel, whose work was the basis of JAR-22, and resigned from it only last year. As BGA Technical Committee member, he was involved in formulating the BCAR Section E on glider airworthiness. Prof Boermans said: "The gliding community is very much indebted to Cedric Vernon for his eminent service over many years to the safety of international soaring."

Cedric (above left) and Terry (above right) receiving their awards from Sir Donald Spiers

Dates for your diary

VGC International Rally	Jämi, Finland	22 Jul–31 Jul
28th Worlds	Leszno, Poland	19 Jul–10 Aug
Regionals	Lasham	19 Jul–27 Jul
Standard Class Nationals	Hus Bos	26 Jul–3 Aug
Regionals	Sutton Bank	26 Jul–3 Aug
Inter-Services Regionals	RAF Bicester	9 Aug–17 Aug
Club Class Nationals	Lasham	9 Aug–17 Aug
Open Class Nationals	Lasham	9 Aug–17 Aug
Regionals	Dunstable	16 Aug–24 Aug
Two-Seater Comp	Pocklington	17 Aug–24 Aug
K-21 Competition	The Long Mynd	16 Aug–24 Aug
15-Metre Nationals	Booker	23 Aug–31 Aug
VGC Slingsby Rally	Sutton Bank	23 Aug–31 Aug
Regionals	Gransden Lodge	23 Aug–31 Aug
Rougham Glider Festival	Bury St Edmunds	30 Aug–31 Aug
Junior Championships	Nympsfield	30 Aug–7 Sep
Mountain Soaring Comp	Deeside	7 Sep–13 Sep

Advance notice:

– the BGA Chairmen's Conference will be held on November 1 at a venue tba.

– the BGA AGM and Conference will be held on March 6, 2004, at Eastwood Hall, nr Nottingham, as will the European Gliding Union's Annual Congress.

Loose articles & baggage compartment security

A RECENT field landing ended tragically when the pilot sustained very severe and ultimately fatal injuries as oxygen equipment mounted behind the wing-spar broke loose under deceleration. Unfortunately this is not the first time a pilot has been injured in similar circumstances.

The purpose of this Safety Flash is to encourage all private owners, syndicate partners and club members to take a critical look at the security arrangements for all items placed behind the seat(s) in the gliders they fly. Consider the worst case scenario of a high load force encountered during a rapid deceleration when relatively innocuous items such as a logger or barograph together with batteries, which are frequently mounted behind the pilot, take on a different significance. Under these conditions the break-away force can be enormous and the strength and security of the attachment must be adequate to withstand such loading. The JAR airworthiness requirements in this respect are quite thought-provoking: "Means must be provided to protect occupants from injuries by movement of the contents of baggage compartments under an ultimate load of 9.0g."

Please take a moment to consider the security arrangements used in the glider you are about to fly.

After one busy weekend in June, the BGA office received calls from three parachute sites (Redlands Farm, Hinton-in-the-Hedges and Langar) complaining about pilots who overflew their areas, in several cases thermalling above site for up to eight minutes. Radio contact proved impossible – except once when it is alleged the glider pilot responded with abuse! Bearing in mind, says BGA Chairman David Roberts, the recent inquest into the deaths of a parachutist and a glider pilot at Hinton, it seems sensible to avoid parachute drop zones.

We are sorry to report the death of Richard Baker during a winch launch at the Derby & Lancs GC, Camphill, in June, and the death of Lyn Martindale of Lakes GC in a field landing accident during the same month. BGA investigations are under way.

Borders GC at Milfield has won £4,000 in a scheme that rewards best practice among Britain's 150,000 sports clubs. The club, nominated by the BGA, came second in the Central Council of Physical Recreation's Sports Club of the Year Awards, supported by the Foundation for Sport and the Arts. Borders is the first gliding club to make the final. The £10,000 first prize went to a Judo club.

Intensive microlight activity associated with the 9th FAI Worlds will take place within c 60 miles radius of Long Marston from August 18-31. For more info, contact keith@negal.com/01327 361305.

National Ladder news is at *www.bgaladder.co.uk*

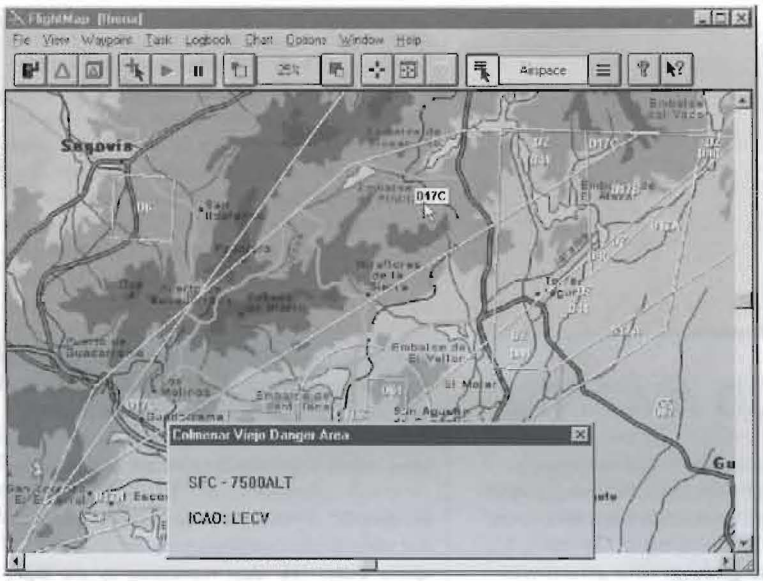
Congratulations to Mark Jerman, Bruce Cooper and Andy Perkins (first, second and third in the Booker Regionals); to winners at the Aerobatic Nationals: Gerald Hughes (Beginners), Stewart Otterburn (Sportsman), Mike Woollard (Intermediate) and Guy Westgate (Unlimited); and to Russell Cheetham, Mike Jordy and Dave Booth, who were respectively first, second and third in the Midland Regionals. Full results in the Dec-Jan *S&G*.

Leading Edge, the film production company with which the BGA has been negotiating, has not found the sponsorship and advertisers to stage proposed coverage of gliding championships around the world, including in the UK, so the project is on hold.

New from the BGA: A new version of *Funding Help for Gliding Clubs* is available from the BGA office, as is the new *Laws & Rules for Glider Pilots (see* p16). The *BGA Aircraft Maintenance Procedures (AMP) Manual*, may be downloaded at *www.gliding.co.uk/bgainfo/technical/ampmanual.htm* or bought from the BGA. It replaces the *Technical Procedures Manual*.

The Camping & Caravanning Club recovers its members' glider trailers from the roadside in the UK/Europe. Joining for £33 gives you access to an RAC service (£80pa). Tel 0247 685 6797 for details.

Lottery: the winner of the BGA 1000 Club Lottery for May 2003 was CP Bleaden (£42.50), with runners-up AB Stokes and NC Morland (£21.25). June winner was DC Perkins (42.50) with runners-up P Gresham and GH Chamberlain (£21.25).



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Illustration shows the Inspect facility being used to interrogate the airspace map layer. Underlying map data is supplied by Bartholomew Digital Data.

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Your letters

Granny-bashing

SHAME on John Dransfield, granny-bashing poor Mary Meagher. Some 18 months to two years ago these columns were in danger of being overloaded by the discussion on pre-launch checks, with an apparent ground swell of feeling that canopy would be better placed last in the list. So much so that the then chairman of the instructors committee, Terry Slater, (congratulations on your medal, Terry), promised to take the subject to the next meeting of the committee. Whether this happened and it was decided to maintain the *status quo* I do not know. Maybe the subject fell off the agenda during the change of chairman. Perhaps the committee could revisit this topic and let the movement know their decision and reasons?

Secondly, it would appear that John read my golfing letter (June-July, p6) as a slight on Basic Instructors. My intention was to suggest that a minor change to the way in which BIs are trained would be beneficial to the movement in converting more trial lessons into full members. If, inadvertently, I have insulted any Basic Instructor with my words, I unreservedly apologise.

Roy Ferguson-Dalling, *via email*

Gliders and parachuting sites

THE following is a reminder to all glider pilots and to other people who fly who may read this.

Just over a year ago we had a double fatality at Hinton in the Hedges airfield (near Brackley in Northamptonshire): a freefall parachutist and a glider collided in mid-air just outside the airfield boundary – the first such collision, I believe, ever to have occurred in this country.

At that particular time Aquila GC and Hinton Skydiving Centre had safety agreements in place so that we could operate together safely, and, since the accident, we have implemented even more safety measures.

The gliding season is now in full swing, and members of both clubs have noticed, especially at weekends, a high incidence of gliders overflying the airfield.

This is an "intense parachute dropping zone": parachutists freefall from 12,000ft to approximately 3,000ft before deploying their chutes. It is shown on the aeronautical chart ICAP 1:500,000.

We have called up on radio on all gliding frequencies and on the airfield frequency of 119.45, but the glider pilots in question have not responded.

I used to take pride in the airmanship and lookout taken by glider pilots, but I feel this is now deteriorating badly.

Please, please can all glider pilots taken note: Hinton airfield is one of the busiest dropping zones in the country. Please avoid overflying the airfield, or at least make radio contact on 119.45 and talk to the drop-zone controller.

Safe flying is paramount.

John Cooper, BRACKLEY, Northants

Another picture of aviation pioneer Liwentaal has been sent to us by the aviation historian currently writing a book on the subject. It is due to be published, in French, this September. See More information on Liwentaal, *below*



More information on Liwentaal

JUST a word to mention the link between Liwentaal (June-July 2003, p45) and that other famous early pioneer, Hiram-Maxim. This took place in Kent, during 1890-1891, before the Dartmouth/Dittisham glider flights. As the first glider flight with "2 manches à balai" – in other words, with flaps, rudder and wires, 1894 must be regarded as a better glider flight than those of Lilienthal, for example. On the Zeppelin side: Liwentaal worked on the first airship (LZ1, 1899-1900) the LZ2 (1904-05) and many other airships (including Barton airship in England). As he was given British citizenship in 1914, he is one of your pioneers.

Jean-Claude Cailliez, aviation historian, MEYRIN, Switzerland

Laws and Rules and Imperial units

I WEIGH 83kg which, last month, translated into an acceptable 183lb, enabling me to fly most gliders. This month the conversion chart in the new edition of *Laws and Rules for Glider Pilots* puts me at an unacceptable 272lb, way (or is that "weigh"?) over the limit to fly a K-13. Seriously, is it not time to stop using obsolete units on our cockpit placards? Imperial units of weight were abandoned a whole generation ago; it is time that the BGA did likewise.

Charles Baker, WINCHESTER, Hants

Please see p16 for a review of Laws and Rules – *Ed*

Just so much hot air

THIS is from the published NOTAM. The gliding masses should be told: EGTT EGPX-NAVW: FROM 03/04/02 07:00 TO 03/05/30 15:30 H1487/03 D)0700-1530 DAILY E) (MIL REF)AUS 03-04-0059/643/MB INTENSE THERMAL UPDRAFT WILL TAKE PLACE WI A 2NM RAD OF 5459N 00308W POC TEL 01228 791383 EXT 2641 F)SFC G)2000FT AMSL. Maybe this was the son of Didcot?

Jerry Pack, *via email*

Please send letters (marked "for publication") to the editor at helen@sandg.dircon.co.uk or *the address on p3, including your full contact details. The deadline for the next issue is* ***August 12***

An assistant instructor writes...

BOB Pettifer asks (June-July 2003, p8) why assistant instructors don't want to become full rated.

Currently, it would be a bad investment of my time and money and would give me very few advantages. The cost of attempting to obtain a full rating would be about £1,000. This would comprise the cost of training at my club (£200); the preparation course fee of £150 and the cost of flying on the course (£200-£300), plus the cost of bed and breakfast and meals/drinks for a week (£250) and the cost of flying for the test (£100). I would also have to take a precious week of leave from work.

I have to balance family life with gliding and gliding between flying my own glider and instructing. I would like to progress to the full rating but I do not believe that the benefits would justify my personal investment.

Richard Fitch, SOUTHDOWN GC

Motorgliders power on

I READ with interest John Northen's (April-May, p9) and Peter Turner's (June-July, p8) letters in response to Derek Piggott's article (February-March, p18) and I agree with them wholeheartedly.

Bob Pettifer's reply has missed the point completely as the question is: "are assistant-rated instructors competent at instructing or not?". Irrespective of whether in a glider or motorglider – surely the answer must be yes?

The gliding movement is supported by volunteers with limited time and money to invest in their hobby: the only consideration should be one of safety and his argument does not cover this point. Do not have rules that are not well thought out, just because it has always been that way.

In days of falling numbers in the gliding movement we must use every available avenue for increasing the number of new members. Eight hours on an airfield for three five-minute flights is not a good way to introduce new members with limited free time. This is where the motorglider serves to get the student time in the air, and on the controls, in non-soaring weather. With this in

view, mindless obstacles to reduce the numbers of instructors overall serve no purpose.
Peter Farr, SOUTH NORWOOD, London

Motorglider instructors

GOOD point – why not allow assistant instructors to train as BGA motorglider instructors? OK, so an assistant instructor hasn't proved his competency to instruct totally without supervision – that's what a full rating is all about – but Stage 1 (upper air exercises and circuits, etc) motorgliding instruction is usually carried out within eye- and ear-shot of the CFI or nominated deputy. I'm fairly sure that our Air Cadet mates teach gliding exercises in motorgliders using all categories of instructor, although they are taught specifically how to teach on the one aircraft type within a well-supervised, tightly-regulated environment. In reality, it is probably wise to continue to insist that a full rating is needed to instruct field landings and navigation. A proven in-depth level of gliding and instructing experience and competency is of obvious benefit, particularly for the student, and the supervision aspects speak for themselves.
Pete Stratten, BRACKLEY, Northants

Solo age: a view from Germany

REGARDING the debate about the age to go solo I'd like to add one more comment. In the last issue (June-July 2003, p9) the writers say the solo age here in Germany is 14, compared to 16 in the UK. That's correct but it is only half the truth. In Germany 14 is not only the minimum age for going solo but also for starting to learn gliding at all. A younger person must not be trained.

The system works differently to the one in the UK and is nearly completely regulated by law. Obviously the curriculum is more or less the same.

After reaching solo standard in Germany the pilots are still regarded as students. The instructor will decide about their flying and he has to brief them before every single launch. The instructor is PIC for the flight even if he is not in the plane and he has to supervise the flight for the whole time. If something goes terribly wrong the instructor – not the student – has to handle the trouble with the prosecutor. In reality, of course, the briefing for more experienced students consists of: "Go up, stay there!"

After receiving a licence (which equals the Bronze Badge/Cross-Country Endorsement standard and can be issued at 17 – or 16 in the case of the new European licence) the former student is regarded as fully trained. He is off checks and anything a CFI, Duty Instructor or anyone else tells him about his flying is just a good tip, not an order. Only the authorities are able to ground him.

The point I want to make is that there is a difference in the degree of freedom you have as a solo standard pilot in Germany compared to the UK. The UK system gives a smooth transition from being a student to being a fully-trained pilot (and back). The system in Germany is more a one-way, black-and-white kind of thing. Having experienced both systems during my gliding training for a year each I can't say one is better than the other. As far as I know, safety records can't tell either.

My opinion in any age-related discussion is that age is not the very best indicator to determine the ability of anyone to do anything. Especially not if we are talking about teenagers. But if – in this case – someone is mature enough to learn to fly I can't see why he shouldn't be ready to go solo after successfully completing the training.
Sören Ebser, Fliegergruppe Heilbronn, Germany, & Staffs GC, *via email*



Ian Strachan

Some of gliding's greats (from left): Wally Kahn (see his letter, below right), David Ince and Tony Deane-Drummond

Gliding and its image

THERE were a number of items in the June-July *S&G* relating to our sport's image – age of solo, interest to the young, etc. My daughter summed up the problem briefly: "gliding doesn't have an image, Dad".

I realise it makes Keith Auchterlonie's problem greater to say that, but it should be faced. As one of our recent soloists said to me: "I had no idea all this was going on over my head; now I look up there all the time".

Lowering the age of solo may be way to get more young people interested – but my old boys' rugby club had to accept that there was a lack of recruits of school-leaving age 25 years ago, because the problem of lack of commitment, time, money, dedication, interest, and so on, was insurmountable.
I do not perceive the situation being any different with gliding. The few young people who want to will fly (if they can find us); the rest just have too many demands on their resources. However, as a wrinkly, I have taken *Saga* magazine for years (holidays not obligatory!) and talk about lack of image! Gliding has not had a mention. How about Derek Piggott on the front cover – he's led a more interesting life than most of the show-biz nonentities they portray – and he's better looking too!

Why not get as many parents whose kids have fled the nest as possible into the movement? They are often the people with spare cash, some spare time, are not used to being spoon-fed things in easily digestible packages and would benefit from spending days in the fresh air.

Additionally, they take longer to train and would give us weekend instructors trying to climb the annual hours mountain a greater chance to hone our skills. Then there might be a trickle-down effect on the children.

I'm sure a large proportion of your readership would agree that, while the younger people provide the spectacular side of gliding, it is the oldies who are the backbone and do most of the work.
Neil Kelly, WALLINGFORD, Oxon

How to get new members

THE common cry of despair from some clubs throughout the world appears to be the lack of new flying members. Dire thoughts on the future of our sport are being expressed and therefore, unless we all work hard to reverse the negative growth of new glider pilots, the resultant increase in fixed costs shared among fewer people will tend to weed out the less affluent and also reduce our voice and therefore influence in the corridors of power where decisions on our freedoms are made!

It is a sad truth that our sport is hardly a bright star – we are very few in number to warrant much press coverage, our medium is hardly spectator sport material and therefore does not make potential sponsors form an orderly queue and, most unhappily, only messy mistakes make sub-editors sit up and take notice. From personal experience I know that chasing after national newspaper coverage – nice if you can get it – is generally a waste of time and effort; national and regional television is great if you have a gripping story to tell them or get their interest for a special event, but is ruddy hard work and very time consuming.

But there is the way to level our playing field and put us on a par with other sports-

men and women. How? We must alert Mr and Mrs Joe Public to our activity, make them interested and curious then persuade them to have a go!

And there is a sure-fire method of getting at the public through editors who will love you for ever, print almost anything you want, give you double-page photo spreads with a little effort and additionally enable you to make friends for life for young and thrusting reporters who have to cut their teeth at local level before moving on to mainstream newspapers, television and generally writing on a variety of subjects.

Therefore, my friends, do as I did. Get the name and address of every local newspaper within (say) 30 or 40 miles of your club, send them a story about your club, invite a reporter to visit and generally make friends with them. *but* the thing they love and will always find room for is *the local boy/girl story*. Whenever one of your members goes solo, gets Bronze or higher, makes instructor, bakes a cake – send details and especially a nice picture showing the hero with the glider to *his/her* local paper.

Local editors can't get enough of this sort of material, the young cub reporter will love to visit you rather than his usual dreary round of council meetings, funerals, Institute openings and flower shows but best of all Mr and Mrs Bloggs, who read the local newspaper religiously – him for the sport and secondhand cars, her for whatever turns women on, will read about little Willie and say: "That sounds fun, why don't we have a look and might even have a flight!"

I know it works. I have done it. And it produced instant new members at virtually no cost and remarkably little effort – I used to collect the club news after the weekend, send it off on Monday night to the various papers – and hey presto! We moved our club to a new site and within one year had lots of new local members. Some time ago I admit, but it still works just as well to-day.

Just find one of your club members who is willing and able to do a simple clean job for his club and you'll never look back.

Wally Kahn, LONG SUTTON, Hants (erstwhile hon PRO and Chairman of Publicity Committee, BGA and RAeC)

You jump into a glider and race off

THE article *Flying big wings* by Graham McAndrew and Phil Phillips in the June-July issue (p60-61) is very timely and covers most aspects well. However, I'm a bit worried about the message Graham is sending out when he says: "...if it were the start of the season and you had not flown for four or five months, then along comes a nice spring day and you jump into a glider and race off cross-country..."

Never mind big wings (or any other bells and whistles), should anyone, even a multi-thousand-hour pilot, try putting any glider into a farmer's field after not landing anything for five months even on his home airfield? (Answer: No). Don't accident investigators look at pilot-currency and pilot-recency? (Answer: they most certainly do, although published BGA accident reports don't seem to). Don't clubs have stated requirements for dual check-rides, local flying and on-airfield landings after a lay-off, no matter how many hours you managed to pack in beforehand? (Answer: read on).

Over the last decade, I've flown, instructed and am now also safety member with a smaller club where the instructor cadre keeps tabs personally on members' flying currency/recency. All its cross-country pilots are required to pass a motorglider field landing session each thermal-season before they head off into the blue yonder.

In addition, a period of satisfactory local flying would be required of any re-emergent winter hibernator (but, with a nearby ridge, they are rare).

I cannot think that Graham meant readers to assume literally that any pilot should do as he states above. However, these days as soon as bits of glider and tears hit the ground, cries of: "But you said..." or "But you didn't tell me..." are heard. In a society that seemingly requires written guidance about even obvious risks, there is a need to be objectively specific about post-lay-off flying requirements, particularly at the big seven-day flat-site operations, which experience long winter lay-offs and where personal knowledge cannot be guaranteed.

Somewhere in my travels, I've seen scale-charts pinned up with pilot-hours up one side and length of time elapsed (since last flying) down the other. A plastic ruler between the relevant point on each indicates, on a middle scale, the dual check-rides/landings/local flying needed before a pilot's cross-country or any other clearances can be reinstated. As such requirements may vary from site to site, on a wet day, a CFI could sketch out and calibrate one or more to suit local limits and the club IT desktop computer artwork wizard could turn them into professionally presentable kit via a colour printer.

Tony Gee, MARLOW, Bucks



Jaxida covers on the first Eta to be built – see Wing covers, *bottom right*

Engine-off landings

I READ with interest the excellent article by Pete Freeman (*Taming the turbo*, April-May 2003, p43) with regard to the problems of making a field landing in a turbo/SLMG.

Having read it, I decided to do a few simulated forced landings at Bidford in my ASH 26E with engine out and stopped. It became apparent that the best way to land without having to make major changes to my normal circuit planning (as a result of the reduced glide angle due to prop drag) is to place the flap lever in the thermalling position and not in the landing (+38°) mode. The relative absence of flap-induced drag partially compensates for the prop drag. Consequently, the circuit planning is not dramatically different from a "normal" full flap approach. The touchdown speed is not significantly affected.

Jon Wand, *via email*

Wing covers

IT was with great interest that I started reading the article about AERO 2003 in the June-July issue, until I reached the photo (p32) of the Eta with one wing covered with Jaxida Cover.

What you say about Jaxida Cover is more or less correct, but we must say that we do not feel that the photo does justice to our product. Jaxida Cover are famous because of the perfect fit, etc, which has always been our aim.

It was quite a shock to see that it had not even been fitted correctly. We displayed our covers on the floor next to the Eta, and we do not understand who placed them like that on the wing of the Eta.

We attach a photo of the first Eta covered with Jaxida Cover, and by separate snail mail we send a print of a Minimoa *(not used – Ed)* showing Jaxida Cover perfectly fitted.

We would appreciate if *S&G* would print these photos as a compensation for the dreadful photo you now have exhibited to the whole world.

Verner Jaksland, Jaxida Cover, HOLBÆK, Denmark

Alex Yeates learned to fly at LGC

For aerobatic and all the usual course information, phone Val on 01582 663419 or go to www.londonglidingclub.co.uk

Tilting at wind-farms

SOME 12 years ago, the first British wind-farm appeared in North Cornwall. Since then, wind turbines have been springing up like mushrooms, all over the UK. In the autumn of 2002, the Department for Trade and Industry (DTI) published a glossy booklet containing its *Interim Guidelines on Wind Energy and Aviation Interests*.

Wind-farms are accepted as part of the landscape in many European countries and in places like California, they are often the dominant feature. However, the BGA regards the current proliferation of wind turbine sites as a threat to the safety of gliding operations.

But this is all part of the Green Revolution. Renewable energy strategies are politically important. Wind turbines provide us with cheap electricity. What harm can they do?

Wind turbines threaten gliding in three ways. Firstly, they get in the way. A wind turbine presents a significant physical obstruction with the top of the rotor some 300ft above ground level. Secondly, they give rise to electro-magnetic disturbance which has a strobe-like effect upon radar systems and can interfere with navigation equipment. Lastly, they have a reputation for creating downstream turbulence – a fear that has largely been discounted as a result of recent research, except in locations close to the turbine. Nevertheless, their potential for obstruction gives serious cause for concern at several BGA gliding sites, notably Northumbria, Strathaven and Eaglescott, where nearby proposals present a serious threat to the safety of gliding operations.

The DTI's glossy booklet, which claims to be the result of consultation between interested parties, includes the provision for all airfields, including gliding sites, to be notified of any planning application for a wind turbine within 30km. North Devon GC has just received notification via the CAA of a wind-farm development proposed for the very next field to their site at Eaglescott! What can a gliding club do to stop such a development from going ahead?

Fortunately, the BGA and General Aviation Awareness Council (GAAC) have already established good working relations with the CAA and last-minute representations on behalf of our members will be treated sympathetically. The CAA's Directorate of Airspace Policy (not the Safety Regulation Group, which is usually responsible for safeguarding issues) have established a specialist wind-farm team to deal with developer consultations and are aware of the issue of unlicensed aerodromes. They do not, however, normally inform the unlicensed aerodrome operator when a wind turbine proposal is notified to them and their current approach is to advise the developer to contact the aerodrome operator. This makes the major assumption, of course, that the wind-farm team is aware that an unlicensed aerodrome is located nearby. As ever, unlicensed aerodromes are in an unusual and disadvantaged position. It is also worth remembering that the CAA usually expresses no responsibility for unlicensed aerodromes!

We are, however, extremely concerned that the DTI's publication is presented as the outcome of consultation, even though the views of some major aviation stakeholders have been overlooked. Neither the BGA nor any of the national representative bodies for General Aviation were consulted before the *Interim Guidelines* were published.

These so-called *Interim Guidelines* are claimed to be a "living document" born out of consultation with interested parties and subject to frequent updating and amendment. Yet, at the time of writing, the BGA, GAAC, AOPA and PFA have all been excluded from the consultation process. That is not the way for planning matters to be conducted and it is simply not acceptable! Nor has the DTI had the courtesy to reply to any of our letters of remonstration, since publication. Just one more freedom appears to have been sacrificed in spite of all the appearances of democratic consultation.

Philip Isbell, the GAAC's Safeguarding Co-ordinator, has pointed out that the DTI's publication is in stark contrast to the positive consultation process which led up to the recent Office of the Deputy Prime Minister Circular 01/2003, issued in January. During the preparation of that Circular, the GAAC and BGA were consulted and were able to put forward a number of serious issues and concerns about the draft document. The final version of that Circular took account of those representations and moved GA aerodrome safeguarding forward in a positive way. Philip also notes that this planning guidance may come as a bit of a surprise to wind energy developers, who will probably have expected the *Interim Guidelines* to manage all of the aviation issues of their developments.

The need for gliding sites to have a recognised safeguarding policy (albeit non-official) is, once again, emphasised. We need to be able to stop any development which threatens the safety of an aircraft and its occupants. general aviation and gliding, in particular, needs to ensure that its voice is heard.

Otherwise we shall find ourselves tilting at windmills as ineffectively as Cervantes' immortal character, Don Quixote, and his faithful squire, Sancho Panza.

If any other gliding club feels threatened by a wind-farm proposal, please contact the BGA straightaway.

Roger Coote, BGA Development Officer



Chris Chappell (left) and Nick Bowers (in rear cockpit) with Explorer Scouts at The Park

Guiding and gliding

THE BGA has been exploring opportunities for strengthening links between gliding clubs and their local Scouts and Guides groups. These provide a potential source of new members and a structured youth interest in the gliding movement.

Last autumn, we received an enquiry from *Girlguiding UK*, to find out how Guides might obtain gliding lessons at BGA clubs. As my own club had been involved in running special evening trial lesson sessions for Scouts and as we envisaged that this would become a club-based activity, we set up an outline procedure to facilitate communications between Guide leaders and their local gliding clubs with a view to negotiating terms and making their own special arrangements.

Both Guides and Scouts have challenges and badges for aviation activities. The requirements for some of these are of a very high standard and involve paragliding and parachuting as well as gliding.

For some challenges candidates have to complete three parachute jumps or five hours and 10 launches in gliders.

Not exactly kids' stuff!

We anticipated that some clubs might be reluctant to participate, fearing problems with supervision and control, the requirements of the Child Protection Act and special insurance provisions. Those reservations, however, have been actively addressed by an individual initiative in good practice, which has important implications for the gliding movement.

The Bath, Wilts and North Dorset GC at The Park has developed an outstanding example of a successful partnership between the Gliding Club and Scouts in the County

of Dorset. The scheme is largely the result of a tremendous amount of hard work by Chris Chappell (who is both a club member and Scout leader) and a group of dedicated instructors with the full support of the club.

At the heart of the scheme is a block membership for four juniors (14-21 years) used on a rotating basis by any Scouts from Dorset county.

The arrangement is working well. Not only can the club provide Trial Lessons to meet the requirements for some of the "aviation" challenges, but there is also a group of Scouts who are currently learning to fly as junior group members.

Supervision is provided by a qualified Scout leader (who has also joined and is learning to fly as a club member) and other young people have been attracted to the club as a result.

Some motivated youngsters have joined and are learning to fly independently under their own subscriptions as junior members.

The block membership agreement, thus formed, has the potential to be used by other gliding clubs and their local Scouts or Guides groups. A specimen copy that might provide the blueprint for a successful arrangement at other clubs is obtainable from the BGA office. A number of practical points has already arisen:

- ❑ Since there are on average only one or two gliding clubs per county, the grass-roots administrative liaison is best set up at County level.
- ❑ The number of Scouts or Guides on the airfield at any one time needs to be kept at a level that will not conflict with club training. More members are very welcome but if overdone, the arrangement could lead to resentment from existing members.
- ❑ Supervisors are provided by the Scouts/Guides as part of the deal.
- ❑ Other Scouting or Guiding requirements, such as First-Aiders or additional insurance cover, do not necessarily have to be provided by the club but can become the responsibility of the guest organisation.
- ❑ Scouts aged 14-21 (Explorer Scouts) are eligible for the group junior membership.
- ❑ Guides of 11-25 years are allowed by their own rules to take part in gliding. Clubs may elect to raise the lower age limit to, say, 14 years.
- ❑ Under the Child Protection Act, young people under 18 years of age must be accompanied by an appropriately qualified adult.
- ❑ The BGA's *Code of Conduct for Gliding Lessons* will apply.
- ❑ Special safety provisions, supported by a risk assessment, are desirable.
- ❑ Partnerships for the benefit of education through sport might qualify for grant aid through the European Union?

Please contact your BGA development officer if you are interested in creating such an arrangement at your own club.

Roger Coote
BGA Development Officer





Top teams...

ANDY Perkins *(right)* at Stokenchurch in ASW 19 "Y4", which he was due to fly in the 2003 Junior Worlds in Slovakia alongside team-mates John Tanner and Matt Cook (also Club Class) and Jez Hood, Luke Rebbeck, and Leigh Wells (Standard Class). The Juniors have been sponsored by AspectCapital, Dickies, Tork and TengTools. In the 28th senior Worlds (from July 19) Andy Davis and Mike Young will represent the UK in the Standard Class; David Watt and Chris Starkey in the 15-Metre Class; brothers Phil and Steve Jones in the 18-Metre Class and Pete Harvey in the Open Class. For results from both these championships, see *www.glidingteam.com*; full reports in the next *S&G*

(*the* **White Planes** *picture co.*)



UK's first Worlds since 1965

AS YOU may have heard by now, the BGA has been successful in its quest to bring World Gliding to Britain, and the 4th Junior World Championships will take place at the Soaring Centre, Husbands Bosworth, in August 2005. We expect to have more than 70 entries from at least 21 countries.

This is only the third time that a World Championship has been held here; the last were at Camphill in 1954 and South Cerney in 1965 – a 40-year wait! So we really want to make this event a stunning success, and a celebration of gliding in Britain.

As ever, the budget for staging this is not huge, and we need your help – all readers of *S&G* can be part of this, and not just the competition fraternity.

It is a great opportunity to boost the profile of gliding throughout the country, and with the National Gliding Day, which is projected for next year, we can make these events truly memorable.

How can you help? First and foremost by publicising these events – even word of mouth is good publicity! We are also keen to extend our links with commercial companies who would welcome being part of a World Championship event, and would like to have British companies as partners in sponsorship, so in advertising this to colleagues and friends we can spread the word.

We will need to raise funds and would welcome fresh ideas from you on new and innovative ways to extract money from people! As a start, instead of buying a Lotto ticket this week, give it to the World Fund – we can't promise you six million pounds in return, but the impact it would have if 8,000 people did that would be huge.



The balloon will go up at Husbands Bosworth, and we aren't talking about the balloonists (above) who went there in June. The site will host Britain's first worlds for 40 years. Marilyn Hood explains (left) how you can get involved, while the announcement of the joint venture between the club and the BGA is published (right)

This is just the first in a series of updates that we will be giving you on the build up. We are just over two years away, but the time will fly by, and there is much to be done. A website will be set up shortly, and more information will be posted there. In the meantime, if you would like to help in any way, the organising committee would be pleased to hear from you.

You can make contact via the BGA office, or to me directly:

marilynhood@tiscali.co.uk
01400 281648

Look forward to hearing from you!

Marilyn Hood
Chairman
Communications & Marketing Committee

Joint venture announcement

IN preparation for the World Junior Gliding Championships 2005, to be held from August 6-20, 2005, at The Soaring Centre Husbands Bosworth, the BGA and The Soaring Centre have entered into a joint venture (JV) agreement.

A JV steering group will oversee the planning and preparations by the club's organising committee and provide guidance where needed.

Members of the JV group are Jon Hall and Diana King (members of the BGA Executive), Marilyn Hood (Chairman of the BGA Communications & Marketing Committee), Jonathan Walker (Chairman of The Soaring Centre), Roy Spreckley (member of The Soaring Centre Committee) and Tony Scragg (Assistant CFI of The Soaring Centre).

Andy Davis, World Standard Class Champion 1993, and a member of the Bristol & Gloucestershire GC, will chair the JV group. Andy has continuously represented Great Britain in World Championships since his first event in 1981 at Paderborn.

At the first meeting of the JV group in May, Harry Middleton was appointed Contest Manager with Roy Spreckley as his deputy. Ron Bridges was appointed Competition Director and Derek Westwood as his assistant.

David Roberts, Chairman
British Gliding Association
& Jonathan Walker
Chairman, The Soaring Centre



Up hill, down dale

ON July 5 Richard Branson (left), in period costume, flew a Cayley Flyer briefly at Brompton-by-Sawdon to mark the 150th anniversary of the first glider flight to carry an adult (inventor Sir George Cayley's coachman, who then promptly gave notice, saying he was "hired to drive, not to fly"). The aim was to raise money for a monument to Sir George, who – as the first to identify the aerodynamic forces of weight, lift, drag and thrust – is often called the Father of Aviation. See pp34-37 for more about the replica glider (photos: John Jones)



DG and LS "join forces"



Karl-Friedrich Weber at AERO 2003 with the DG-808s

AS *S&G* went to press in early July, two leading German glider manufacturers, DG and LS, were due to announce that they were: "joining their forces under the leadership of DG Flugzeugbau, in response to the continuous economic difficulties for the civil aviation industry".

Karl-Heinz Schneider, of LS Flugzeugbau, was not prepared to comment to S&G before the official announcement. But Karl-Friedrich ("Friedel") Weber of DG Flugzeugbau, knowing that this issue of *S&G* would appear after the announcement, confirmed that the agreement will have taken effect by the time you read this. He said the deal was made because of the after-effects of the terrorist attacks on the USA in 2001.

"September 11 was the significant day. The situation is very bad," explained Friedel Weber, He added it was an opportunity to expand DG's business without using new people. LS's Egelsbach factory will close, he said, but four or five of LS's 60-plus people – including Karl-Heinz Schneider and designer Werner "Micro" Scholz – will work from the current DG factory at Bruschal. This will become the base for supporting LS's 3,000 or so customers, using original LS parts. "This co-operation will protect the investment of current LS aircraft owners," said the draft announcement, "since further production and development remains in the competent hands of a leading German aircraft manufacturer". DG will, it added, honour all existing downpayments and options on new LS gliders. Asked how much DG had paid, Friedel Weber would not be drawn. "A reasonable price," he replied.

LS, manufacturer of the popular LS4 and LS8 gliders, has recently been developing the turbo LS8 *(see also p38)*, the LS9 and the LS10, as well as working with the Akaflieg Köln on a two-seater, the LS11.

All variants of the LS8 – LS8A, LS8B, LS8T, and the LS8-15/18 – will continue in production, said DG, with delivery times next spring, but the future of LS4 production has yet to be decided. The LS11 will not be developed for production by DG. The LS10 had its maiden flight on June 6 this year. Development to certification will continue, pending comparison flights with the DG-808s, says Karl-Friedrich Weber. *(See the June-July S&G, pp28-30, for more details of the LS10 and DG-808s).* To move the LS10 to series production, wing destruction and flutter tests are needed. Certification of the LS9, of which 10 have been sold, will continue, but no new orders will be taken.

DG, established by Karl-Friedrich Weber and Gerhard Wolff after Glaser-Dirks went bankrupt, plans to continue all its existing range. LS owners need to subscribe to DG's emailed newsletter to make sure they receive technical notes as DG does not post these out (email the subject line *newsletters, please* to *weber@dg-flugzeugbau.de*).

As we went to press, *S&G* had no clear-cut information about the impact, if any, of the changes on the manufacturers' UK agents: Wells Design (LS) or McLean Aviation (DG).

On July 5, DG also announced that they have struck a deal to produce the Silence, an Ultralight (UL) aircraft shown at AERO 2003. It's rather like a Spitfire in looks *(see below left)* and flew for the first time in 2002.

DG is considering developing the Silence (certified as a UL in Germany) into a tug, a VLA-certified aircraft, an aerobatic version and a touring motorglider. This will be within a new wholly-owned subsidiary of DG, "Silence Flugzeugbau", in cooperation with the two Silence designers – Matthias and Thomas Strieker.

www.dg-flugzeugbau.de/index-e.html
www.ls-flugzeugbau.de/English/Home.htm
www.silence-aircraft.de



LS10, the day of its maiden flight (manufacturer's photo)



Jochen EWald

DG have also announced a deal to produce the Silence



DG-Flugzeugbau

DG moved to the purpose-built Bruschal factory in 2000

A round-up of recent releases that might entertain you during a scrubbed day this summer...

The Start of Gliding in Italy

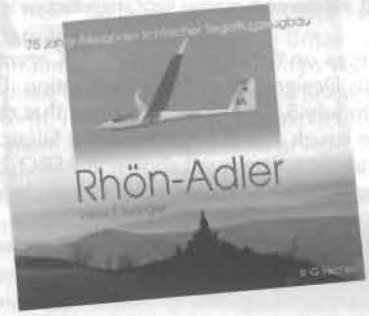
by Vincenzo Pedrielli — **self-published**
vpedrielli@murata.it — **20 Euros plus p&p**



VINCENZO is well known in the vintage gliding world and in his home country of Italy; he is a contributor to the national magazine, Volo a Vela. *This lovely little book, with more than 50 original 1924 photos, tells the story of the first international gliding competition held in Italy, at Asiago. Beautifully-designed, meticulously produced and with Italian* and *English text, it would make a great present for a friend – or indulge yourself!*

Rhön-Adler– 75 jahre Alexander Schleicher flugzeugbau

by Peter F Selinger — **ISBN 3-8301-0437-5**
info@edition-fischer.com — **39.50 Euros plus p&p**



PUBLISHED to mark Schleicher's 75th anniversary, this is another beautiful book, packed with technical detail and super photos, but to get the very most out of it you need to be able to read its German text

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YOU MAY think that you're used to seeing the English countryside from above, but the *High in the Sky* CD-ROM series gives you the chase to really study it without having to worry about airmanship, lookout and soaring technique. The zoom facility on this photographic map means you can view the ground from a whole range of heights. Low down, the degree of detail is reasonable without being minute – close enough to pick out gliders on your home site, but not quite enough to distinguish your trailer in the line. At the other extreme, you can see the whole county at a glance (the data is divided into 51 English counties, one county per CD – but where are the Celtic countries?).

Another difference from actually being airborne is that, because the photography (from *getmapping.com*'s Millennium Map project) is shot near-enough vertically downwards, the angle at which you're viewing the scenery looks different from the one from your cockpit (unless your lookout is fixated in a peculiar direction).

What I did find a bit difficult, with this wealth of photographic detail, was to locate myself precisely when going into the map from the county-at-a-glance level. I tended to zoom in to a familiar feature (a known airfield or a distinctive meander in a major river) then navigate around the county as if making familiar journeys in my car. Doubtless there are cleverer ways of doing it for the more technically-minded; but even for this Luddite, installing and starting to use the software was a five-minute job.

Well worth the 20 quid for its curiosity value alone, but I can see applications for gliding clubs wanting to, say, brief visitors on rope-break fields or local airspace boundaries, or to give early cross-country pilots a sneak preview of the features on their Silver distances. A single copy on the club computer shouldn't, I'm told, break the single-user licensing agreement, though if your club is on or near a county boundary it'll cost you more to cover all the ground you need. What they say you can't do, however, with this CD is import the scenery into your flight-sim or logger trace viewing software.

In conclusion, I was entertained by the promise in the CD's cover blurb that: "*High in the Sky* allows the user to glide over large surface areas in seconds". If you're a serious distance record seeker, I'm afraid there are no short-cuts: you still need a sailplane, some lift and rather more time than seconds. **Helen Evans**

Flight – 100 years of aviation

by RG Grant — **Dorling Kindersley**
ISBN 0-7513-37323 — **£30.00 from bookshops**

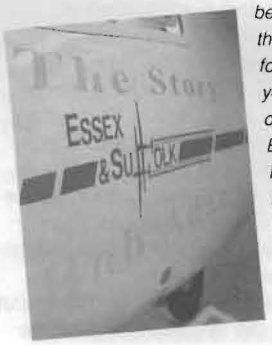
ANY one book aiming to cover a whole century of flight, even in 440 pages, will struggle for space. Here, sport gliding merits just 122 words (which include the immortal sentiment that it isn't for those with "record-breaking ambitions" You tell Klaus Ohlmann that!). This is a book you might buy as a treat for your young niece or nephew but not, perhaps, for your own collection



The Story: Essex & Suffolk

by Bob Adams — **self-published**
robert.adams@cwcom.net — **£20.00 plus p&p**

THIS charming account starts unexpectedly... with one of the club's founders flying a Catalina in WW2, hunting the Bismarck. *If I had to be critical, I might say that £20 is a bit much for a small book, but you forgive this (and the odd typo) thanks to Bob's enthusiasm and hard work – it has some good anecdotes and a wealth of illustrations, from a motorised Primary to "hurricane" damage*



Laws and Rules for Glider Pilots Edition 14

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ANYONE will be able to check to see if you're using the latest (14th) edition of this essential book this summer – the new one is very smart in its blue BGA branding. If you've already bought a copy, you might want to note that the conversion table on p59 for kilos and pounds is wrong. Correct conversion factors are: multiply by 2.205 (to convert kg to lb) or by 0.454 (to convert lb to kg)



Testing the LX160s

Julian Fack of Midland GC tries out one of the new breed of lower-cost flight computers



Left to right: System unit showing switches, Display showing -1.7kt average sink and (+) 301ft (in hand) on final glide. Arrow on left is vario, vertical block near O shows speed to fly is correct, straight arrow on right shows Cruise mode, replaced by circular arrow in climb mode

(photo: Julian Fack)

UNTIL the arrival of GPS, the original flight computers, such as the Cambridge L-Nav, Peschges VP series and many others, were little more than automated JW Calculators, you manually input the distance and wind component, then the machine would count down the final glide from there. GPS changed all that, and the linking of GPS to flight computers produced much more than the sum of the parts. By adding accurate distance and ground speed to the airmass data provided by the flight computer they calculate, and constantly update, wind calculations which provides useable final glide data to the pilot.

These instruments work very well and no competition pilot would want to be without one, but they have been expensive enough to put off club pilots, and those with older gliders, where the cost of a GPS/flight computer combination could amount to 20 per cent of the value of the glider.

Now we have lower-cost GPS-coupled flight computers available for not much more than half the price, and the LX160s from LX Avionics is one. I have been flying the LX160s, and, with one or two caveats, I am impressed. The vario responds very quickly, without being oversensitive, and can be tailored to suit your preferences in almost every regard. The audio tone is not annoying, and the volume control has an interesting (undocumented) feature in that it sets the volume independently for climb and cruise. So if you turn down the volume whilst climbing, it may blast your ears as soon as you switch to back to cruise, until you adjust that too. Once you have sorted your two volume levels, this feature is ideal.

There are 95 pre-loaded polars stored, all for German gliders, but you can set up your own using free software from the website, (*www.lxnavigation.si*) where the instrument's instruction manual is available – but this is one area which cries out for improvement. The authors request feedback in their introduction to the manual, and I for one will be responding. I was, for instance, amused to read of the "user defined vario dumping" function; it should of course read "damping".

Unlike almost all other flight computers I have tried, the LX160s defaults to QFE on power up. This means that if you are flying a closed-circuit task all is okay until you have to divert to another airfield; you then need to perform some mental arithmetic, or revert to QNH in flight to see if you are within gliding range. Of course you can set QNH or any other setting at the start, but the unit does not remind you, and if you do nothing it assumes QFE. I presume the designers had in mind that for a normal flight, returning to the take-off location, this would reduce the complication and workload, but as my home club is at 1,500ft, I am sensitive to such things. All this talk of "final glides" may seem a bit esoteric to the club pilot, but in fact a flight computer can be very useful even in local soaring. If your "goal" is set to the home airfield, you then have a constant reminder of your ability to glide back (or not) as you fly around the area. You may be amazed just how far you can roam whilst remaining local.

Apart from its lower cost (which has recently increased to £899 incl. VAT) the LX160s is economical in its use of panel space, a decided advantage in today's slim cockpits. It consists of a system box containing seven operating switches and a monochrome LCD display, which is a very clear sample of the type, even in the brightest sunshine (*see picture*). Both units fit in standard 57mm holes, and the display is just 40mm deep. Since no flask is required the installation is also compact behind the panel.

The display is uncluttered, a segment and a pointer plus two digital readouts. Speed to fly and average are always present; I set up the LCD "needle" to show a normal vario and the digits to show glidepath, which is height above or below glidepath to your goal as selected on the GPS. There is a large number of alternative settings, such as netto or relative, for example, in cruise mode. It is also possible to slave up to another three displays (at extra cost) to show other variables, such as distance or altitude, but I chose glidepath since the others were already shown on my GPS display. Extra displays could also be useful in two-seaters.

One disadvantage of the compact size is the cramped access to the six tiny switches through which the unit is controlled, as a glance at the panel picture will reveal. I imagine it would be difficult to adjust the MacCready setting whilst wearing gloves, for instance. Access to other information, say, the wind component, is accomplished by holding up the Mc and Volume switches at the same time, and then by paging through the available info. The switches (R to L) control: cruise/climb/auto, MacCready, bugs, ballast, filter (damping) and volume. The cruise/climb mode can be selected on the unit, by remote (flaps or stick) switch or change automatically at a selected speed.

In recent years we have seen a new breed of instrument based on pocket computers running gliding software, and there seems little doubt that this type of unit will figure strongly in future. You can couple a Pocket PC to a GPS alone, but this provides limited functionality. Once the Pocket PC gets a feed of air data as well as GPS data, the whole system can really work for its living. Unfortunately, not many vario systems can provide the data in a format demanded by the Pocket PC and its gliding software. The LX160s, however, comes as standard with this facility, so it can form the heart of a very sophisticated system. It is already set up to connect to external GPS units or loggers and to feed the required data to the Pro version of Winpilot, or to Glide Navigator II.

This means that for a lower outlay the club pilot can fit a LX160s to his glider, connect it to his existing GPS, and enjoy a very useable system. Later on he can add a Pocket PC with gliding software and a logger or whatever, so building up a modular system as time and budget allows.

Conclusion: The LX160s is a compact and good value system which provides a clear upgrade path right "out of the box". The ergonomics are not ideal and the recently updated manual is still poor, but I can recommend it as a good buy.

It will repay new owners to spend time working on the best set-up for your own requirements, since most features are easily customisable.

The author would like to thank RD Aviation for the loan of the test instrument

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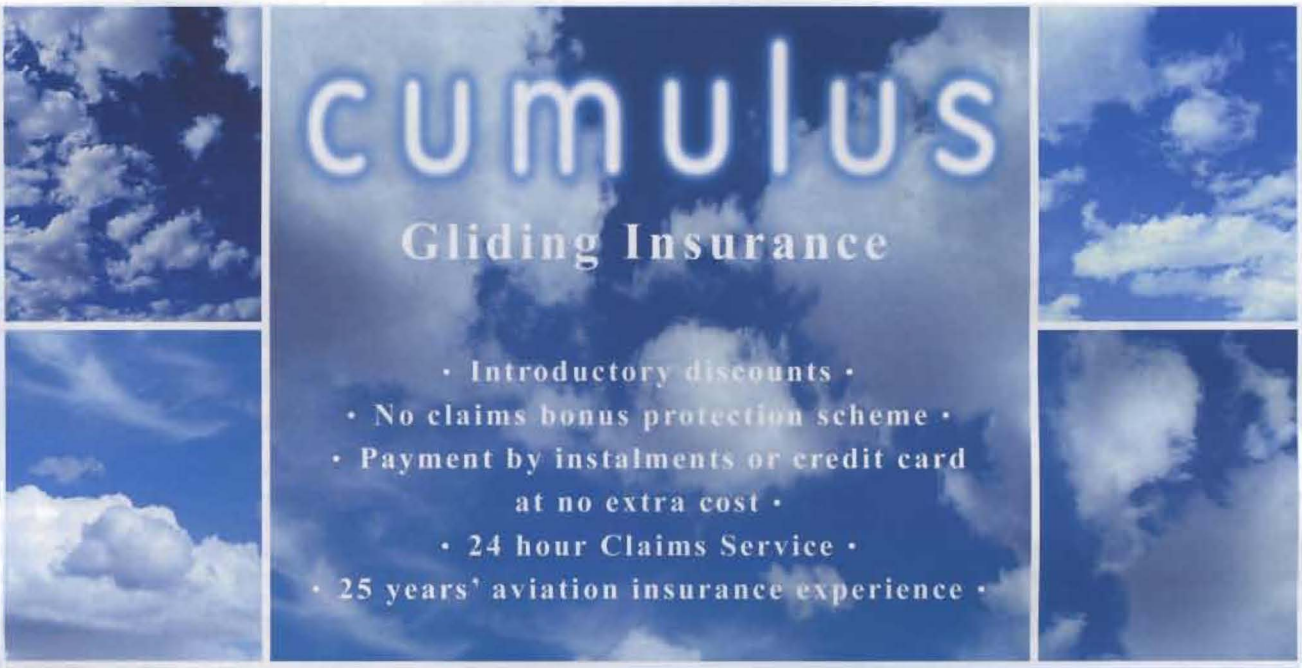
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American Diary

ON an open trailer outside Larry Mansberger's workshop at Minden is the fuselage of an elegant Lancair (low-wing, single-engined, side-by-side two-seater) in a slightly inelegant state. The front leg of its tricycle gear has gone and the prop is bent, the spinner bashed in.

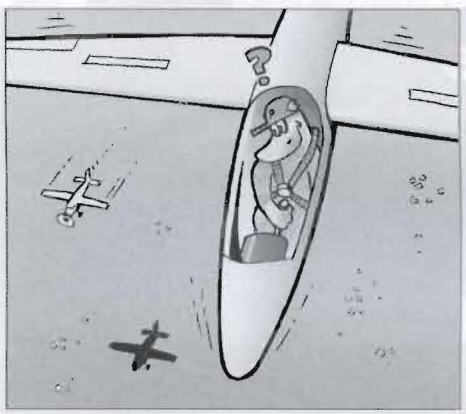
Minden is where I got my single-engine US power licence; the terrain, predominantly mountain and desert, gets one's full attention when you do a cross-country in a small power plane. When I did my mandatory solo cross-country in 1998 I flew as high as the little engine of a Cessna 152 on a hot day and the absence of oxygen equipment would permit – that is around 11,000 to 12,000ft. I was amazed to see little aircraft scooting along barely 1,500ft above the desert floor, their pilots totally confident in the infallible machinery in front of them.

So naturally I take a special interest in the story of this relatively undamaged plane.

While the pilot and his wife were at 12,000ft over the Sierra Nevada, the engine developed a serious fire. I suppose the word "serious" is redundant, there being no frivolous engine fires, but anyway there was an awful lot of flame. The pilot switched off the ignition, cut off the fuel and sent out a Mayday. He then made a dead-stick glide of some 12 miles on to a rough, undulating patch of ground at the bottom of the Californian side of the mountain range, elevation 2,000ft. The nose wheel collapsed as they finally skidded to a halt in a ditch, after which there was nothing but trees.

The two stepped out unharmed and phoned home.

Engine fires on small planes are usually the stuff of "Plane Crashes in Flames: Two Dead" newspaper headlines. However, it would be unfair to say that they were just lucky. It has not gone unnoticed that the person in charge was an experienced glider pilot.



above the desert floor

Easy rider

Renting a car is easy in most countries, though interestingly the more blighted and industrially backward the country, the more expensive the rental seems to be and, less surprisingly, the worse the vehicle.

In the most industrially forward country, the US of A, renting cars is cheap because of the competition, low taxes and the vast size of the industry and cost-benefits of scale. (I didn't get a degree in economics for nothing, you know.)

Platypus in pickup

However, if you try to rent a car in the USA with a tow-hitch in order to haul a glider trailer, it becomes very tough indeed. A few years ago, in return for some idle chatter titled *Sixty Minutes Wasted with Platypus*, the convenor of the SSA convention in Knoxville Tennessee, François Pin, lent me his spotless new ASW 27 for ten days. This gem of a glider I was to fly in *Geezerglide*, better known as the Seniors Championships. This as always was in Florida, and entailed a



it becomes very tough indeed

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solo drive several hundred miles south via Atlanta. (Hint: no matter how many Civil War movies you're reminded of, don't be caught in those parts thoughtlessly whistling *Marching through Georgia*. You might as well whistle the *Horst Wessel* song in Tel Aviv.) By the way, lots of pilots turn up at American gliding contests without crew; the weather makes outlandings rare and there is a fine esprit of mutual help in rigging and occasional retrieving.

Aerial transport of the highest quality was therefore guaranteed, but ground transport of any quality was my own knotty problem to solve. Eventually I found a rental company who would let me have a new, bright red, General Motors pickup truck that had a ball and all the right wiring connections for trailers. I vaguely recall that in order to be allowed to take possession of the car keys I first had to buy a baseball cap, expose the back of my neck to the sun till it was the same colour as the pickup truck, recite from memory the lyrics of Dolly Parton's raunchier songs and perform a few riffs on a banjo, while guessing the dates of various local marques of moonshine. Lemme see, this one's Saturday just gone, and this maturer one has the distinctive bouquet of Thursday before last, if ah ain't mistaken.

The only stations the truck radio was pre-set to receive were those pounding out Country & Western music or Hell-fire preachers demanding money with menaces. It was as well that I always travel light, or my belongings would have had to bounce



a few riffs on a banjo



a huge hound

around in the open space behind the cab, exposed to wind, rain and predators, both human and others. I began to realise why most Southern pick-up truck owners have a huge hound, of vigorous but very mixed parentage, slavering around in that space, or riding shotgun in the passenger seat, lolling out of the window and panting cheerfully at the other drivers as they go by.

It all worked a treat. As for *Geezerglide* itself, I have told you on an earlier occasion how I blew the comp on the last day by disbelieving the computer which firmly told me I had one more turning point to go round, while I equally firmly told it to shut up. Moral: put tasks on a map (er, for you young guys that's a piece of paper with a much-reduced representation of the earth's surface, with contours and symbols representing airfields and so on) as well as in the computer.

It only Hertz when I laugh

But I have one horror story to tell. Well, for someone as moral and pure as *moi* it is a horror story. The rest of you might think it was all a bit of a lark. This guy, who shall be nameless, dealt with the same problem I had in a creative way. He obviously couldn't be bothered to learn the banjo and C&W lyrics, or more likely or he preferred a spacious air-conditioned limo. He rented a very nice sedan (=saloon) and, being a dab hand at things mechanical, he went along to Wal-Mart's gigantic automotive section and bought a ball, with a bracket to fit to the underside of the car, and rigged up the wiring as needed for trailer connections. He then drove/flew happily for thousands of miles and, when his trip was done, removed the bracket, ball, wiring and all signs of tampering, and returned the car to Avis or Budget, or whoever the unsuspecting rental company was, without a blush.

No harm done, you might say, though some of those high mountain passes at noon in August can be pretty punishing for a car, and trailers in the USA have a massive tongue-weight, such as 100 pounds download, and roads at some glider ports and outlanding fields are a bit rough, to say the least. Not good for the car.

More to the point, if conscience is no spur to you, try cowardice instead, and think on this.

If while towing he had been in an accident (even as a blameless victim) involving other road users, or had wrecked the rental car, he might to this day be staring through the bars of some fetid jail, being serially romanced by the lifers, while thinking longingly of England.

Oh, didn't I tell you? Get ready to lower the flag in shame. This clever dick was a Brit. **mdbird@dircon.co.uk**

The Platypus Papers: fifty years of powerless pilotage (hardback, 160 pages, 100 Peter Fuller cartoons) costs £19.95 + £3.50 p&p. tel 0208 748 6344 or see *www.hikokiwarplanes.com* or buy securely on line at *www.gliding.co.uk*



staring through the bars of some fetid jail

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Flying the Ventus 2cxt



The 18-metre tip compared to a 15-metre one. The ailerons on the former move upward only, to improve efficiency without increasing drag too much

Jochen Ewald reveals why an X marks the spot where the new Ventus differs from earlier ones

MEMBERS of Schempp-Hirth's Ventus family, the flapped 15/18-metre series, now appear with an "x" in their name, marking several modifications which make an update worthwhile. The Ventus 2c series has been in production since 1995, and more than 300 have been built. Several changes were introduced on a step-by-step basis on different Ventus 2a and 2b models as well as on the factory-based self-launcher Ventus 2cm, D-KBTL, which was a testbed for most of the modifications, but self-sustainer D-KXIK was the first "x" model fitted with all the new features.
Its maiden flight was on May 23, 2003, at Hahnweide airfield, with Tilo Holighaus at the controls. A subsequent fire at the factory may delay delivery by "some months", says Tilo, "it will cost us a little time". Prices won't be affected. The fire, whose cause is unknown, damaged the Ventus 2cx fuselage moulds but not, crucially, the new wing moulds, kept in a different building. A few 2cxs are already built, including the two that World 18-Metre Champion Steve Jones (of Schempp's UK agents, Southern Sailplanes, *office@southern-sailplanes.freeserve.co.uk*) and brother, Phil, are flying in the Worlds.

Rigging the Ventus 2cxt with its four-part wing is as straightforward as you would expect from a Schempp-Hirth glider. The lightweight inner wing sections are the same shape as the old Ventus 2c's. Their single tongue spar ends slide easily into position and are locked by one central bolt, which is secured by swinging its lever behind a spring lock. When the wings are pushed in, the ailerons, flaps and waterballast connect automatically. The span of the inner sections is 11.4m (c 37ft), and at their far ends spar tongues protrude to take the outer sections. Each of the inner sections carries an 87-litre (19 Imperial gallons) waterballast tank. The dump valves are new: a ring around them can be unscrewed so they can be replaced. Ailerons and flaps are completely sealed inside by an elastic tape. The outer wing sections, for 15- or 18-metre span, slide on to the central wing's tip spar tongues, with ailerons again connecting automatically. A horizontal bolt, integrated into the outer wing's root rib, secures this connection. It is pushed into position by swinging the lever on the wing surface backwards, using the screw-knob tool that serves also to rig the



Left and right: Ventus 2cxt near Hahnweide airfield with Tilo Holighaus at the controls (on the left, the engine is being deployed). All photographs by Jochen Ewald

tailplane. The gap in the surface, where this lever disappears, is then covered by a small panel. The new outer wings for the 18-metre configuration are equipped with separate 14-litre (3-gallon) waterballast tanks, again self-connecting. These make ballasting up to the new 565kg (1,245lb) take-off weight possible even for the lighter pure glider and lightweight pilots. In the self-sustainer, it gives a wing loading from 35.9-51.2 kg/m² (c 7-10lb/ft²). To keep in-flight loads low, these 'tip' tanks always have to be filled first. The outer section also has completely new aerodynamics from Karl-Heinz Horstmann of DLR Braunschweig, as well as new, fixed, performance-improving winglets developed by Mark Maughmer. These "shark-like" fins mark a significant difference from the older Ventus 2s. The ailerons' span has been enlarged towards the tips; the far aileron section moves only upwards, to increase aileron efficiency without too much drag.

The fuselage tail section has new, thinner aerofoils (already used on the pure 15-metre Ventus 2AX and BX). Compared with these, the double-trapezoid "c" tailplane has been enlarged to deal with the bigger span and extra loads originating from sustainer or self-launcher engines. The new tail improves handling and performance, and collects far fewer drag-producing bugs. Before rigging, you have to decide whether to put a battery in the fin's box, depending on the required c of g position. The tailplane is rigged using the automatically-connecting Hänle system and the standard Schempp-Hirth tool. The fin also has a 5-litre (c 1-gallon) waterballast tank to compensate for the moment of the wings' waterballast. Valves in wings and tail are operated by one lever in the cockpit. They are sized to synchronise the amount of water dumped, to prevent dangerous c of g positions or over-stressing the wings.

The cockpit has again been improved, according to the latest crashworthiness research, including possible landings underneath a glider rescue system. The D-KXIK sustainer contains the well-known, reliable mid-fuselage, retractable 20.5hp (15.3 kW) Solo 2350 engine in a fuselage compartment behind the main spar. A new feature is the 13-litre (c 3 gallon) fuselage tank under the spars, which leaves more space for luggage. It is filled by an integrated electric pump with a snap-in hose connection, making refuelling clean and easy. The engine, extracted electrically, is controlled by the latest version of the well-known ILEC engine control system. The rear engine bay doors close again after the engine is fully out. The five-bladed propeller unfolds by itself and, windmilling with the decompression handle pulled, serves also as starter. For testing on the ground, it can be started by winding a rope around the propeller axis.

The undercarriage consists of a tailwheel and a big 5in sprung retractable main wheel with hydraulic disc brake. While standard instrument pressure probes are fitted in front of the fin, an additional pitot tube above the nosehook and static pressure holes in the fuselage can be selected to deliver proper pressures for powered Ventus 2s during engine operation.

The cockpit is very roomy. The big canopy opens to the right; its hinges are designed to break off if it is opened in flight. To make entering (and emergency exit) easier, the large instrument panel swings up, where it is held by a gas strut. The backrest with fixed headrest can, before flight, be set to three positions at its base and, in flight, to various positions at its top end, so most people will find a comfortable seating position. Another fine feature is the bag behind the backrest: it stores the aircraft papers as well as the main bolt and rigging tool safely.

The airbrake lever hangs down below the canopy frame on the left and can be swung inwards. Below it, the flap lever is unlocked by swinging it to the right, and has eight positions: L, +2, +1, 0, -1, -2, S and S1. The spring trim is fixed to a pushrod behind it. This connection of flaps and trim works perfectly on older Ventuses, requiring nearly no trim change during the whole flight. Because this glider had its maiden flight just 10 days before I flew it, I was told that the fine tuning to adapt it to the new tailplane's characteristics had not yet been done, so it might not yet be optimal in all situations. Above the airbrake lever, there is a knob to operate the front canopy ventilation, and below it is the decompression pull-handle to start the engine. So you can easily pull the decompression with the left hand and, at the same time, press the fuel pump button in



The new tailplane has a very thin aerofoil



The shark-like Maughmer winglet of the Ventus 2 series

Type	**Ventus 2cxt (18-metre)**
Competition class	**FAI 18-Metre (self-sustainer**
Span (m)	**18**
Length (m)	**6.58 (21ft 6in)**
Wing area (m^2)	**11.03 (36ft)**
Wing aspect ratio	**29.4**
Empty weight (kg)	**330-340 (727-749lb)**
Max AUW (kg)	**565 (1,245lb)**
Max Waterballast (kg)	**87 + 14 +5 = 207 (456lb)**
Min wing loading (kg/m^2)	**35.9 (c 7lb/ft^2)**
Max wing loading (kg/m^2)	**51.2 (c 10lb/ft^2)**
Engine	**Solo 2350; 15.3kW at 5,500rpm**
Fuel (litres)	**13 (c 3 Imperial gallons)**
Climb rate (without ballast) (m/s)	**1.1 (2kt)**
Max cruise	**c 130km/h (70kt)**
Range in powered flight ("saw-tooth")	**c 370km**

Right: Tilo Holighaus of Schempp-Hirth seen installing the battery in the tail fin



Opposite page: the new inner sealing of ailerons and flaps

the instrument panel in front of it with your thumb. The undercarriage lever on the right unlocks by swinging to the left (backwards in, forwards out). A new fresh air nozzle is installed, like the one used in Schleicher's ASW 28; both manufacturers decided to use this new device because it is effective, easy to adjust and nearly noiseless. Above it, a small mirror allows you to see the engine. The control column itself is cranked slightly backwards – don't allow your hand to be pulled back/down under g loads at high speeds (though, because your arm rests comfortably on your leg, the risk of doing so is low). As in all Schempp-Hirth gliders, the hydraulic wheelbrake lever is, bicycle-like, in front of the stick. In front of it, at the base of the instrument panel, is the yellow release knob. I was not completely happy with this: if it protruded a bit further into the cockpit, or was placed a bit higher, pilots with fat legs could change hands more quickly from the flap lever to the release in the event of a wingdrop. The Ventus 2cxt is equipped with an aerotow hook in the nosetip and a c of g winchhook in front of the main wheel.

So that lightweight pilots can adjust the c of g, there is a ballast holder in front of the rudder pedals. Further adjustment for heavy pilots can be made by inserting a battery into the fin box below the tailplane. The main electrical supply consists of two or three batteries: a big one in front of the instrument panel is for engine operations, while a "standard" battery behind a panel in the rear wall behind the backrest supplies the avionics. If the c of g position allows, another avionics battery can be carried in the fin. If the latter two failed, the avionics supply can also be switched to the first.

For my test flight at Hahnweide, I aerotowed on the nosehook. With about 86kg (190lb) in the cockpit and the fin battery installed, my c of g is at the rear end of its range, and the wing loading about 38kg/m^2 (c 8lb/ft^2). After setting the trim to neutral (with the flaps at 0), I chose the usual flap setting of -1 for the initial ground run. This always provides best aileron efficiency at the start; switching to +1 (or +2 for slow tugs) lifts the glider off as soon as minimum flying speed is reached. Moving the lever too far back is no problem – I tried even "L" after take-off and found no tendency to zoom up dangerously. Immediately after take-off, the Ventus 2cxt exhibits wonderful harmony with effective, very light controls. The wheel retracts easily, and the fresh air supply in the cockpit through the side wall nozzle and the front ventilation is all it should be. The noise level in the cockpit, even with these vents open, is very low, and visibility is excellent. The only thing I find a bit fiddly is adjusting the trim. To do this, the green knob has to be unscrewed a little way, set, then fixed again. I think, a spring-locked knob would make trimming a bit easier, but nevertheless, with this flap-connected system you barely need to change the trim once set properly.

After releasing from the aerotow I try the engine. Swinging the left switch in the ILEC instrument up and holding it erects the Solo drive, and soon the five-bladed propeller appears unfolding in the small mirror on the right of the cockpit. A green light indicates when it is fully extended. Now I can switch the ignition to "on", increase the flying speed to about 120km/h (65kt), pull the decompression handle on the left of the cockpit and press the fuel pump switch with my thumb at the same time. Sounds complicated, but is 'one shot' in reality! The propeller can soon be seen rotating in the mirror – time to let decompression and fuel knob go. An increase in noise and flying speed soon confirm that the engine is working properly. The whole start-up takes 24 seconds, and flying characteristics are almost unchanged.

'With its light-weight wings and the enlarged ailerons, the new Ventus is fun to fly'

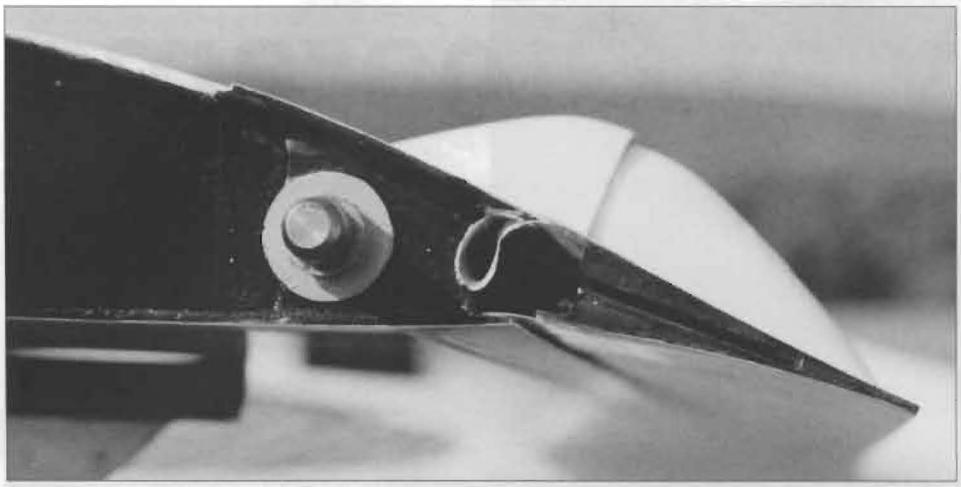
The fluttering needles of ASI and vario remind me to switch the static and pitot supply selection switches above the ILEC down: This action calms the instruments immediately. (The precision probes in front of the fin are the best thing for soaring, but hit by propeller turbulence during powered flight they just deliver nonsense.) There is no throttle; the small sustainer engine runs on full power only. At 90km/h (48.5kt), the vario indicates a climb rate of a bit more than 1m/sec (2kt), and at a level speed of about 130km/h (70kt) a yellow light in the ILEC warns that the engine approaching its max rpm of 5,500. There is no risk of over-revving the engine: the ILEC control system will cut the ignition automatically. The engine creates some noise in the cockpit; for longer powered flights the use of a noise-protecting headset might be sensible.

Fuel remaining is shown digitally at the bottom of the instrument panel. The tank's 13-litre capacity makes 370km possible when flying "saw-tooth", enough to fly home from most abandoned cross-countries or at least to reach a convenient airfield.

To convert the Ventus 2cxt back to a pure glider, I switch the ignition off and then, with the propeller still rotating, press the engine extraction switch down until the propeller centre just disappears underneath the rear canopy frame in the mirror. In this swept-back position, the propeller soon stops rotating. Now it can be retracted further, until the green light in the ILEC shows it is completely in. This whole action again takes just less than half a minute. After switching pitot and static back to "soaring", I am in a pure glider once more.

And this pure glider really is a fine thing. With its light-weight wings and the enlarged ailerons, the new Ventus 2cx is fun to fly and stable at the same time, so it does not tire out the pilot even during long flights in rough conditions. The controls are sensitive enough, making it easy for the pilot to judge and make full use of thermals. The 45°-45° roll-rates I measured were 3.6 seconds at 105km/h (56.5kt) with the flaps set to '0', 4.0 seconds at 100km/h (54kt) and '+1' and 4.6 seconds at 95km/h (51kt) and '+2' – excellent values for a flapped 18-metre glider. The control harmony could hardly be better. In the thermalling flap position '+2' it is best at a speed of 100km/h (54kt); below this, a bit more rudder than aileron is needed to keep the string in the centre.

The stall behaviour is docile. With the flaps set to '0', the controls start feeling soft at 75km/h IAS (40.5kt) and buffeting begins at 73km/h (39kt). With the stick moved



further backwards, buffeting increases and the ASI indication drops due to the vortexes hitting the pitot tube in front of the fin. After juddering a bit, a wing starts dropping, which can easily be recovered. At '+2' flap setting, the behaviour is the same with the indicated speeds being 3km/h (1.5kt) lower, and the 'L' flap position allows another 4km/h (2kt) less; taking the two-bladed Schempp-Hirth airbrakes out results in the stall speed increasing by 5km/h (2.7kt).

The flap-trim-connection, although not yet completely harmonised with the new tailplane in the glider I flew, already works quite well. Starting with the landing flap setting 'L' at 75km/h (40kt), speed increases to 80km/h (43kt) at '+2', 115km/h (62kt) at '0', 140km/h (75kt) at '-1', 160km/h (86kt) at '-2', 180km/h (97kt) at 'S' and 200km/h (108kt) at 'S1'. The only thing that bothered me a bit was the fact that the dynamic longitudinal stability with a loose stick appeared quite low: after starting a phygoid, its amplitude increased. Tilo Holighaus told me this will soon be improved by optimising the trim spring connection system. Taking the airbrakes out at 'L' results in the trimmed speed increasing by 10km/h (5kt).

Flying the Ventus 2CXT is real fun – and especially thermalling it. This glider makes it really easy to find and centre the thermals – just react to what you feel! During circling, a slight amount of opposite aileron with nearly no stick force is needed. I found it an outstanding climber when playing around in the strong and narrow Alb region thermals with many other gliders. High-speed flight is also stable and comfortable.

With known and proven high-speed performance, and the possibility of even higher wing loadings due to its increased waterballast capacity, I expect this glider, like its predecessors, will soon appear in the top ranks of the competition results!

Before landing, I try sideslipping. This is easy and effective with closed airbrakes and requires a slight amount of back elevator. The rudder is sucked slightly towards its stop. For full sideslip, full aileron and about 80 per cent of opposite rudder are required. With airbrakes open, the nose-heavy moment in sideslip increases, resulting in the elevator reaching its back stop with the airbrakes 50 per cent open. This means that sideslipping is not sensible – and not necessary – for steep approaches, thanks to the really effective airbrakes.

The undercarriage comes out easily, and you can clearly feel and see it lock into place. For the approach, a basic speed of 95-100km/h (51-54kt) is fine. I select 'L' for landing, and the easy-to-close airbrakes bring me down on a steep glidepath.

The landing is easy: fully held off, the Ventus 2CXT touches down at min speed in a two-point attitude. The undercarriage is well sprung and damped, but its spring is a bit stiffer than that of the earlier versions, due to the higher maximum take-off weight. This results in rather less comfort on rough ground during take-off and after landing in an unballasted glider. Although there is some crosswind, I leave the flaps at 'L' after touchdown, and find aileron control is still fine – no tendency to drop a wing even at very slow taxying speeds. The hydraulic disc wheelbrake is effective, with little tendency to nod on to the nose when braking.

With the new Ventus 2CX series, Schempp-Hirth have improved their popular 15/18-metre flapped series so much that I wonder why they did not give it the number "3" rather than the letter "X". Like most of Schempp-Hirth's gliders, this new Ventus is available as a pure glider (2CX), sustainer motorglider (2CXT) with 15/18-metre tips or self-launcher with the 53hp Solo 2625/01 engine (2CXM) and 18-metre span. The pure 15-metre Ventus 2A and B are also in the Schempp-Hirth catalogue as "X" versions, including most of the features described here on the 'C' model. They are intended as the choice for pure 15-Metre Class competition pilots. because their lower empty weight and optimal "15-metre" harmonisation offer a slight advantage.

The Ventus 2BX can also be ordered with Hans-Jörg Streifeneder's ballistic glider rescue system (see last issue, pp28-30), indicated by an additional 'R' in its name.

Last but not least, I have to mention Schempp-Hirth's craftsmanship – although this was a prototype there was nothing "prototype-like" about its build quality!











Above, from top: deployment of the Solo engine

One day at Omarama

Is 42 years between first flight and Diamond some kind of record, Jane Randle wonders...



The north end of Lake Ohau, looking north-west from about 12,000ft (All photos taken by Mike Randle on March 4)

"THAT MUST be some sort of record," David Roberts said to me. "How long have you been gliding? Longer than me, I know."

Defensively, I retorted that lots of people who had been flying as long as me hadn't completed their Diamond Badge.

Then I realised that how I got this last elusive Diamond leg was quite a good story – one you might like to share.

I had been to Portmoak once, taken a glider with oxygen, and got snowed in and learnt a lot about malt whisky. I had been in gliders without oxygen on numerous occasions, climbing in wave, and had to stop. When we headed for New Zealand in the spring of 2003, getting Diamond height was firmly embedded in my agenda, even if my husband, Mike, said it was not going to be a gliding holiday.

When we finally got to Omarama, there were three days left before I had to leave for a field trip to North Island to study volcanoes. Monday was too windy to fly, so that left two days for a site check and the solo flight. It was beginning to look unlikely but the wind was blowing over the mountains and it was forecast to moderate.

Doug Hamilton runs Alpine Soaring, a commercial operation offering every conceivable type of flight: dual, solo, aerial tours. Bo Nilsson, the professional instructor at my home club of Aston Down, works for Doug during the British winter. He said: "come along to the briefing at 10am". On Tuesday, some 15 people gathered in the office, which is like the clubroom of any gliding club. We sat around waiting for Doug, who made something of an entrance. The Met was good, if not spectacular, and then Doug asked each pilot what they wished to do that day.

When it came to my turn, I said simply: "I need a Diamond height".

What would your reaction be? A grey-haired woman! After the briefest of pauses, he said: "OK, we'll see what we can do. Bo, Jane had better have the first site check".

Bo briefed me, looking at the small map and the marked landing strips. "How on earth do you find your way around here? All the hills look the same, brown slopes with a velvet sheen!"

"Here you navigate by the lakes", Bo said.

He followed my gaze to the promising-looking cumulus and added: "Don't expect those to work: they are wave clouds and the wave can affect the hill lift too, either boosting it or killing it."

That check flight will stay in my memory as one of the most comprehensive and useful that I have ever had in all those years of gliding.

Think of what needed to be achieved – new site, new aircraft type, mountains... although I had done quite a lot of wave soaring in the UK, some of it in unusual places such as Lasham, Weston-on-the-Green and Blandford Forum.

Well, it started badly, as we flew along the nursery slope – no lift. Bo and Will the tug pilot conferred: "Try Ewe Ridge."

'So much for the legendary soaring at Omarama,' Bo said ruefully as he passed backwards and forwards. The ground seemed very close

We pulled off and soon were sinking. By now we were amongst the brown hills, all looking the same, and not a lake in sight. I was having trouble working out where the wind was blowing from and which slope to go for. This did not matter because Bo took control and soon we were scratching on the slopes. Below us, the only green thing was Peter Patterson's strip. Having a safe landing area was a comfort while I sat back and observed this skilled soaring of the Grob Twin Astir. "So much for the legendary soaring at Omarama!" Bo said ruefully as he passed backwards and forwards and round and round. The ground seemed very close at times.

Eventually, we had enough height to move across the steep valley and make our way towards Hugo's Elevator. Bo felt it was safe to let me have a go. "Turn more tightly!" he urged. Then we were lifted high enough to think of the wave system.

There were cu lined up across wind and as we climbed through the gaps, wispy tongues of cloud were forming upwind. Flying along these seemed to give the best lift. As we climbed past 9,000ft, it was time to think of oxygen. "Be sure to organise your oxygen in plenty of time, because you don't know your symptoms of anoxia." While Bo flew, I put on the mask, which took quite a long time fiddling to get it right. Then I explored the oxygen control and turned the knob.

We did some exercises: moving to the next wave bar involved high speed, steep attitudes and readiness for turbulence. Then he left me to it, and I found I could read the patterns of lift. We climbed to 13,500ft. Putting on speed, we flew north-east and the lakes were clearly visible through the gaps in the cloud, vivid blue in the brown Mackenzie Basin.

We went as far as Twizel, the centre of New Zealand's hydro-electricity industry. "There is a good runway there and they don't mind you landing," Bo told me. We also discussed some of the ridge lines and good spots for finding wave.



Near the southern end of Lake Pukaki, just north of Twizel. "Here you navigate by the lakes," Bo told Jane

By now, my feet were icy in their sandals and we went back to Omarama, which was easy to see with the three white hangars and the Ahuriri River. The circuit needs to be high... and don't forget we operate on QNH and we give a call on the radio, downwind. "Aviate, Navigate, Communicate". Wow, what a place – and what a lot to remember.

"Go and have a hot shower to warm up".

Energy-saving mode was necessary after such stimulation and I spent the next hour recovering. After lunch, Doug took me in hand. "Bo says you seem to know what you are doing; do you still want to try for your Diamond height?"

"Certainly!"

"You are used to the LS6, so the LS4 should feel familiar."

He smoked the barograph, initialled, sealed and signed it. He carried it to the glider and installed it; I didn't touch the instrument. He gave me a map and we spent some time discussing strategy. Controlled airspace above the site had a base of 14,500ft but by talking to Christchurch it can be raised to 17,500ft. To the west and north of west, the air was clear of controlled airspace. Oxygen: the briefing was the same, get on early and you have plenty. Once on oxygen, to acknowledge radio messages, one click of the transmit button will suffice. He made sure I was comfortable. "One pilot from Gavin Wills' is at 23,000ft," he said. Do you think you will have a go? It should be possible."

"I'll give it a go," I replied – after all I had only one more day to do it. I was towed to Mount Horrible, just west of the airfield, and dropped in strong lift. I fumbled about to mark a low point and then quickly climbed from hill to wave. The legendary ease was exhilarating. The variometer was showing 6-8kt and the altimeter was winding round and round. I put on the oxygen and then considered that, given this progress, I would need to move forward to clear the airspace. I reasoned that I could not get Diamond height where I was and now I was on oxygen, I couldn't talk to Christchurch. I flew into wind and lost the lift, finding strong sink. I never found anything so good again, but steady lift took me to 15,000ft and by now I was near Lake Ohau.

Above the cloud, it was not so easy to identify the patterns and there was only the clear blue sky above. I found that circling in the lift seemed to be the most effective; in this way I gained 500ft. I imagined that I needed to circle up and then move forward to correct the drift. However, I didn't really know if I was drifting. These little games the mind plays with you on such occasions. I checked the colour of my nail beds and they were reassuringly pink.

Then, whatever I did, 19,000ft seemed to be the lid. I sank down to 18,500ft, stuck at these heights for what seemed like ages. Calculations are never easy during flight but I reckoned that 4,300ft was the low point, and to be sure I needed to get to 21,000ft. I flew forward again, seeing the jagged peaks of the mountains far, far below through the clouds. Did I really dare to go further west to find the primary wave? Did I dare go as far as Mount Cook? I got more lift, but it petered out at 19,800ft. It seemed that I would be denied this prize yet again.

Then I found some weak lift; I circled and climbed, this time to 20,200ft. It was so cold. I seemed to be made of ice. Visiting all the places where I had previously found lift did not work and by now I had consumed a lot of oxygen. I planned my descent and hoped I had just squeezed sufficient gain to cover any instrument errors.

I flew north-east parallel to the airway and let down within sight of Mount Cook and the Tasman Glacial outflow plain. Here there was in excess of 1,000ft/min down. Flying back toward Omarama I was still sinking and getting a bit worried. How far away is Omarama? 70km? I didn't know. Then I found some lift above the ridge east of Lake Pukaki, got back to a more sensible height and set up my final glide. I called Doug, and arrived back at 16.20hrs. He took the barograph, we hangared the sweet little glider and I went to Omarama town to buy some beer because the assembled expertise seemed to think I was well in and nobody else had done anything!

Just one day at Omarama.

So was David Roberts right? Was it a record? I doubt it very much!



Bo Nilsson and Jane Randle before her check flight on the day that she finally achieved her Diamond height

First flight: May 11, 1961
First solo: July 22, 1961
Five hours: October 19, 1961
Silver Badge: June 16, 1962
Gold distance/Diamond goal: August 10, 1976
Gold height: August 20, 1981
Diamond Distance: August 28, 1991
Diamond Height: March 4, 2003

Omarama's two gliding operations are:
Alpine Soaring: alsoar@xtra.co.nz
00 64 (03) 438 9600
and Glide Omarama: www.GlideOmarama.com
00 64 (03) 438 9555

See and avoid?

Dr Tony Head, from the College of Aeronautics at Cranfield University, reports on the outcome of recent conspicuity research conducted at Bicester



A series of air-to-air conspicuity tests using Grob 109 motorgliders was conducted by Dr Head for the RAF

PRELIMINARY trials were carried out at RAF Bicester during June 2000. These trials examined the use of DayGlo© patches on the wings of motorgliders. A summary of the results of these trials was presented to the general gliding population in *Sailplane & Gliding* (*Flashes don't show up well in flight test*, p60, December 2000-January 2001). The findings showed no measurable benefit when the motorgliders carried DayGlo© patches on the wings. With the co-operation of RAF CFS Gliding, Syerston and RAFGSA Bicester, further trials were planned. The trials carried out in June 2000, highlighted the importance of both silhouette and reflection in detection. The following trials, conducted at RAF Bicester in October 2002, aimed to explore these factors and, in addition, to evaluate the Air Cadets' use of large DayGlo© stripes.

See and avoid

The principle of "see and avoid" is the foundation of all flight under visual flight rules (VFR). Human eyes did not evolve for comparatively high-speed flight in open and empty space. The human eye has evolved with a compromise capability to detect prey and threats and to then focus upon such items for identification. Movement is a key feature of detection and, for our ancestors, detecting movement was an important aid to survival. The same is true in aviation.

The RAF teach the art of lookout to their students in Flying Exercise Six: "straight and level flight". The student is informed that: *"the area of clear focus of the eye is very small, and so it is necessary to keep scanning to ensure the detection of distant aircraft. However, it is not possible to see a small object while the eyeball is in motion unless the eye is tracking the object. Therefore it is necessary to move the eye and then stop and look – continually moving the eyes around the sky won't help. With practice this can be a rapid process – up to three stops/second"*. Thus, military pilots at least are taught a specific lookout strategy which, it is hoped, will improve their chances of detecting another aircraft (NB: there is much academic discussion about different lookout strategies!).

Movement plays a key role in detection, but unfortunately, an aircraft on a collision course with another aircraft has no relative movement to the other – it stays in the same position in the visual field until a few seconds before impact, when it then appears to grow in size very rapidly, after which it may be too late to take avoiding action.

RAF training suggests that pilots should look out for about 70 per cent of the time during a flight. Combine the fact that 30 per cent of the time pilots may not look out at all with the lack of ability of the eye to detect an object that has a poor silhouette and little or no relative movement, and it is easy to imagine the existence of a significant collision risk. It is also debatable whether any civil general aviation pilot or glider pilot "looks out" for 70 per cent of their flight.

In one study, pilots on a (powered) cross-country flight were (unknown to them) intercepted a number of times during the flight. The intercepting aircraft was detected only 56 per cent of the time! A further study of US private pilots reported that they only looked out for other traffic for 50 per cent of the flight.

Gliders

GRP aircraft must remain predominantly white in order to avoid overheating of the structure due to solar heating. It is not the colour *per se* that makes an object more or less conspicuous, but the contrast with its background. Dark colours create greater contrast with a light background and *vice versa*. Thus there is no ideal colour for all conditions.

Studies carried out with RAF Hawk aircraft concluded that black aircraft were detected more easily than grey or red and white aircraft (NB, against sky!). Even so, in some trials, aircraft passed each other without detection, even though the crews were engaged in an active search for the other aircraft. With gliders being more difficult to detect than Hawk training aircraft, one can imagine that the risk of collision with a glider must be somewhat increased.

In the previous glider trials, some factors were identified which seemed to aid detection of another glider or motorglider.

The first was movement – any correction to course or "wing levelling" seemed to make the motorglider easier to detect.

The second factor was reflecting sunlight: when the sunlight glinted on any part of the motorglider, then it was detected very easily, and sometimes even when it was too far away to really make out the shape.

Reflected sunlight

To accentuate the potential to reflect sunlight, 3M© "Mirror Film" was fixed to the motorglider wing leading edges. Furthermore, one of the concerns expressed by both military and civilian instructors was that of powered GRP aircraft being difficult to see whilst in the aerodrome circuit pattern, particularly from behind. In an attempt to increase the conspicuity to a following aircraft, the same 3M© Mirror Film was also affixed to the moving control surfaces of the motorglider.

Contrast

The best colour for increasing contrast, against a background sky, is black. It is not possible to paint the upper side of a GRP-constructed aircraft black (due to solar heating), but it was considered that if the underside were to be black, then this would increase contrast, and therefore conspicuity, at least during turns and thermalling manoeuvres, when the underside of the wing was presented.





Reflective surfaces don't photograph that distinctly on the ground or in the air, but carefully-conducted air-to-air conspicuity trials showed them to be more effective than both an unmarked motorglider and one equipped with DayGlo© markings

DayGlo©

The previous trials had demonstrated no significant improvement in conspicuity with DayGlo© patches affixed to the top of the motorglider wings. However, the Air Training Corps use a larger DayGlo© design and this was to be tested.

Aims of studies

The studies aimed to assess the effect on conspicuity of:

1. 3M© Mirror Film, fixed to the leading edge of the wings, tailplane and rudder of a motorglider, during constant-bearing convergence;
2. 3M© Mirror Film, fixed to the leading edges and control surfaces of a motorglider, during simulated circuits;
3. 3M© Mirror Film on the leading edges and control surfaces, during simulated "thermal" turns;
4. DayGlo© pattern currently being used by the Air Cadets on their gliders, during constant-bearing convergence;
5. DayGlo© during simulated "thermal" turns; and
6. Black underside of the motorglider, during simulated "thermal" turns.

Two predominantly white Grob 109 motorgliders (MG) were used for the trials. One aircraft was supplied by the RAFGSA and one by RAF CFS (Air Cadets).

The crews were very experienced, with hundreds and/or thousands of flying hours in gliders and powered aircraft. A detailed report has been presented to the RAF, and this article is a summary of the findings, which have been authorised for release. Much of the detailed methodology of the trials has been omitted; however, crews and aircraft were carefully randomised across all aircraft and trial conditions and data is from 24 runs for each trial.

Trial One: 3M© Mirror Film fitted to the leading edges of the wings, tailplane and fin during constant-bearing convergence

Crews flew toward a central point at 2,000ft AGL and 70kts ground speed (as indicated by GPS). Each pair of crew was given a set of headings to fly for both outward and inward tracks. When crews sighted the other MG, they called "Mark" on the radio and noted their distance from the central point as indicated by GPS. Once both MG had been sighted, crews reversed track and began the next run. An example of the randomisation and the direction of runs is shown in Figure 1, below.

The distance between the aircraft was calculated by simple trigonometry, the distances of both MG from the central point being noted and recorded at the time of visual contact.

Weather was less than ideal for first trials. For the first 12 runs, visibility was 10-20km, with only occasional sunlight and 7/8 cloud cover at approximately 2,300ft. There were also occasional rain showers in the vicinity. For the second 12 runs, there was 8/8 cloud cover and little sunlight.

Results: The mean detection distance for all of the runs was 1.69nm, with ranges from zero (ie, undetected) to 7nm. The MG with 3M© Mirror Film on the leading edges was detected at a mean distance of 1.88nm and the clean MG was detected at a distance of 1.49nm. The difference between the two distances was not significant.

While every effort was made to standardise conditions and randomise variables, the trial was held in less-than-ideal weather conditions with only occasional sunlight. The overall mean detection distance of only 1.69nm with a range of zero (undetected) to 7nm, reflects the poor weather. During previous trials, in much more representative weather, the overall mean detection distance was 2.54nm. However, even though the mean detection difference between the MG with the mirror film and the clean MG was not significant, crews commented enthusiastically that when there was any sunlight, then the MG with the mirror film could be easily seen due to the flashes of sunlight being reflected. Indeed, the fact that the MG with the mirror film was detected at 7nm on a relatively poor day suggests that the system has considerable potential.

A further subjective and unprompted observation was made by duty airfield personnel, that the motorglider with the mirror film was very noticeable upon return to the airfield following trials, particularly when approaching into sun.

It is interesting to note the variation in detection distances between random and predictable target paths. When the path of the target MG was predictable, allowing the crew to search in a limited area, the mean detection distance was 1.48nm. When the path of the target MG was unpredictable,

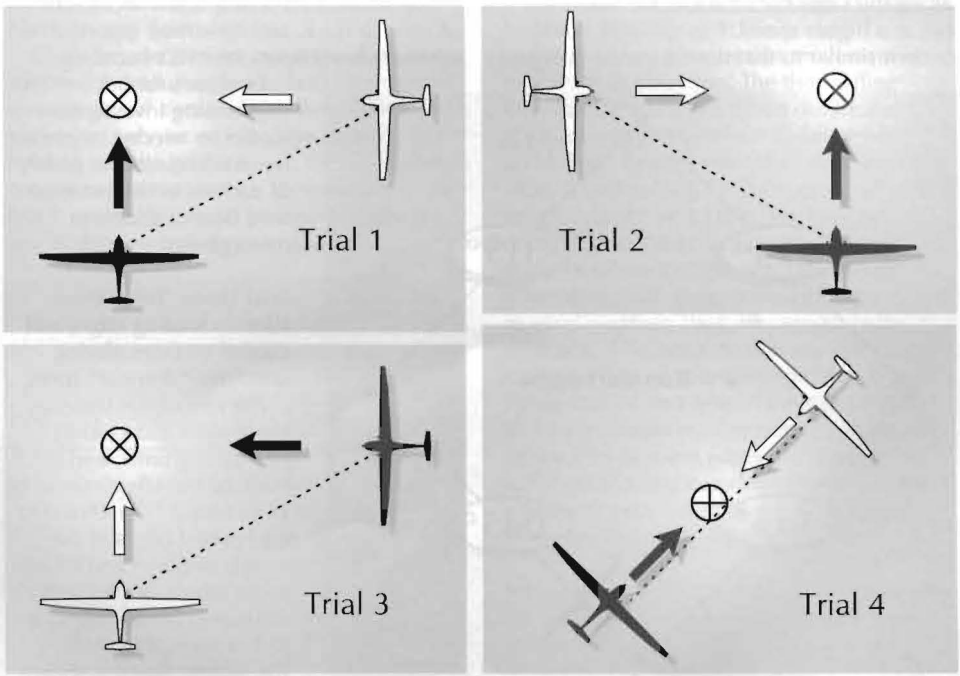


Figure 1: example randomisation of trials *(diagram enhanced by Steve Longland)*

forcing the crews to search over a much wider area, then the mean detection distance was non-significantly greater at 1.9nm. This could be a demonstration of the superior ability to detect target movement utilising peripheral rather than foveal (central) vision.

The variation in detection distances with different crews should not be understated. One member consistently out-performed the others and was usually the first to detect a target, regardless of the configuration. However, the randomisation of the crews ensured that this variable did not affect the overall result.

The mean detection distance for all runs was 1.69nm, which at a ground speed of 70kts for each aircraft represents a head-on closing speed of 140kts and a time to collision of only 43 seconds. The danger of failing to maintain a very good lookout for only a short period of time is obvious, especially in less-than-perfect weather conditions.



DayGlo© markings, so clear on the ground, appear not to affect airborne conspicuity positively or negatively

Trial Two: 3M© Mirror Film affixed to control surfaces (and wing leading edges) during simulated circuits

The aim was to simulate aircraft in an airfield circuit pattern, and to determine if 3M© Mirror Film affixed to the control surfaces (ailerons, elevator and rudder) would increase the conspicuity of the leading aircraft and therefore, its detectability by a following aircraft. The lead MG also had 3M© Mirror Film affixed to the leading edges, but of course these would not be visible from behind.

The MG with 3M© Mirror Film fixed to the control surfaces departed first and flew for four to five minutes at a randomised, predetermined speed, on a known track. The altitude flown by both MG was a "circuit height" of 1,000ft. After five minutes, the following (detector) MG began following along the same GPS track as the lead MG, but at a higher speed. The runs followed a pattern similar to that demonstrated in Figure 2, to allow for the different positions of the sun within the simulated circuit. Visibility was 10-20km, with sunshine and showers. The order of the runs was amended to avoid the direction of the showers.

Results: The mean detection distance for all of the trials was 2.85nm, with ranges from 0.6 to 5.2nm. The clean MG was detected at a distance of 2.36nm and the MG with 3M© Mirror Film on the leading edges and control surfaces was detected significantly earlier at 3.39nm. It is assumed that the mirror film on the leading edges did not contribute to earlier detection, as this would have been facing away from the pursuing MG. In the less-than-ideal weather conditions of the runs, with only intermittent sunshine in between the showers, this is a most encouraging finding. It is proposed that the constant movement of the control surfaces assists the likelihood of there being a reflection and a glint of light, which facilitates conspicuity, and of course, earlier detection. The addition of mirror film tape to control surfaces would appear to be a simple and effective aid to safety, allowing earlier detection of another aircraft in the circuit pattern.

The mirror film is only a few thousands of an inch thick, and the crews reported no adverse effects upon the MG's handling.

However, further engineering investigation would be needed before a recommendation to widely fit such reflective material on a fleet of gliders or motorgliders.

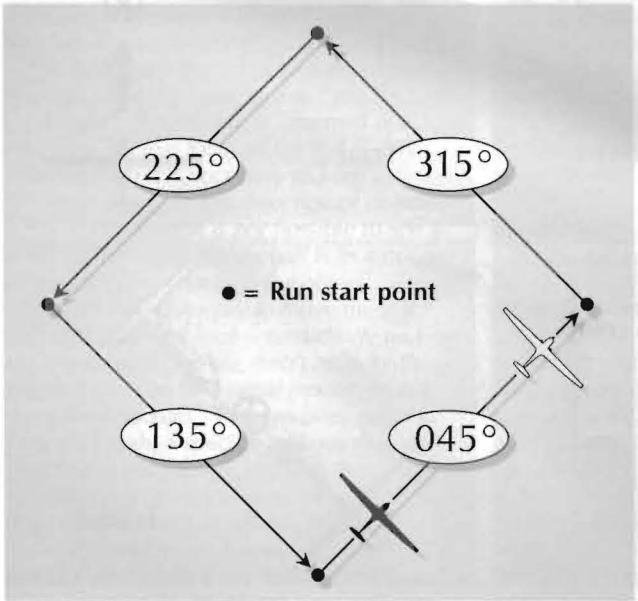


Figure 2: simulated circuit runs (diagram enhanced by Steve Longland)

Trial Three: 3M©Mirror Film on leading edges and control surfaces, during simulated "thermal" turns

The aim of this trial was to simulate gliders in thermalling turns, and to evaluate the effectiveness of 3M© Mirror Film affixed to the leading edges of the wings, tailplane and fin and to the whole of the control surfaces (ailerons, elevator and rudder) of the MG. The pattern flown is shown in Fig 3 *(on opposite page)*.

The motorglider (MG) with the 3M© Mirror Film was positioned at randomised distances from a known point, at right angles to an approaching MG. The approaching MG was then flown at 60kts on a direct track toward the known GPS location. The crew of the approaching MG therefore were required to search for the thermalling MG, which was either to the left or right of the GPS co-ordinates, and at random distances of approximately 0.5, 0.7, or 0.9nm. Both were at 2,000ft. Visibility was more than 20km, with sunshine and broken cloud.

Results: The mean detection distance for all of the trials was 4.13nm, with ranges from 1.8 to 6.5nm. The clean MG was detected at a distance of 3.46nm and the MG with 3M© Mirror Film on the leading edges and control surfaces was detected significantly earlier at 4.80nm. The finding is very encouraging, especially in the less than ideal weather. It is not possible to determine if the increased conspicuity was due to the 3M© Mirror Film affixed to the leading edges or to that on the control surfaces; however, it is likely that the constant movement of the control surfaces assists in the likelihood of there being a reflection and a glint of light, which facilitates detection.

Trial Four: Air Cadets' DayGlo© pattern during constant-bearing converging paths

The randomisation and the direction of runs was as for Trial One and Figure 1 *(p29)*. Weather was excellent with scattered cloud and visibility in excess of 25km.

Results: There were no significant differences in detection distances between the clean (2.67nm) or DayGlo© MG (2.82nm). The mean detection distance for all of the runs was 2.75nm, with ranges from 0.88 to 5.3nm.

The weather for these trials was ideal, with sunlight and scattered cloud.

The overall mean detection distance of 2.75nm was considerably better than in trial 1 (1.69nm) reported here, when the weather was less than ideal.

In the previous trials carried out in 2000, where similar DayGlo© patches were applied to the MG, the overall mean detection distance was a comparable 2.54nm.

As the crews were different for the 2000 and 2002 trials, there can be no meaningful statistical comparison. However, the mean

detection distance, in good conditions, with hyper-vigilant crews, for all MG with or without DayGlo©, is only 2.64nm. The crews, who were initially very enthusiastic about the larger DayGlo© patches, confirmed that they did not appear to aid conspicuity.

The two studies, in 2000 and 2002, that examined conspicuity of MG during constant-bearing convergence, failed to demonstrate a significant increase in detection distance with the use of the DayGlo© patches. There appeared to be no measurable negative effect upon conspicuity either. Any detection was consistently reported to be due to the silhouette of the MG or to a glint, and not to the DayGlo©.

Trial Five: Air Cadets' DayGlo© patches, during simulated "thermal" turns

The aim of trial five was to simulate gliders in thermalling turns, and to determine if DayGlo© pattern of patches would increase the conspicuity of the MG whilst thermalling. Aircraft, crews and runs were the same as for trial four (Figure 3, below). Visibility was 10-20km, with sunshine and broken cloud.

Results: The mean detection distance for all of the trials was 6.17nm, with ranges from 3.84 to 7.26nm. The MG with DayGlo© was detected at a mean distance of 5.9nm and the clean MG was detected at 6.3nm. The difference between the two distances was not significant.

Overall, the mean detection distance for this trial (6.13nm) was greater than in trial three (4.13nm), and could be attributed to better weather conditions. Of course, the thermalling MG was detected much earlier than in earlier trials when on a constant-bearing and converging path.

Trial Six: Black underside of the motorglider wings, whilst simulating "thermal" turns

The aim of trial six was to simulate gliders in thermalling turns, and to determine if the black underside of the wings would increase the conspicuity of the MG whilst thermalling and therefore, its detectability to an approaching aircraft. It was run in a similar manner to trials three and five (Figure 3, below). Visibility was more than 20km, with sunshine and broken high cloud.



Engineering investigation is still required before longer-term use of reflective mirror film or black surfaces on gliders

Results: The mean detection distance for all of the trials was 6.96nm, with ranges from 5.55 to 8.52nm. The MG with black underside was detected at a mean distance of 7.5nm and the clean MG at a distance of 6.37nm. The difference between the two distances was highly significant.

In the simulated thermalling condition, the MG with the 3M© Mirror Film on the underside of the wings was detected at a significantly greater distance than the clean MG. The visibility during the trials was very good, and whilst the trials were commenced at 6nm, it became apparent that the MG with the black underside was being detected almost immediately, so the distance from which the run began was increased to 8nm. It can be stated with reasonable confidence that the black underside made the thermalling MG considerably more conspicuous.

The temperature of the underside of the wing was not measured accurately, but was cool to the touch once the MG had landed. However, the trials were carried out in October, so temperatures were not high. Evaluation of the temperatures during the summer months would need to be carried out before making the underside of wings black on any fleet of gliders.

Black has once more proven itself to be a successful colour with which to increase the conspicuity of aircraft. With thermalling gliders in summer months, the issue of solar heating may be problematic, therefore some monitoring of the surface temperature of the black underside would be essential before any widespread changes to gliders.

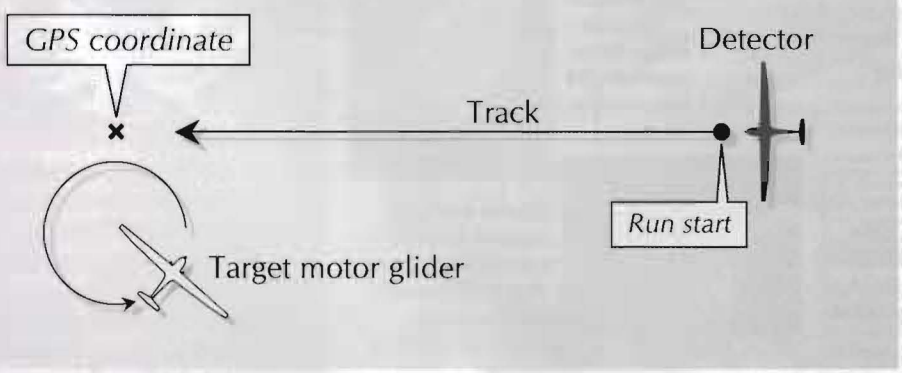


Figure 3: simulated thermalling trials *(diagram enhanced by Steve Longland)*

Summary

Overall, the trials have supported the use of a reflective mirror film on the leading edges and control surfaces as an aid to motorglider conspicuity. Furthermore, this has been demonstrated with thermalling motorgliders and in detecting an aircraft from behind whilst in a simulated circuit pattern. The black colouring to the underside of the wings also significantly increased the conspicuity of a thermalling motorglider. The average increase in the distance at which each was detected was between 1 and 1.2nm. This increase would allow a greater period of time for opportunity to detect another MG, glider or aircraft, and must present a useful aid to safety and specifically to collision avoidance.

The second key point that has arisen from the trials in 2000 and 2002 is that, even when crews are hyper vigilant and are searching for an aircraft that they know is on a potential collision course, occasionally they will not see the other aircraft. This finding emphasises the importance of increasing conspicuity wherever possible, and of a good lookout strategy.

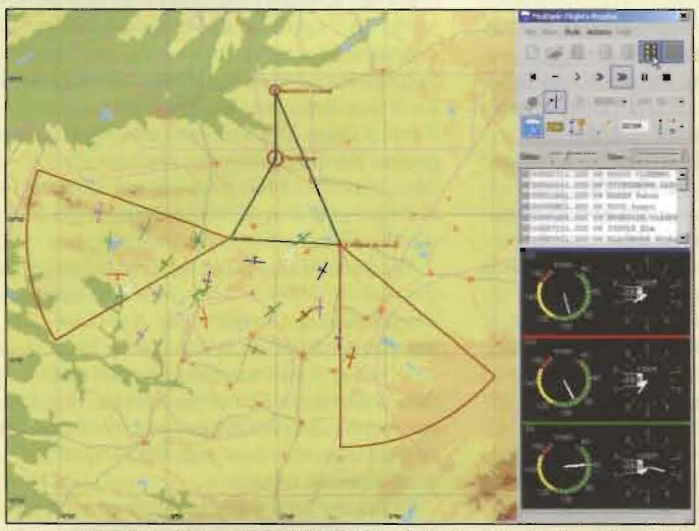
Of course, any lookout strategy is likely to be better than "head in the cockpit"!

The third key point is that movement is important to detection. The thermalling MG was detected at a mean distance of approximately 7nm when visibility was good. Even when the weather was less than ideal, a thermalling MG was detected at a mean distance of 4.1nm. This may be compared to the 1.7nm mean detection distance when the MG was on a steady converging path in poor weather and 2.7nm in good weather. Thus, movement helps detection. This suggests that any pilot can make his aircraft more conspicuous by *not flying straight and level!* One can imagine that a combination of movement, reflective mirror film (leading edges and control surfaces) and black underside would make any aircraft considerably more conspicuous in many different weather conditions.

Acknowledgments: The RAFGSA Centre at RAF Bicester and the RAF CFS (Air Cadets) at RAF Syerston, have both given considerable support to these important trials. I thank them both for their support. 3M UK also supplied the Mirror Film for the use in the trials and their support is gratefully received



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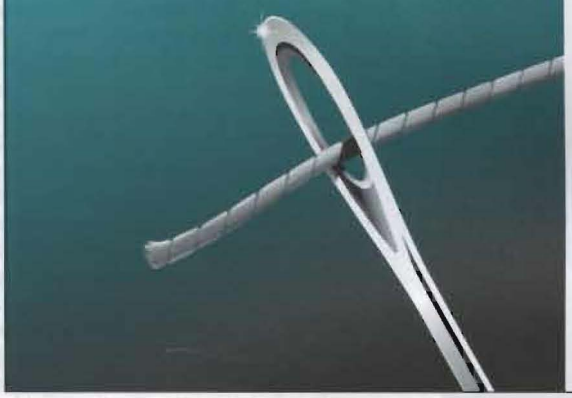
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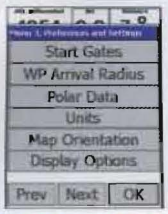
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150 yea

Committed to test-flying a Cayley re Yorkshire dale to celebrate the 150t Allan McWhirter had just one worry

BACK in February, I took a phone call in my vest. The caller, Nigel Penistone, explained that a group of anoraks – sorry, "enthusiasts" – from the Brough branch of the Royal Aeronautical Society were to build a replica of Sir George Cayley's Flyer to mark the 150th anniversary of the first manned glider flight. With financial backing from BAE Systems at Brough, where they worked, and Sir Richard Branson's Virgin Atlantic, it was going to be a flying model (hopefully) to glide majestically across Brompton Dale, Yorkshire, on July 5 – the scene of the world's first glider flight.

Nigel explained they required a lightweight and experienced (ie, old) glider pilot to join the team to give advice. It did cross my mind to wonder: "What difference does my build make to giving advice?" It was only as I was lying in bed that the penny dropped. It wasn't that they wanted someone who knew the pointy end from the sticking-out bits and

Testing the 2003 Cayley Flyer; the gondola reflects Cayley's 1809 sketch showing the planform of a trout as the basis for a "solid of least resistance". For more on Cayley's work, see www.ctie.monash.edu.au/hargrave/cayley.html *and for more on the re-enactment, see* www.elvington.biz/cayley_commemorations.htm *(all photography:* the ***White Planes*** picture co.*)*



Our photographer got up at 0230hrs to reach Pock in time



Dawn in June promised perfect test conditions – no wind



Even so, a problem from an earlier flight test recurred...





rs later...

eplica before bungy-launching over a h anniversary of the first glider flight, : would he have to wear stockings?

weighed less than 65kg, so much as someone who was gullible enough to fly the thing once they'd built it! So, it seemed I fitted the bill. I've been at it for a while. I'm light of weight and obviously considered daft enough.

Soon the expertise, the level of skill and the enthusiasm of these professional aircraft builders overcame any reservations I had and I became just as enthusiastic. To be part of a team reproducing and flying a machine that helped change the world, now that's something.

Although we had enough structural engineers, flight safety engineers, design professionals and aerodynamicists to pelt dogs with, we still brought in additional expertise to make sure that nothing was left to chance. I was given a delivery date of the first week in June when "The Flyer" would turn up at Pocklington, for assessment and – hopefully – flight tests. This date came and went. There was a slight concern whether it would be finished for the anniversary bash on July 5. But on June 24 it arrived on the back of a lorry at 18.00hrs. Trembling with anticipation, the crew set about unloading and rigging it. (Boys and their toys, eh!). Mike Whittaker, a microlight designer and engineer, independently checked the work and the rigging. He found the odd thing, quickly sorted it out, and the time for the Flyer's first test runs was upon us – or rather *me*! Gulp!

We agreed a couple of carefully controlled ground runs should be done first so I briefed my crew and we were ready to go. I was a bit disconcerted that, after all the expertise applied to countless calculations, four people had their fingers crossed, two were rubbing rabbits' feet and the others crossed themselves. We used carefully monitored 5mph speed increments up to 20mph to explore handling. I was very surprised that although it sat firmly on its tailwheel it steered reasonably well and produced pitch control just before 20mph.

At 21.00hrs in a light wind we (sorry, *I*) decided to go for it! I was reliably informed it would fly at 25mph. At 25mph it didn't. At 30 it didn't. At 33 the left wing lifted slightly; whether because of ground conditions, a gust of wind or my ineptitude, I don't know. But the Flyer veered right, a wheel collapsed with the side load and the right wingtip ended up on the ground. So, our first test flight resulted in a groundloop! We lovingly caressed it as we trundled it into the hangar. The production team went back to work. I went to the bar.

We all agreed the wing needed a greater angle of attack, taking advice from hang-glider experts not to go above 10 per cent. We fitted bigger, stronger rickshaw wheels instead of mountain bike wheels and tinkered with the front suspension. The angle of attack was increased from 5° to about 8.5°. On June 27 the modifications were complete and wind conditions were good, so we tried again.

Acceleration was smooth and the steering on the ground run behind the tow vehicle was adequate. At 27mph she left the ground. Pitch control at 30mph was good, and in the absence of ailerons the rudder did its job – although slowly – to give me roll control. I climbed smoothly to about 10ft, followed the vehicle for 100yds then, wide-eyed and open-mouthed, I shrugged off the last earthly shackle and released. The glider felt like it had run into a



... the Flyer's wheel collapsed (just as the sun came up)



The team investigated: check that angle on the right wheel



With true Yorkshire grit, they fixed it and continued testing

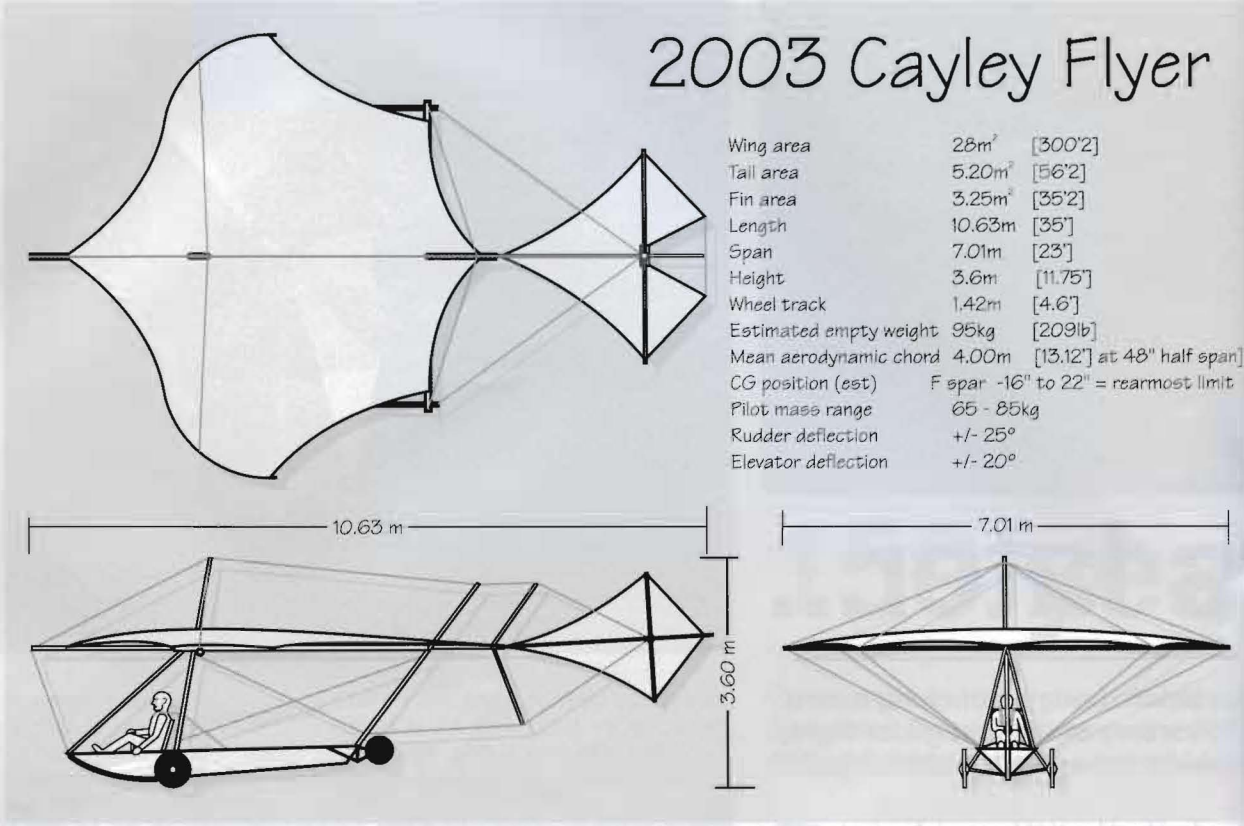


Photo: Hugh Hilditch

Above: 1974 Below: 2003



the ***White Planes*** picture co.



Design team: Andrew White, Pat Callaway, Chris Welbourne and Rich Thomas (Blackburn Design Group).

This version of the three-view by Steve Longland

treacle-filled water hazard! The energy dissipated, resulting in an unceremonious carrier-type landing. The new wheels and suspension were up to the job; everything was okay. I'd obviously not compensated enough for the 3.5 horsepower, which was calculated as required to overcome the drag from the framework and bracing wires. (How you can have half a horse beats me.) One of the crew suggested, rather unkindly, that if I kept my mouth shut the drag would halve. So on the second flight I stalled it in!

Over the next couple of hours we did more tests, going further and slightly higher to get more experience at control, especially the off-tow glide, the flare and landing. This culminated in a glide of 750yds at a height of 25ft followed by a reasonable landing. And there we were, in the middle of the airfield: the team, friends from BAE Systems and people from Wolds GC all standing around, grinning like a Colgate advert.

It is thought the Flyer was bungyed in 1853. (Derek Piggott did this with the 1974 version, *top left*). We had some problems obtaining industrial-strength, full-fat knicker elastic and were very grateful when Roger Targett from Nympsfield offered us some. This was duly transported north in a plane *(sic)* brown envelope. Our next step was to use it in earnest and see how much energy we would require to launch the Flyer.

So at 04.30hrs on June 29, bleary-eyed members of Wolds GC and BAE Systems gathered to put it to the test. The first attempt ended with me failing to leave the ground. So we got our breath back, or rather the crew did, and tried again with a bit more tension – the all-up-weight of the glider and me was only about 150kg. Hook on! Walk! Run! Well they ran, and they ran – women, children, and engineers all wanted to grab the rope and run. My release man behind me tried hard to judge the tension then release. I trundled slowly forward, then the energy started to kick in and there I was 4ft in the air gliding 20yds to a graceful landing. Nice one, Sir George! I glanced around: there was the toothpaste advert again.

Sir Richard came to see – and fly – the finished article. (Should I curtsey? Should I wear a jumper? So many things to think about.) All along he's shown interest and kept himself informed of progress. All too soon we'll have to pack it back in its truck and transport it over to Brompton. Whether we get the chance to rehearse *in situ* will depend on the weather. They say they plan to get me in period costume, stockings and all, but I'm not convinced...

I cannot praise enough the designers, builders and technical people at BAE Systems and at Pegasus, not forgetting of course the crew and people at Wolds GC. I won't name them all: I would only miss someone and that would be unforgivable. It is a wonderful replica. The combination of modern materials and old-fashioned craftsmanship and skill is very impressive. I've had many memorable moments since I began gliding in 1966; this – my 72nd type with seven flights totalling 2min 37secs – ranks very highly among them. One thing I do wonder, though. Do you think they'd let me keep the stockings?

Allan, Wolds GC's DCFI, is a full-rated BGA instructor and MGIR with c 3,000hrs in gliders. He wrote this on July 3; see p15 for the July 5 re-enactment



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THE 2003 replica aimed to achieve superior flying characteristics to the original and the 1974 versions by using modern materials, construction and controls:

- *pilot's seat repositioned ahead of the forward strut to minimise the ballast required to achieve correct c of g;*
- *two-axis **control stick**: lateral motion drives the rudder (no pedals) through a closed loop cable circuit while longitudinal motion drives the elevators;*
- *structure/layout of the **wing/sail**, of aircraft-standard Dacron, is retained (it's like a Rogallo hang-glider);*
- *compressive **load-bearing structure** is aluminium alloy tubing, as is the framework of the under-slung **gondola**, braced with tension wires where necessary;*
- ***tail**: braced cruxiform arrangement with separate rudder and elevator controls, using the vertical and horizontal tail spars as hinge axes*



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The perfect day

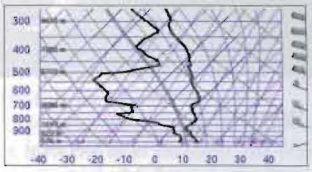


Jack "Weatherjack" Harrison explains why he recently experienced the perfect gliding day

NO, it was not when I did my first Diamond height; nor the 500. It was the day when, for once, I got the *weatherjack* forecast spot-on and some fabulous flying resulted – Friday, June 20 this year.

I had picked up the potential on the Monday morning and rated the day a 4. *(For those unfamiliar with the weatherjack system of ratings, it ranges from 0 – being rubbish – to 5 – being a fantastic day without a single problem.)* With minor regional variations, I was able to confirm the rating at 4 for the next three days. A consistent forecast is always a good sign. On the Friday itself, another factor entered the equation – widespread wave.

So what specifically did I look at on the Friday morning? The midday forecast chart





was accurate. The soundings showed a strong inversion at around 800 millibars (6,000ft) with dry air above. It was touch and go whether on not it would be blue. The further south, the more likely it was to be blue. But blue or not, the thermals would be good in the bright mid-summer sun. At least the air above 850mbs was very dry. Significantly, the wind directions were constant at 300° showing a steady increase with height. The 500 mbs temperature was very warm at -13°C. These factors pointed very strongly to widespread wave, even over the flatlands of the south.

This was my final forecast published at 0530 BST: "Today is still very promising but there are inevitable provisos:

❑ South-West England might be influenced by top cover from weak warm front but very late in day

❑ Southern England (including the South West) as far north as the M4 might be blue (small cu more likely)

❑ Apart from South-West England, rather windy at flying heights

❑ Cumulus base/blue thermals ~ 5,000ft+

❑ Amounts of cumulus increasing the further north – perhaps even some spreadout or general medium cloud far north of England

❑ Winds at 5,000ft Southern England 290/20 increasing northwards to be 300/25 in Northern England

❑ Wave influence on thermals (nuisance?) over almost whole of England and Wales

❑ In lee of Welsh Mountains, Lake District – real wave (a little less north in the wind and the Pennines, too, would work)."

Robin May emailed me on the Friday morning saying he had just been able to get the day off himself, and would I like to join him in his ASH 25? Sadly, this was too late as I had already made other plans ; my wife Suzie and I were to host a party on the Saturday, so there were certain preparations to be made (and a school run!).



Pete Stratten was instructing on a course at Bicester – inset above is "the view from my office" – as he described it – at 0950 BST. And, he added: "it just got better". I actually worried slightly about the very early cumulus – was the airmass moister than I had expected? Those fears soon faded as I checked the webcams.

Meanwhile at Lasham, by 0830, there were already six gliders on the grid. All around the country there was planning for 300s, 500s and 750s. Paul Crabb later wrote on the feedback forum: "It's good to see the culture of the 'Sickie' is alive and well – judging by the number of pilots who turned out." Paul and others from Hus Bos did 500s despite his saying: "Bloomin' strong wind giving 140km/h on the first leg and 63km/h on the next leg". I would have thought that 750 was a bit ambitious in view of the wind strength. It is worth remembering that many lower performance paragliders and hang gliders also use the website, and the anticipated wind strengths were expected to give them problems.

At Booker, some three dozen pilots did 300km flights with 23 out of 24 in the Regionals being successful. The boys in East Anglia weren't missing out either. At Wormingford, John Gilbert and colleagues set off on big tasks. John did a 500 including what must have been very helpful wave (no wind drift) over Grantham to take him to 10,500ft. Meanwhile, Chris Lovell out of Lasham found the wave – as I had predicted – a "pest". I was told later that a "phantom anonymous" Lasham pilot (now who was that, I wonder?) did in fact manage a 750 with the help of 10,000ft in wave over the Mynd. Another Lashamite, Mike Rubin, abandoned his own 300, but seemingly had more fun in the wave over the M4 reaching his greatest height so far in a glider, 8,000ft.

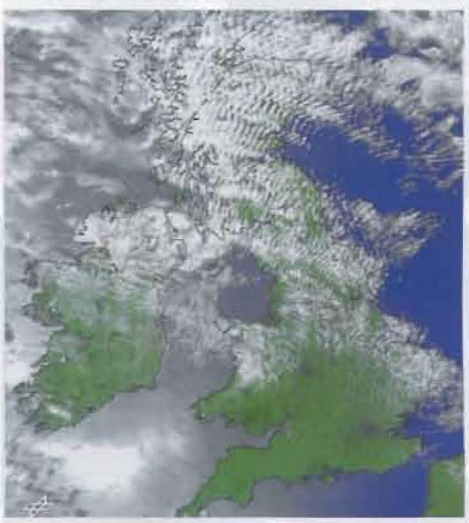


From the Mynd, David Rance had emailed me in the morning saying that he planned to wave soar over Snowdon – he did just that, achieving a life-long ambition. Meanwhile, in Scotland (although I don't forecast north of the border) several Diamonds and other big flights were flown. John Williams sent me a picture taken at 10,000ft climbing at 4kt with the IAS 110kt. (Don't cry for me, Argentina!)

Those of us on the ground had a frustrating day. Grenville Croll did an O/R (by car) from Ipswich to Northampton He wrote: "I cannot recently remember seeing such a wonderful airborne playground". I took the above photo of it looking into wind near Duxford – notice the crosswind alignment of the "wave clouds". Farmer Adrian Hatton, on his tractor near Newark, watched the wave with increasing frustration. But a dash to Syerston for a 17.50hrs take off saw him complete Doncaster O/R and still be in time for a dinner date.

I certainly got a big kick out of Friday, June 20, and although some pilots failed to achieve their 750 or 500, it really was a day to remember for all the best reasons.

www.weatherjack.co.uk



Satpic for Friday, June 20, 2003, showing wave bars

LS8T wins turbo comp



Iain Evans raced the UK's first factory-produced turbo LS8 in the Bidford Regionals in June...

all photography: the *White Planes* picture co.

FOR SOME years now there has been an ongoing debate on whether gliding with an engine is real gliding or not. Indeed, it was not so long ago that turbos or self-launching sailplanes were banned from competing. That was the reason why the Bidford turbo comp started five years ago. But it always seemed clear that sooner or later motorgliders would work themselves into normal competitions. The reason is simple: something like 70 per cent of new gliders have engines. When I was at the LS factory a few weeks ago, 90 per cent of new LS8s in production had them.

It was very clear from the beginning that the Bidford Nissan Regionals would be fun; after all, that's why we fly gliders, isn't it? The comp was organised in a relaxed way, and all the pilots, crew and organisers were there to enjoy themselves, but it complied with normal BGA regionals rules. So it seems odd that the competition itself is devalued to 650 for pilot rating purposes. But then, who cares, when you're having so much fun with a bunch of great people? The airmanship was excellent, and I didn't see a single dodgy beat-up, something that you often see at other comps. Why? Something to do with the pilots' average age, I suspect, and knowing that no-one is immortal.



Make sure you don't miss the gate for this lever!

The task-setting was good, even if sometimes flying around the airspace in middle England did seem like an obstacle course. There were pure gliders flying the comp as well, so the tasks were set with the intention of getting everybody back. There were two days where nobody finished the task, due to lack of time or storms, but all except those without engines returned to the airfield in time for afternoon tea. No late retrieve, no irate farmers and still time to relax before the next day's flying! And no moaning that it was a silly task. Mind you, having said that, I did think when we started at 16.30hrs on a 170km task that Pete Freeman, the director, had finally totally lost the plot, but most flew more than 120km, before pressing the ignition switch. Some almost completed the task. Perhaps this day would have been scrubbed it we didn't have engines!

One of the things that made the comp so much fun is that all the pilots are individuals flying to win in their own right, and making their own decisions. At no time did you see mass gaggles forming. After all gliding is an individual sport. In another recent comp, you had one gaggle doing the whole task together with about 12 pilots team flying. So are you flying to win or to follow the herd and come in the top ten? (Although its overall winners flew as individuals, proving that you don't win comps by gaggle flying).

Flying the LS8T

The LS8T, new on the market, is in general terms a fantastic glider; everybody knows how well harmonised it is and so there is little point talking about that. But the LS8BT has a part-carbon fuselage, and the spar is taken from the LS9: it's stronger, to cope with the extra weight. It has an empty flying weight of 315kg, about 30kg heavier than a standard LS8A. It is a myth that the LS8-18 loses out to Schempp-Hirth's Ventus 2s at high speed: at Bidford, I could detect no difference at all. But it has a four per cent handicap advantage.

A few words on the performance of the turbo. The engine is a 2350 Solo, same as the Schempp-Hirth turbos, so nothing new there, but somehow the LS designers have



The hydraulic system to extend and retract the engine





LS8T's engine, on the ground and (right) retracting

managed to come up with a tiny installation, with a very small two-bladed propeller. Well, actually, it's more like a paddle than a propeller. But it seems to work okay.

The operation of the engine is hydraulic, a new concept for this type of glider. There is an accumulator that you can pump up by hand on the ground or in the air. It takes 30 pumps to fully charge the system. This allows you to extend the engine 1.8 times. I found it best to pump the system back up after you have used the motor, ready for next time. From the moment you decide to use the engine it takes only six seconds for it to be extended and ready for use, and four seconds to put it away again. This is somewhat faster than the systems that use electric motors to extend the pylon.

To operate the engine, all you have to do is turn the fuel on and move the lever *(see opposite page, bottom left)* to the first gate. This is the normal position for running; it de-activates the decompressor, and takes the prop stop out the way. It also uncovers the ignition switch. Turn the ignition on, move the lever forward again, fly at 70kt, wait for the motor to spin up, move the lever back to the normal run position and it springs into life. (This, I think, takes longer than the fan-type system used by Schempp-Hirth, so overall I guess there is probably little difference in the height required to start the motor.) That is, it springs into life is unless you miss the gate with the lever and turn the ignition switch back off again! This is clearly an oversight, but Werner Scholz – the brains behind the turbo installation – tells me they are working to change that part of the design, so you can't accidentally turn the ignition switch off. But this is where the LS system shines above the others. With the engine extended, but not running, its sink rate is only about 2.5kt, so should the engine fail to start you do have sensible performance, giving you time to do a proper circuit into the field that you selected before trying to start the engine.

From 500ft agl, it climbs very well at 3-4kt, dropping off to around 1.5kt at 2,000ft. Once you have got to your cruising height, the glider cruises at around 85kt, somewhat better than other turbo gliders that I have flown. I also found that at this speed the engine is running at 5350rpm. Even flying at 100kts trying to stay under the 2,500ft rule before the start, the engine didn't over-rev; it's easy to keep an eye on the engine with the very neat tacho LS have fitted. This also doubles up as an hour-meter, logging engine run-time. This feature will also make it much easier to spot a fault early on, revealing a slight drop in rpm long before you could hear or feel the fault. It is much happier in the cruise than in the climb – less vibration and a much sweeter engine note – so much so that you can use the normal glider radio, you just have to turn the volume up a bit.

But as with all things in life nothing is perfect. LS have worked hard getting this into production, but to be blunt, I think it's a bit rough around the edges. Not that it flies any differently; indeed, it is quieter than our last LS8A, but the finish is not up to scratch. Over the last few months LS have been under pressure developing the LS8T, LS10 and LS11, which probably explains it. The LS10 has now flown; early reports are good. But the 60-million dollar question is: how does it perform? Time will tell. But one thing is for sure, they will have to go some to beat the performance and handling of the LS8!

Results: 1. Iain Evans, LS8T, 4080 points; 2. Al MacGregor, Discus BT, 3802pts; 3. Dave Findon, Nimbus 4DT, 3706pts.

Iain, who has 1500hrs and flown 20 or so comps, has also won the Northern Regionals Open Class – in an LS8-18.

See also late-breaking news about LS on p15 – Ed



The LS8T photographed at Midland GC, Iain's club









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Late starter Toby Walker outlines what it's like in the front of a two-seater – something experienced pilots can forget...

"I HAVE always wanted to fly." How often do CFIs hear that? It's what I said when asked why I'd joined the gliding club. But it's true – I have always wanted to do it. And after all, it should be easy.

I was in the RAF section of the CCF at school. I passed my Advanced Proficiency; I even got a distinction. I was a sergeant. I've known all about flying from an early age. I know how paper darts fly. It's obvious. Bend the trailing edge up and they stall. Bend it down and the nose gets crumpled. As a kid I made model aeroplanes. The same principles apply – except that there are more tears shed as a result.

I've been to university. I'm no towering intellect but I'm not stupid. I ought to be able to do this flying thing without too much trouble. I hold down a reasonable job. My work involves a fair amount of critical decision making. It also requires a reasonable level of manual dexterity and hand-eye co-ordination. I can do sporting things like playing cricket and tennis. I can even manage the third dimension, having learned to dive only a few (well, ten) years ago. That was quite easy – breathe in and you go up – breathe out and you go down.

For heaven's sake, if birds can fly within a few weeks of hatching, it must be easy.

So what happened? I reached a significant birthday and my family bought me membership of my local gliding club. After all, I'd always wanted to do it and it should be easy. And it was. The first few flights were wonderful. There was the same excitement and exhilaration that I remembered from my air experience flights in a Chipmunk as a schoolboy in the CCF. Then I started to do a bit myself. Attitude. I know all about attitude. Push forward and the nose goes down and speed rises. Pull back and the nose rises and speed falls. A couple of circuits of that and I'll be ready to fly a Stuka.

The next step is banking. I've watched *Those Magnificent Men in Their Flying Machines* and *Battle of Britain*. Easy – a quick look around, stick to the left and off we go. I have control... until the stick is forced out of my increasingly confident hands. So what's the problem? Once you've started the bank you have to put the stick back in the middle – but that's nonsense, surely? If you did that in a car you'd never get round the corner. But I'm beginning to learn that it's not like a car. It takes time to get used to the idea of holding the "wheel" neutral and still going round in a

It should be easy

circle. I'm just about getting used to that and the next variable comes in – or perhaps it's the first one I forget while trying to master the second. Attitude again. If I turn to one side the thing goes faster and I have to pull back on the stick to prevent this and remember to put the stick back to neutral.

Things seem to be getting a bit complex but clearly I haven't started yet. It took me a long time as a child to learn to rub my tummy and pat my head but I managed it. I don't remember learning to walk but it can't have been too hard since I managed to crack that a very young age. Riding a bike was not difficult. Driving a car was a cinch. I just get used to banking, putting the stick back to the centre and continuing the turn and pulling back to maintain attitude when the next problem hits. What I might be forgiven for thinking was a rickety but convenient footrest now becomes the next instrument of mental torture. And again it's counter-intuitive – surprise, surprise. You'd think that pushing with the left foot might have the effect of pushing the nose round to the right. But no, it's the other way round. I've done ski-ing – that's easy – push on the left ski and you turn to the right – but not in a glider. It's all contrived to confuse the novice pilot. Push on the left and you turn to the left. If I ever master this I'll be totally out of control on my next ski-ing holiday!

Then there's trim. Establish straight and level flight then adjust the trim. Who put the lever on the right when you're not allowed to use your right hand to move it? Luckily this is a fairly academic question since the straight and level flight is near impossible to establish. And even if you manage it, no sooner do you get there than you have to start banking one way or the other and then readjust the trim again and so on. Does it really matter? Why not live with a bit of extra work on the stick if it avoids having to fiddle with a rather unimportant little green knob every few seconds (as if there isn't enough to think about as it is)?

And then there's that little bit of pink wool, which some child must have stuck on the windscreen for fun. I've toyed with the idea of pulling it off but I guess the instructors might notice. They seem to notice everything. However, you'd think it would be easy enough to keep a bit of wool straight – wrong again!

It has become apparent that all instructors have been flying since they were potty-trained and perhaps don't realise what the problems are. The trouble with coming to gliding in middle age is that one has too much experience. There are too many learned and now instinctive responses to allow easy adaptation to a whole new set of causes and effects. The old dogs/new tricks adage applies strongly in gliding. After my first few launches I read Derek Piggott's *Beginning Gliding* and scoffed at his suggestion that "for the majority, even 50 is getting old to start gliding", but I now realise that he has a valid point.



Toby at his home site

As well as being ageist Mr Piggott might also be considered sexist. My copy of his book nearly got shredded when I read my wife the passage suggesting that women might be temperamentally unsuited to flying at certain times of the month. Fortunately this is one of the innumerable variables with which I will not have to come to terms, if I am ever going to master the art. Perhaps I should have a sex change just to make it a bit more challenging (although I do now understand that aileron drag has nothing to do with cross-dressing). And women are notoriously good at multi-tasking!

'I can think of only one thing more difficult than learning to fly a glider – teaching someone like me to do it!'

But when all's said and done it does get me out of the house at weekends. Life would be pretty boring if there were no more challenges left before I have to master the art of Zimmer-frame driving. And there are worse things – by taking up gliding I might have avoided playing golf!

It should be easy – but it certainly isn't. In fact I can only think of one thing more difficult than learning to fly a glider – teaching someone like me to do it! Thanks very much to all those who persevere – I will be back next year, and the year after…

This article, adds Toby, was written in a fit of despondency after my 14th launch two years ago. It was therapeutic. It let me rationalise my feelings and focus my objectives – all very cathartic. Freud would have been proud – but it worked. Progress through 2001 was slow but steady – mostly more steps forward than backward – but not always. Summer passed into autumn, then it rained. Spring 2002 loomed (I note from other contributors that I am not allowed to refer to the "gliding season". But when one's airfield is grass and the earth clay there is a distinct seasonal pattern to gliding activity).

Stuttering progress continued. Flying became a little more natural and instinctive as the cerebral circuits developed. All the mysteries I had wrestled with before slowly made more sense. Putting the glider on the ground, despite the inevitability of the process, was a major obstacle – particularly the air brakes. They may break the airflow but they are not "brakes". Trying to equate this control to car brakes (my only point of reference) simply doesn't work. Air brakes don't slow down the headlong rush towards the earth – rather, the opposite. Perhaps calling them air "breaks" would make it easier!

Towards the end of the season (oops) it finally happened. Mark Tolson and Werner Leutfeld at last felt confident enough (were brave enough?) to send me solo. A winch launch without someone in the back seat! My heart soared. It was the only bit of soaring on that flight, but my six-minute "up, round and down" felt as good to me as a Diamond height might feel to experienced pilots. Since then I've converted to the K-8 and had my first half-hour flight. It all goes to show that you can teach new tricks to old dogs – it just takes a bit longer and requires a more dogged determination!

Psychology for pilots

Ian Atherton investigates some psychological factors affecting pilots: personality and behaviour

MEASURING and defining personality is a complex task arguably neither possible nor necessary for leisure pilots. However, studies of professional aircrew suggest that the ideal pilot should be cautious, and this has been further defined as meaning: "having the ability for the tolerance of danger without any interest in the pursuit of it." This is thought to come from a strong sense of self-confidence and the ability to master complex tasks. It has been said that the ideal pilot should be orderly and systematic, deliberate, perceptive and emotionally neutral while being able to keep up good communication, and remain objective while assessing the views of others and analysing any relevant data he is receiving. Of course, few people fit this profile exactly, but it does help us to analyse our own strengths and, more importantly, our own weaknesses.

In recreational flying, however, where pilots are flying for pleasure, it is probably correct to say that the individual's attitude is a much better indicator of how a person might behave. Personality will not be changed by the BGA training syllabus. However, we can shape attitudes by careful and thorough instruction and providing good role models.

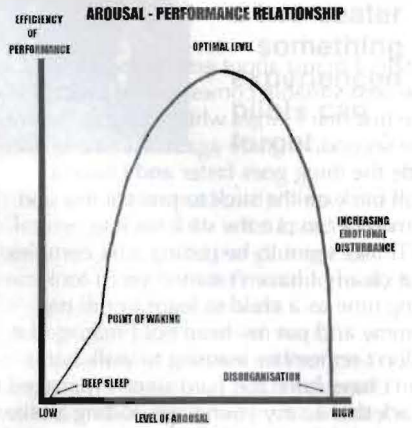
Behaviour

A person engaged in performing a skilled task for which he has been trained will behave while involved in that task in accordance with three basic concepts:

■ **Skill-based behaviour**. Many actions that have been learned through practice to the point where they have become automatic or second nature, and can be executed without conscious thought. In the case of a glider pilot, these are actions such as basic stick and rudder. These skills can be exercised at the same time as other activities that require conscious thought. However, if the decision-based activities demand too much attention the automatic skill being practised may well deteriorate, and mistakes made. Thus, skill-based behaviour is most prone to error when the pilot is preoccupied with other tasks: for example, over-ruddering and letting the speed bleed off in the final turn because the pilot is distracted by what is happening in the landing area, rather than concentrating on the airspeed, attitude and yaw string. This type of error has led to fatal spinning accidents, even by highly experienced pilots. Another common error in connection with this type of behaviour can occur when a particular operation is associated with a particular environmental situation, instead of being checked using rule-based (procedural) behaviour. For example: "I am on final approach, therefore I have already lowered the undercarriage". The consequence of which is usually an awful scraping sound and a new white line in the centre of the runway. This type of error is known as "environmental capture". To avoid such mishaps during critical phases of flight such as take-off, landing and stall/spin recoveries, rule-based behaviour should be employed.

■ **Rule-based behaviour**. This is behaviour that requires conscious thought and it is associated with a particular situation. These actions are also known as "procedural responses" or "drills". Examples of this in gliding are pre-flight checks. It is this type of behaviour that has helped to make aviation as safe as it is today. The main failure here is that it relies heavily on learned procedures stored in the long-term memory. These need periodic revision and independent checking by qualified instructors/examiners to remain effective, especially in the case of emergency procedures such as launch failure recovery actions or stall/spin recoveries.

■ **Knowledge-based behaviour**. These are "non-procedural responses" that require the use of knowledge, understanding and experience. As gliding is less procedural in nature than powered aviation, much more of the glider pilot's flying is governed by this type of behaviour. For example, after a cable break (once the initial launch failure recovery drill is complete) making the decision as to whether you should land straight ahead or turn.



It is important to realise that any reasoning or decisions made will only be as good as the data they are based upon. Basing decisions on ambiguous information will generally cause the individual to make the data fit the preferred theory. This could prove disastrous in emergency situations.

Information processing

The human brain has evolved to deal with a very different environment to that of flying. This section is concerned with how we process information and the potential weaknesses when we are flying a glider. A commonly used model of how we process information is shown below together with possible causes of failure at each stage.

(1) Information is received and coded. A failure of perception here could be an indicator that the pilot is overloaded.

(2) Information is translated and stored. A failure of memory here will cause the information to be lost.

(3) A response is selected and executed.

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A failure at this stage means an incorrect response is selected despite having successfully interpreted the information.

Perception

Much of our perception is based on previous experience. When flying, we develop a mental model of the outside world and our place in it. Once formed, such mental models can be very difficult to change. Subsequently we will tend to select information that fits the model, possibly rejecting other valid information. This is called "confirmation bias" and has been a major factor in many aircraft accidents. An example of this type of human error would be that of a pilot who has never really mastered navigation and map reading, and/or has become over-reliant on the use of GPS (Global Positioning System, or in this case, Gullible Pilot System). If such a pilot were to set off on a task with his GPS programmed incorrectly, yet follow it blindly, on approaching the incorrect TP, he may subsequently try to confirm his turning point from his aeronautical chart.

However, with an incorrect perception of where he is, he may well unwittingly make the features fit the map by selecting some features that are similar but ignoring other important information that does not fit. He may not realise the mistake until he lands out miles off track, or, if he gets back to base, until the trace is downloaded and plotted later. This is a surprisingly easy trap to fall in to: I even know of one case where a pilot flying in the Inter-club League landed at the wrong airfield (despite knowing the area well), due to misidentifying another similar airfield that was on his final glide track. When he got out, after a final glide and racing finish, he was rather confused and embarrassed to find himself at Bicester rather than Weston-on-the-Green!

Students and low-experience pilots can be particularly at risk, especially if they are taught badly or they misinterpret a lesson. Instructors have a vital responsibility to make sure that this does not happen by thorough testing throughout the training stages, as a risk situation may not emerge in normal flying for long periods, if ever. It is also very important to use all available information to keep good situational awareness: this will allow pilots to make the best decision in any particular circumstance.

Situational awareness is a term used in aviation to represent the pilot's mental model or perception of the world around him and his place in it. It is extremely important to maintain this mental model as a four-dimensional picture (in space and time) of the elements affecting the aircraft in a constantly changing situation (for example, flying a busy circuit or thermalling in a gaggle), thus allowing the pilot to make the right decisions at the right time.

Decision and motor programmes

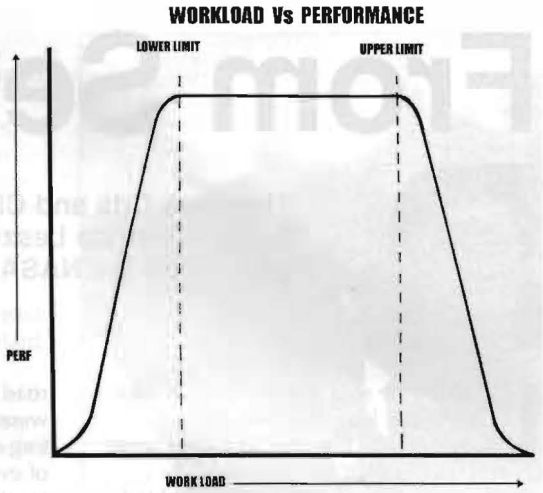
Decisions are made by the conscious part of the brain, which is linked to our working memory and responses. Our body will allow us to perform repetitive learned tasks at the same time as executing conscious responses based on decisions. These automatic tasks do not rely on feedback and are called motor programmes (or 'muscle memories').

Response

This follows the decision stage and is the execution of a conscious task. The more aroused a person is, the faster the response but the less accurate it is likely to be. Responses generally become slower but more accurate with age.

Attentional capacity

We all have a limited capacity of attention we can give to each stimulus (sound, sight, smell, etc) and this overrides our perception, decisions and our responses in any given situation. When we fly, we have to prioritise the information received. When the inputs are too great, we can become over-selective and discard important information. As pilots, we also need to focus on important tasks. The more complex the task, the more damaging the distraction. This may lead us to focus too much on the perceived highest priority task and ignore others that may lead to a hazardous situation. For example, a pilot may allow himself to be drifted downwind out of range of the airfield because he is concentrating too hard on his vario and



scratching to stay airborne. Thus, as pilots we must work hard to divide our attention in a controlled way to manage the variety of tasks we need to perform. Fortunately, our brain works in a way that allows us to focus hard on the one task yet receive relevant high priority messages. This is sometimes known as the "cocktail party effect" (where, despite conversing, we can still pick out our name spoken by someone across the room). In aviation we must be trained to recognise the correct "priority messages" if we are to act on them. With practice and experience, our attentional capacity expands, allowing us greater situational awareness.

Stress and arousal

Stress will usually increase our state of alertness (arousal) and tends to concentrate the attention on the cause of the stress. This may also reduce the amount of attention paid to other information and may cause us to discard important information. Workload is also an important part of this equation and we operate best when "aroused" at the right amount. Too little workload and we become bored and easily distracted, too much and we suffer from overload. It is therefore probably not surprising to note that for each individual there is an "optimum level of arousal," up to which point performance will increase. Beyond the optimum, though, performance rapidly deteriorates and the pilot will ultimately suffer from confusion and become useless.

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From Senasa to NASA



This year Cris and Claire Emson took part in their first Overseas Nationals since Leszno. They describe the experience – and reveal why it was the NASA rather than the SENASA challenge...



IT HAS TO be said straight from the start – Ocaña is a long way from home! This only really becomes apparent when (1) you start to plan the route, and (2) you try to drive it with a trailer behind you. Especially if it is a 10-metre trailer containing a Duo Discus. They look graceful in the air (well, the glider does, the trailer less so), but they are a bit of a beast when towing all the way across France.

We considered the long ferry crossing to Santander, but the outward sailing leaves the UK on a Tuesday (ready for competition Day 1 the following Monday), and returns on a Thursday (following the last contest day the preceding Friday). With holiday time an issue, this was not an option. So we planned the long drive – from Le Havre, all the way through France and on to Ocaña, a little south of Madrid – about 1,100 miles in total. We opted for the Thursday afternoon sailing, giving us a few hours' drive in France before finding a luxurious lay-by to sleep in (did I mention we were driving a seven-metre motorhome?).

I must say driving a 17-metre combination is interesting – you do not do three-point turns in the road when you take a wrong turn – you just swear at the navigator for getting it wrong, and tell them to "sort it".

The drive down was fairly uneventful, arriving Saturday afternoon (after stops at the occasional hypermarket to stock up on essentials – wine, smelly cheese, and extra wine – just in case). We had only one tyre blow out on the trailer on the way down. The police arrived and were kind enough to keep the juggernauts from running us over.

We opted to set up camp in Aranjuez, several kilometres north of Ocaña. It is a beautiful town containing the Royal Palace (former residence of the Kings of the House of Bourbon), a cobbled central square, and an excellent little shop selling fresh bread every morning.

Finding the airfield proved slightly more problematic. We could see it, we had directions, but somehow the two did not tie up. We went into the town of Ocaña twice, and circled the prison to get out again. I think if we had gone round a third time we would have been stopped and questioned.

Eventually we found ourselves on the wrong side of the airfield, being followed by Stephen Ell and crew, who thought we knew a short cut. Whilst we were doing our three-point turn, the police turned up. They kindly pointed us to the correct exit from the main road and hence to the airfield, where we were greeted by our crew (who had been sitting on the airfield watching the whole series of events). The lesson we learnt was an invaluable one. All roads in Spain have kilometre markers with road number and distance on them. So you always know precisely where you are. The exit for Ocaña airfield is 250m after the 64km marker, just where the directions said it was.

Ocaña airfield has a good-sized tarmac runway, recently extended. This was probably to stop gliders running off the end. Even so, we did land behind one glider during the week that promptly fell off the end. We went to give help, but no damage was done.



Briefing at this year's Overseas Nationals

As we were there a second glider came charging up the runway, and also fell off the end. I think the runway needs to be a little longer yet.

The airfield facilities are excellent, with on-site accommodation, bar, restaurant (and at about £6 for a meal with wine it is excellent value), swimming pool and good briefing facilities. It has to be said the pool was still a little cool in early May, and our crew, Paul Shuttleworth, chose to go swimming in full wetsuit and diving gear.

The first briefing took place on Sunday morning for a practice day, although in the end the weather was not up to flying the task: everyone just explored the area to the south of the airfield.

The competition itself proved extremely interesting. For our part we had a new glider to fly (we had bought it only the previous September), and had not yet landed in a field. So the first day of the competition was somewhat of a trial. An assigned area task was set and all started well, except that within several miles we were confronted by a very large rainstorm. I must admit that my mind was more on fields than flying at that point, having heard horror stories about landing in fields in Spain. Although Brian Spreckley (contest director) had briefed us that nearly all crop fields are OK to land in (the crop never grows very long anyway), we were not convinced. So there we were, about to put Brian's theory to the test. And I have to say he was right.

The field was very smooth. There were some rocks but they would probably not have caused a problem even had we hit one. In fact, everyone landed out that day (although some got further than 10 miles!), and only one glider (Iain Evans) was so unlucky as to hit a rock and cause damage. Iain then spent the next two days (both off anyway due to poor weather) repairing his glider and having it back on line for the next competition day.

The retrieve proved more of a problem. It took us over three hours to find a road, even with the help (?) of a farmer several fields away, who spoke no English and could not read or write.

When we finally met our crew, and got back to the glider (GPS was the only means of finding our glider again), we found another farmer in the neighbouring field. He was also very helpful, but spoke no English, so international sign language was used instead. I think we went wrong somewhere, though, as when we tried to ask him to tow the glider to the far end of the field with his tractor, he seemed convinced we wanted to launch the glider and fly home. He seemed game enough, but eventually we managed to "talk" him out of the idea.

The winner that day was Antti Lehto from Finland. He had managed to dodge the first rainstorm (as had most others), and had a reasonable run but was finally caught out by another over the final area that prevented him from getting home. The following morning he was duly presented with his winners "pants", which he would keep for several days until he was "de-briefed" by Kim Tipple. The following few days were scrubbed due to poor weather (although we all heard about the excellent weather in the UK – which made us feel so much better).

From the Friday the weather improved again, and we started to get the kind of weather we had travelled all that distance for. It started slowly, with only 328km set on Day 2 (won again by Antti). Day 3 was a 384km speed task, with cloudbase now up

to 9,000ft QNH. This was more like it, with a winner's speed of 120.2km/h (Russell Cheetham).

Sunday started well with a task set, but the thermals were late in starting, delaying the launching. The first launch was announced just as the lift started, although it was marginal for the first few gliders to stay airborne. The rest of the grid launched as the cumulus started forming with what looked like a promising day ahead. But then the storms starting building on track, first one, then a second, and finally they joined together to completely block the outbound track between airspace. Brian went and had a look in a tug, and held the opening of the start line long enough to make the final decision – day scrubbed. Following that, every day was a task day, and good ones at that. Conditions continued to get better, although each day had its surprises.

Day 4 proved far more glider friendly, with an assigned area task set. Conditions over the Toledo mountains were superb, and the best speeds were achieved by those flying to the farthest extent of the first sector in the mountains. Then running back along the mountains to the second area in the plain was just spectacular flying, and we did not need to turn for the entire leg. Russell won the day again, completing 407km at 118.7km/h.

The weather on Day 5 was forecast to be better again, but in the end it became largely blue, especially on the long 175km first leg to the south. Well done to Martin Durham for winning the day. The following day was again a good racing day over the mountains, won by Yves Jeanmotte from Belgium.

Day 7 proved to be one of the more interesting ones. Again a day with excellent conditions over the mountains, with cloud base 10,500ft QNH and up to 10kt thermals reported. But the third TP was quickly being engulfed by large storms. In fact the clouds were still producing lines of excellent lift, and the TP was clear of rain when most of us got there.

Coming out was more challenging, as the heavens opened on track back home. The lift was so great that some reported flying at VNE and airbrakes open to keep clear of cloud, but still going up at 17kts (read from the logger afterwards). Mike Young was back that day from working, and won the day at 125km/h over a distance of 312km.

The final day turned all our theories upside down. All that we had learnt about flying in the hills – it meant nothing. We all charged down to the mountains, only to find conditions were weak and blue. Only when we went back east over the plain did it improve significantly again. The final glides were also far more interesting, as there was a marked headwind from the cu-nims forming to the north of the airfield. But everyone got home on the last day (if you do not count the land out within 2km of the field, but he *had* crossed the finish line!), with Stephen Crabb coming first.

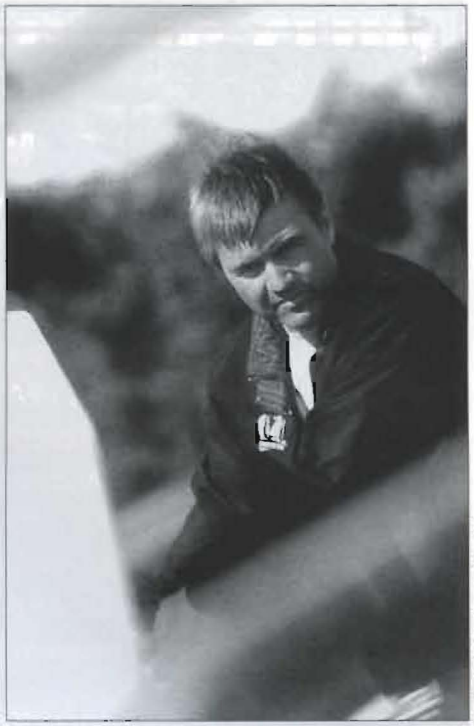
The final results were close. Mike Young/John Tanner were overall winners, with Kim Tipple in second place, Paul Crabb was third, and Stephen Crabb fourth.

Overall impression? It was an excellent competition, run extremely well by Brian Spreckley and his helpers. Thanks to everyone who helped, and Senasa for hosting the event. There was also a good international content, with competitors from Ireland, Belgium, Finland, Spain, Holland and Portugal. I felt Brian got the most out of each day, whilst maintaining a very high standard of safety.

Highlights include the abundance of fields to land in, good quality of food (and reasonable prices), and a certain female competitor being thrown out of a lap-dancing club (unfortunately no room to elaborate).

And the reference to NASA? One day we will get a T-shirt made with a picture drawn by Iain Evans, used to explain to a local farmer how his crew would use GPS to find him. The picture includes a car and some satellites with the word NASA alongside. There is now a farmer in Spain telling everyone that a NASA astronaut landed in his field. Nice one, Iain.

So will we be going back next year? You better believe it!



Kim Tipple, who came second

the *White Planes* picture co.







From top:

- *the airfield at Ocana*
- *The storm over the third turning point on Day 7 looked daunting*
- *Phil Jeffery, "just being himself," says Cris*

Photos courtesy of Peter Wyld, Sid Gilmore and Claire Emson

Place	Pilot	Country	Glider type	Reg	Points
1	Young/Spreckley/Tanner	UK	LS8 (15m)	205	6844
2	Kim Tipple	UK	ASW 20	930	6751
3	Paul Crabb	IRL	LS8 (15m)	C64	6746
4	Stephen Crabb	IRL	LS8 (15m)	C65	6687
5	Yves Jeanmotte	BEL	LS8 (15m)	F2	6597
6	Antti Lehto	FIN	Ventus 2	AL	6357
7	Stephen Ell	UK	LS8 (15m)	E11	6352
8	Russell Cheetham	UK	ASW 28	E1	6303
9	Paul Shelton	UK	LS8 (15m)	D1	6116
10	Phil Jeffery	UK	LS8 (15m)	64	6075
11	Browne/Stingemore	UK	LS8 (15m)	X1	6054
12	Martin Durham	UK	LS7	952	6018
13	Stephen Olender	UK	Ventus 2c (18)	63	5825
14	Frank Davies	UK	Ls6 (15m)	25	5791
15	Mel Dawson	UK	Ventus 2a,b	W2	5746
16	Bill Inglis	UK	Ventus A,b,c	JSL	5556
17	Jorge Arias Riera	SPAIN	Std. Cirrus	JR	5536
18	Marcel Soler	SPAIN	Discus 2	MF	5437
19	Rooig/Van Zwen	HOL	Duo Discus	42	5368
20	Richard Johnson	UK	ASW 28	J1	5341
21	Ray Payne	UK	ASW 27	140	5235
22	Lemmy Tanner	UK	LS8 (15m)	LT	5176
23	Dave Findon	UK	Nimbus 4	48	5163
24	Rose Johnson	UK	LS4	PF	5095
25	Kai Monkkonen	FIN	LS7	GF	5070
26	Iain Evans	UK	LS4 W	PZ	4947
27	Chris Emson	UK	Duo Discus	SI	4933
28	Mike Mee	UK	ASW 28	MM	4792
29	John Glossop	UK	Discus	291	4407
30	Manfred Scholz	D	DG-800 (18m)	TOY	4317
31	Inaki Ulibarri	SPAIN	Janus A	HM	4255
32	Slater/Dransfield	UK	Duo Discus	WE4	4024
33	Peter Baker	UK	LS8 (15m)	144	3894
34	Reb Rebbeck	UK	LS8-18 (18m)	628	2900
35	Jeroimo Francisco	POR	LS7 (w)	7	2375
36	Jeff Tucker	UK	Duo Discus	HNN	2242
37	Gordon Burket	UK	DG-100/101	JPF	1446

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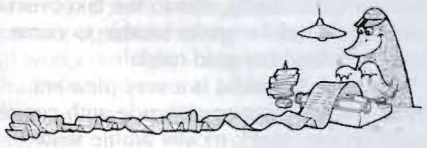
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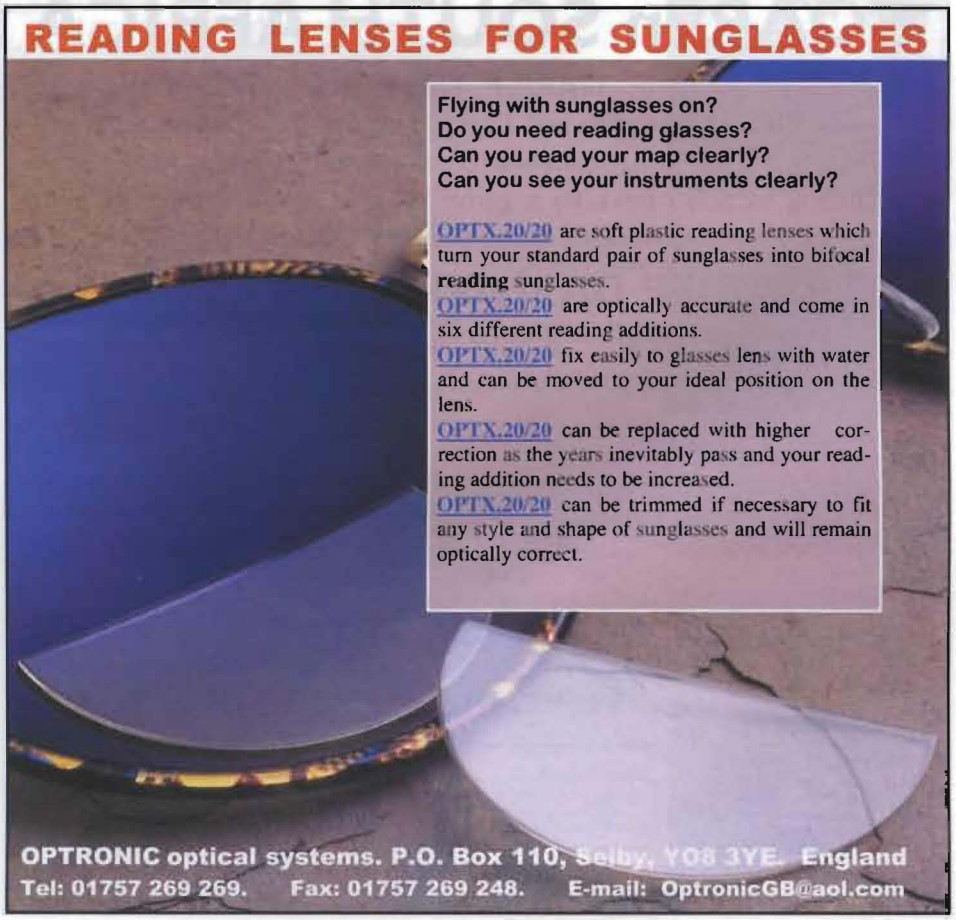


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Lessons



Liz Sparrow (above) took to the skies of central Europe for her first Women's Worlds. She tells us what she gained from it

I FLEW my first international competition – the Second Women's World Gliding Championships – this summer, and I had many questions beforehand. What was it going to be like? Would I feel the pressure? Would I crack? How high would the standard be? Was I a star or an also-ran?

We arrived in Jihlava, in the Czech Republic, for practice week, a glorious drive down in the sunshine – but on arrival, as on any gliding trip, it started to rain. (As background, Gill had previously welcomed us to team training in Ontur, noting that the local area was classified as "desert". It rained torrentially for four of our seven days ...)

We spent practice week at Jihlava rigging and derigging without flying in between. On one day we flew in the rain for half an hour. It made us feel so at home. We visited the local attractions (Crystal factory, caves – stalactites that look like a camel...).

Finally, they said it would be soarable but not taskable: happily, they were wrong and we had a nice romp around in 4kt averages, looking at the local area. Kay Draper and I flew as the Club Class team. Gill Spreckley was the defending World Champion in the 15-Metre Class along with Lucy Withall, and Jan McCoshim and Anna Wells were in the Standard Class. Sadly, due to the takeover of Buzz, Sarah Steinberg was unable to come along to defend her gold medal.

The Czech Republic is a very pleasant country: all rippling countryside with conifer forests on the ridges, mostly arable with sensibly-sized fields and a good choice of landing opportunities. Small lakes are scattered about, with reservoirs in steep winding valleys – delightfully scenic! The entire country is very neat and tidy, and the people without exception friendly and incredibly helpful. The indigenous Czech architecture is of cute red-roofed houses perched on the hillsides and a very nice castle on the top of any likely viewpoint. The cities are watched over by huge Soviet hous-

I learned at my first worlds

ing blocks, but are otherwise elegant mid-European architecture. Go there!

But back to the flying. The last day of practice week was stunning. We flew an assigned area task: cloud streets ran up the centreline of each assigned area. I managed about 100km/h – not bad for a stubby!

The sun shone on the opening ceremony; we all lined up tidily behind the Union Jack wearing our team uniform and quite the stars of the show! This left us raring to go for the contest… so it rained again. We flew, and when Alan (husband and crew) arrived in my field to de-rig he wondered why there were no bugs on my wings. Precipitation-based bug-wipers in-flight and after landing.

With a few days of similar marginal flying, I found it impossible to make up for my handicap. The Pegasus was handicapped at 104 and nothing else over 100 – when you're all washed out by the same storm the extra couple of kilometres I eked out weren't enough. But this wasn't really the reason for coming low in the rankings – the opposition were just damn good, particularly the German Club Class, who were flying very effectively as a team and who seem to know how to make a Libelle match the Pegasus glide. (I never did get around to asking them, but given that I could also out-climb the Libelle, it seems likely they were ballasted quite heavily – a trick for next time…)

However, Kay and I were learning a lot about how the others were flying in these conditions, and somewhat to our surprise discovering we were able to team-fly quite effectively. We'd abandoned the idea prior to the comp as previous attempts had been counter-productive with two such differently handicapped gliders. However, at Jihlava we developed some strategies that worked and for the last four or five days went racing up the points as a result.

We demonstrated spectacular success with this on the first decent racing day – Kay set off with the similarly handicapped gliders in the German team, I had strategically got low (?deliberate-ish!) and was unable to start for another 20 minutes. I got a very good run when I did start, with cloud streets helpfully forming up ahead of me… You know when it all works out right – every time I went straight into the core. I overtook half a dozen gliders as if they were standing still as I went up the first two legs. I turned the second TP and it was all blue ahead.

Team training was working well, as Kay called back the positions of the climbs and encouraged me that a) I was catching up quickly and b) it was still working in the blue, honest!

The next leg was very difficult but I got one last good blue climb and whipped into the thermal with the lead gaggle – 500ft higher than any of them. Phew! This is where team flying is really of benefit – with five gliders spread out and hunting thermals, even the blue ones have a hard time hiding from you! This way we all helped each other up the third leg and around the third turning point, but by now we were fairly low, and the ground beneath us fairly high! Ahead we could see cumulus over the higher ground, but we needed a climb to get there.

Now came a decision point. The German team headed slightly north of track – do we stay with them, in which case I've beaten them but Kay hasn't, or do we pick our own track, in which case they may beat us but we may beat them? We were both convinced they had done the wrong thing and we carried straight on track. The next cloud proved us right, and looking ahead it was the sort of sky you want to see on track to your goal. How nice to be changing frequency to Jihlava Information rather than phoning to say you'd landed out!

I knew I had done well when the German team manager came over and shook my hand as I walked past handing my logger in… the rest of them were shaking their heads and muttering "zwanzig minuten!" – 20 minutes, which was what I had taken off their star girls due to a combination of good luck and good team flying. Thanks, Kay! I couldn't have won the day without you; it was a great team result.

So, the answers to my questions:

What was it like? Good fun, with great international company although rather too much Slivovic at the Baba Jaga ceremony… but that's another story.

Did I feel the pressure? Did I crack? When I got up to 4th place I got very nervous; this may have driven a bad decision the following day which put me safely back where I didn't need to feel pressure any more...

How high would the standard be? The standard was probably higher than I'd expected – I was expecting competition at the same level as perhaps the UK Club Class Nationals, and I think the team that won were demonstrating consistently higher class performances. Better practise more!

Was I a star or an also-ran? Not quite a star, but certainly above the ranks of also-ran.

Overall, we had a great time, we learned a huge amount and we now have a pretty good idea of what you need to do to come back with the medals – and we've proved we can do it. We're looking forward to it!

Club Class: 1. Christine Grote (GER, Std Libelle), 6271 points; 2. Kathrin Wotzel (GER, LS1f), 6162; 3. Hana Vokrinkova (CZE, Std Cirrus), 5953; 6. Liz Sparrow (GBR, Pegasus), 5489; 8. Kay Draper (GBR, Std Cirrus), 5259. **15-Metre Class**: 1. Alena Netusilova (CZE, Ventus 2a), 6866; 2. Katrin Senne (GER, Ventus 2ax), 6422; 3. Angelika Machinek (GER, Ventus 2a), 6213; 6. Gill Spreckley (GBR, LS8), 5925; 8. Lucy Withall (GBR, ASW28), 5502. **Standard Class**: 1. Cornelia Schaich (GER, LS8b), 5954; 2. Sue Claudia Kussbach (GER, LS8), 5882;3. Alejandra Repicky (ARG, LS8a), 5649; 6. Jan McCoshim (GBR, LS8), 5217; 10. Anna Wells (GBR, LS8), 4559

Anna Wells – Standard Class



Kay Draper – Club Class



Jan McCoshim – Standard Class



Gillian Spreckley – 15-Metre Class



Lucy Withall – 15-Metre Class



Photos of Anna, Kay, Jan and Lucy by the ***White Planes*** picture co. *Photo of Liz by Bernard Smyth*

Club news

Andreas (Isle of Man)

SO far this year has not been one of our best. Our only two-seater needed some major surgery on her rear end, which put her off-line for five months. Then, since she became serviceable, the weather hasn't been too helpful to us. Still, we have now just managed to get members current again; Robin Davenport even went to visit our friends at Bowland Forest. We were due to have some aircraft on show again at the Manx Festival Of Aviation in early July (*www.mfa.org.im*). By the time you read this new member, Dylan Smith, should be checked out as another "tuggie" and Dave Wiseman will, we hope, have flown his new "old" toy, a T-45 Swallow. As we actively encourage youngsters to experience gliding we have flown some local Scouts at Easter and they all want to come back. Our "Gadget Man" – John Richman – has been at it again and the launchpoint control vehicle has sprouted a pair of solar panels to keep the batteries charged for his previously designed and installed, and very reliable, automatic launch light signalling system. He has other exciting plans, so watch this space. Oh – and Brian Goodspeed has finally completed his Bronze!

Bob Fennell & Brian Goodspeed

Aquila (Hinton-in-the-Hedges)

THERE has been some good flying midweek (we are now flying regularly on selected days) and a bit of a mixed bag at weekends. Aquila has got off to a flying start in our local Inter-Club League: a good team effort gave us a win at the first meeting, on our home turf – this could be our year! Thanks to all who helped to make this a successful weekend. Congratulations to David Whittington Jones, who flew his Silver distance to complete his Silver Badge, and I did Silver distance and height on the same day. Matt Glencross and Nick Tarbox are in hot pursuit with Bronze Badges.

Barry Woodman

Bannerdown (Keevil)

THE T-21, first acquired by the club in 1961, has undergone a complete refit by Rick Fretwell and returned to the launch line in time for the beginning of trial lesson flights, proving very popular in its pretty blue-and-white club colours. Our spring soaring week was augmented again this year by 25 members of Portsmouth Naval club; cross-country tasks were flown on a number of days. The visit to Talgarth, organised by Julian Cooke, was also a success. We are looking forward to the replacement of faithful old T-61G Echo Lima by a Rotax Falke, which will restore our much-missed aerotow capability. Club membership now stands at 100 and all club performance indicators are showing better than expected. With 15 recordable achievements so far this year in Solos, Bronze/Silver legs, 100km and 300km flights we feel the club is in fine shape.

Derek Findlay

Please send entries to *helen@sandg.dircon.co.uk* or Helen Evans, 7 Ollney Road, Minchinhampton, Stroud GL6 9BX to arrive by **August 12** for the next issue (October 14 and December 9 for the following two)

Bath, Wilts & North Dorset (The Park)

AT last! We had a flying week in May, during which several pilots flew cross-country tasks, although hampered at times by poor visibility. Our ongoing scheme organised by Chris Chapell and Nick Bowers has taken fruit and we have had a large influx of Scouts from Dorset, which is introducing a younger generation of pilots into the club. In addition, Tom Bell of Bath University recently soloed and is now packing in as many flights in the K-6 as he can. On June 4, an evening flying group was organised for local, regional, and national Scout and Guide leaders, and we were also pleased to welcome BGA Development Officer Roger Coote. Congratulations to Dave Parkes, who recently flew his Silver distance to Lasham. Alan Milne and Phil Gascoigne have run a Bronze course for a large group over several weekends.

Joy Lynch

Bidford (Bidford)

CONGRATULATIONS to the three pilots from the club who took part in the Overseas Nationals; I am informed it wasn't without incident, but a good time was had by all. On the home front, we have hosted a successful safety evening, which was well attended, and thank the guest speakers. Matthew Weinle has taken over the responsibility of weekend barman to keep the membership plied with liquid refreshment after flying has finished. Our Avgas tank has been relined and is dispensing again, which has come as a welcome relief to our tug pilots, after some had been seen actually doing manual labour by filling the tug with a hand pump fuel bowser. This was kindly loaned to us by Heliair while the tank was being worked on. Finally, we do accept power aircraft: we have a smooth 800-metre grass strip. PPR required so if you fancy dropping in give the office a call on 01789 772606 for a briefing.

James Ward



*Ian Thompson of **Borders GC** being congratulated by his instructor, Andy Henderson, after going solo*

Black Mountains (Talgarth)

AT the end of May, we held the local Rockpolishers weekend with pilots visiting us from Long Mynd, Usk, Shobdon, Nympsfield and Aston Down. This was our first turn as host club and it was with a sense of slight trepidation that we agreed to run it. However, it was a resounding success with a huge amount of flying, some cross-countries, evening wave over the Wye Valley and a thumping good barbecue on the Saturday night complete with the famous Hangar Band (who actually seem to be getting better... it is said!). Everyone enjoyed themselves hugely and we plan to do it again next year. Many thanks to all the members who helped, especially Julie and Geoff King and John Clark. Our new clubhouse facilities are proving very popular and improvements continue, with a new barbecue area nearing completion. This year we seem to have wave most weekends and launches are almost 30 per cent up on last year so our treasurer Charles Baker is looking very



*Tom Bell, a student at the University of Bath, pictured after soloing at **Bath, Wilts & North Dorset GC***

content. Several new gliders have appeared on site and we have seen faithful old Snoopy (T-21) soaring above the hills again. As always, we welcome visiting pilots, who can read the pilots' notes on our website to prepare themselves.

Robbie Robertson

Booker (Wycombe Air Park)

OUR seasonal instructors, Nigel Perry and Tim Wheeler, have now settled in. They will assist in the running of our fully-bookable instructional programme. New for this year is our all-inclusive Bronze package, designed to carry on after first solo and to be a natural successor to our intensive *ab initio* course. Initial reaction has been very good and we hope that it will significantly reduce the "churn" of new members and improve the long-term stability of the club. Recent first solos include Catherine Blenkinsopp, Jonathan Eccles, Nick Gilmour, Vlad Nebolsine, Artyom Liss (BBC) and Tony Tasic (BBC and a cadet). Congratulations to them all. The flying log looks more like the UN every week. As well as the number of new gliders on site we also welcome the ever-increasing numbers of red kites in the area; they can be seen circling above the airfield daily. We hope for a picture soon. They really are a superb sight. Security is being stepped up with the installation of in and out automatic barriers to the airfield site, which will be closed at night. Members will be supplied with swipes and arrangements are in hand for the competitions. The Nationals has an effectively full entry list, and the airspace improvements for the competitions are we judge the best ever. Work is also in progress to make permanent improvements; the situation is much improved in recent years, unlike at many sites.

Roger Neal

Borders (Milfield)

CONSTRUCTION work on our private owners' hangar is now well under way; we should be in and settled by early July (fingers crossed). Again, our club has done well, taking second in the prestigious CCPR UK sports awards with a cash prize of £4,000. Thanks to all who played an active part, including the supportive members of the BGA. Following our mention on BBC TV our first ladies-only course is now full, with a second planned for August. Congratulations to Bob Cassidy for his commendation from the CAA in their general aviation safety awards, when he nursed his Pawnee back to the airfield following a cylinder head

blowing off at 400ft agl while towing a K-21. Well done also to Lain Thompson for going solo three days after his 16th birthday, and to my son Kevin Charlton for gaining his NPPL. Congratulations, all.
Mike Charlton

Bowland Forest (Chipping)

WE have a third K-13 in the workshop, stripped down and ready for complete overhaul and refurbishment. This is a long-term project with a view to its being ready for March next year. Congratulations to Mike Wood and Liz Addy on achieving their first solos, to Dave Bax on re-soloing, to Chris Burrows for Silver height and to Ian Pendlebury for a successful 50km from Chipping (thus completing his Silver Badge). The work on the Gents' toilets is thankfully nearing completion, so we female pilots no longer have to share our facility with all those men! We recently had a wonderful end-of-club-week barbecue, and used up all the fireworks that were rained off in November.
Eileen Littler

Bristol & Gloucestershire (Nympsfield)

A STRATEGY meeting was planned in June to define the club's future. Finances have been recovering well after last year's fire and difficult trading conditions. After a promising start to the year, 12 people flew 300 and two 500 one April day, but the weather has been poor, especially at weekends. Trevor Stuart flew around the London TMA on his second flight in the Nimbus 3DT – 600km. Next time he intends to turn right at Dover instead of left. Jim Wilson and John French have become Assistant Instructors. Ian Marshal, Mark Thompson, and Jon Baldock are now Basic Instructors. We look forward to the Juniors at the end of August. Sid Smith's weather forecasts are being circulated to all clubs in the region. A successful social gathering was held for mentees/mentors and families. Friday, June 13



*Liz Addy of **Bowland Forest GC** after her first solo, seen with Nigel Barnard, who sent her solo*

was lucky for some. Geralyn Macfadyen flew O/R Norwich, 525km, to reclaim the UK women's O/R distance and free distance records and establish a 500km O/R speed record. (Three records in three classes – nine in total, all subject to homologation.) Mike Young vowed never to go to Wales again with Andy Davis, when he realised that there was nowhere to land within 20km of Bala – the last TP on their 550km. Six people flew 500 that day: a much better day than the following Sunday, when most people had given up but Alison Moss claimed Gold distance and (probably) Diamond goal, landing out at the bottom of the ridge!
Bernard Smyth

Buckminster (Saltby)

THE National Aerobatics Championships, at the end of May, enjoyed warm and sunny (if somewhat hazy) weather. We again saw an increase in the number of competitors, with 24 across the four classes. Well done to Guy Westgate, who retains the national title. The dates for next year's competitions have been set as May 27-30 for the Nationals and September 11-12 for the Saltby Open (this year's Open is September 6-7). Remaining with aerobatics,we have been gauging the interest both here and with some of our neighbouring clubs. Interest looks good enough to run a number of courses, just a matter of organising them for convenient days. Meanwhile, progress is being made with the planned private hangar, albeit slower than originally hoped. We have also gained use of an extra portion of the main runway to the west of the intersection and a grass strip alongside.
Paul Rodwell



*Wave clouds over the mountains near **Cairngorm GC**. The photo was taken by Alister Morrison from his Astir CS77*

Burn (Burn)

AT our AGM Bill Thorp stood down as chairman after three years of hard work. Chris Riley is the new chairman at a difficult time for the club. Our landlord has sold the airfield to the local Regional Development Agency called Yorkshire Forward. They appear to have purchased the land to improve their case for Burn airfield to be chosen as the site for European Spallation. At the moment European governments do not appear to be promising the large amounts of money needed for this project and the web reports growing disagreements among the scientists on whether spallation is the best way forward. Perhaps there is hope for us yet! In spite of all this our membership continues to grow and flying continues apace. Recent solos include Matthew Raywood on his 16th birthday with Bronze legs on his first two flights, Terry Tordoff, David Butler and Ron Jubb.
John Stirk

Cairngorm (Feshiebridge)

MEMBERS have been enjoying the Feshie wave, which happens all year round. Recent badge claims include Sandra Forrest and Stewart Falconer (Bronze legs), and Chris Fiorentini (Diamond Badge). Last year's early solos are now busy ploughing through Bronze papers/ Cross-country Endorsement test, in order to take advantage of the soaring season with its promise of Silver/Gold Badges to come. Octoberfest this year will run from 20th Sept-5th Oct and bookings should be addressed to Chris@Capercaillie.flyer.co.uk with your details and numbers (no booking fee). Check out our web site – *www.gliding.org* – for further details. Looking forward to seeing you all.
Chris Fiorentini

Chilterns (RAF Halton)

FIRST of all, with the competition season now in full swing, on a safety point, I will reiterate for the benefit of potential visiting pilots that a neighbour has planted tall leafless (that is, difficult-to-see) trees between his artificial pond and the airfield boundary – on the undershoot/approach to 20 (two-zero) – beware! Now the good news; three new winch drivers, sorry, solo pilots, to report since the last *S&G*. As previously forecast, one of our UCL students – Leigh Brady – has gone solo, as has Zora Shaikh. A week or two after his 16th birthday, Ross Mann also went solo, gained his A and B Badge (just missing out on a Bronze leg) and converted to the K-8, all on the same day. It was a good day all round, as even the Primary (thanks to Don for the C of A) came out for its first airing of the year, with Neil Beattie a new convert. Luke Hornsey and Stuart Hyslop (no relation) completed a 100km in the UCL K-21. A small but happy band of members has returned from the flying, hospitality and cuisine of the CSVVA at Challes les Eaux. Our thanks and best wishes go to one of our former CFIs, Terry Akerman, who has now retired from the RAF, settling in France near the gliding site (airport) at Poitiers. Terry and Luke were due to set about defending their French Two-seat Military Gliding Championship honours – only to find that they and the Duo had been bumped up to the Open Class!
Andy Hyslop



*Mike Howey, instructor, congratulates Dave Butler after his first solo flight at **Burn GC***

Club news

Clevelands (Dishforth)

WARMEST congratulations to our CFI, Mark Desmond, who married Lesley Drummond on May 25. True to form, the wedding maintained an aviation theme – the reception was held at the Dambusters' Hotel in Scampton. We wish them both every future happiness. Fierce competition amongst our younger members has resulted in a number of achievements. Emma Salisbury and Ben Dorrington have almost completed their Bronze Badges, with Michael Desmond not far behind. One of our Leeds University members, Ben Cwilewicz, has gone solo and Rick Fiskal (from the ATC) has re-soloed after a long lay-off. One a sombre note, we are saddened to report that one of our more charismatic club members, Harry Birch, has passed away. He will be much missed *(see obituaries, p59).*

PA Whitehead

Cornish (Perranporth)

A BIT of sun and a few cu are sure to bring out the smiley faces. At last we are getting some of all of these, and some flying as well. None of us is sure as to where our prevailing north-north-westerly winds have gone. In previous years they came with monotonous regularity, giving hours of ridging, and many Silver durations. Nowadays they seem to be few and far between and, when present, above limits for flying! However, the sea breeze front appears with infuriating regularity, taking many lovely cu too far inland for many gliders to guarantee a return. So winching has not been a favoured method of launch from this site in recent years (to the sadness of some members), since many flights are short, and not much use for trial lessons, which give the club much-needed revenue. However, since our tug has had to have some essential TLC recently, taking it away from the club, the winch brigade have had a field day, and what fun we've had! With a reasonable number of dedicated winchers, and regular use, providing a slick operation to allay fears from the power side, there should be ample scope for a regular outing for our winch. Let's hope enough members agree, and make it happen. We have just had a most pleasant cheese and wine evening arranged by Nick Thomas, our newest committee member, with wine brought over from France by the CFI. We've recently had another visit from Gareth and Tracey (not an item, I'm told) from Lasham. Once again, very welcome and friendly visitors. Our seven-day week continues until the end of September, so any pilot wanting to sample our site is more than welcome.

Dean Penny

Cotswold (Aston Down)

SEVERAL pilots are progressing well towards their Silver Badges. Chandra Fernando has both the height and duration while Paul Gray has 50km. Our Easter open day was a great success with over 50 visitors flown although the weather was not ideal. Our pilots did well in the Rockpolishers at Talgarth. Regretfully the first round at Nympsfield was a casualty of the weather. There has been much activity in the workshop with a certain pair of Vega wings almost complete after a lengthy re-gel. Our holiday courses are, once again, proving very popular thanks to Bo, our instructor, and Stan, who has put together a team of weekday winch drivers. Members were saddened at the death of Chris Clarke after a long illness. A celebration of his life, held at Egypt Mill in Nailsworth, was so well attended that the landlord had to open extra bars to cope *(see obituary, p59).*

Frank Birlison

Cranwell (RAF Cranwell)

A PERIOD marked by thunderstorms and high winds has nevertheless seen us emptying the hangar of gliders for as much of each weekend as possible. Many kilometres have been flown by more expert members while the sunny spells have attracted a fair number of candidates for trial lessons. Our special Friday evenings for groups have also been popular, on one evening requiring the assistance of the ASH 25 to cope. We have recently added a Duo Discus to our fleet and have completed a steady stream of conversions. Another new venture is our embryo association with the University of Lincoln and Humberside and it is good to welcome new faces to the club and hopefully to the future of the sport in general. We will be trying to attract further interest at the RAF Digby Annual Fete.

Paul Skiera



***Chilterns'** Ross Mann with Taff Williams, who endured all the Practice Forced Landings and sent him solo*

Dartmoor Gliding Society (Brentor)

THANKS to our dedicated site staff (we all know who they are) we now boast a paved patio complete with awning to set off our refurbished clubhouse; and thanks to a member with ways and means as well as enthusiasm (we all know who he is) we now retrieve cables with a comfortable Range Rover, tow gliders with a suitably tuned van and, when experienced enough, may fly a Jantar. We have no replacement yet for our ever-willing K-8, badly let down by one of her admirers (and we all know who that was) earlier in the year. Congratulations are due to David Bouchier on going solo after many severely interrupted years, to Bob Jones on re-soloing and to Gavin Short on completing height and distance legs for Silver.

Phil Brett

Deeside (Aboyne)

MEMBERS have enjoyed excellent wave soaring in May and June with some flights as far as the West Coast of Scotland. Steve Thompson achieved one of his ambitions, flying to Garve, west-north-west of the Black Isle. Congratulations to Steph Kapes on her recent solo; James Vorley, who gained his Silver height; Mark Boyle, his Cross-country Endorsement, as well as his Silver height; Roy Garden, who collected his Bronze, Cross-country Endorsement, five hours and Diamond height (there's no stopping these hang glider pilots who seem to enjoy flying in a real glider! see his article in May's *Leading Edge* on the club website). Mark Hope also gained his Diamond height. Deeside achieved second place in the Scottish Inter-Club League after the final round at Portmoak, pulling up from the second-from-last place after the first round at Easterton. We would like to thank the host clubs for their warm welcome and hospitality. We are fortunate to have Sylvain Coullon, from France, flying the tugs this season, and Wojciech Schiller from Poland as our second instructor. Entries for this year's UK Mountain Soaring championship (September 7-13) are coming along well. There are a few slots left, so take the opportunity to join those who return each year because they enjoy the atmosphere, scenery and tasks associated with this competition. One-day, three-day or week-long courses can be booked with Roy Dalling on 013398 85339. Wave bookings are also going well, there are a few places left, contact Mary-Rose Smith on 01569 730687.

Sue Heard

Derby & Lancs (Camphill)

WE welcome Graham Bowes alternating with Peter Lowe and Alex Maitland as our weekday instructors, and Jonathan Gill as winch driver. We also welcome an influx of new members. Our new old pristine Puchacz has arrived from the US of A. It is about eight years old and has about 35 flights and 20 hours on the clock. The members who went to Kufstein, Portmoak, and the Pocklington aerotow course all enjoyed some good flying, and our long-stay antipodean travellers are back enjoying the British "summer". Our new wave boxes and airway crossings are in place for wave flying and we look forward to the lifting of parts of Daventry in July; it will open up the area to our south-west towards Seighford and the Mynd, so the Beer Tray should change hands more frequently. Congratulations to Richard Harraway for Silver duration and distance – as an ex-747 captain his track is the straightest anyone has ever seen (obviously saving fuel); to Trevor Butcher for duration; Bob Makin for height and distance (a 65km return from a remote start); and Chris Worrall, Keith Armitage, and Andrew Fletcher for distance. Ian Macrae has his Cross-country Endorsement. The members' courses are in full swing, and several of the distances were on the same day at the end of Dave Martin's Silver course. We are very sad to report that Richard Baker, who completed Silver with his distance in early June, died in a gliding accident later in the month. There will be an obituary in the next issue.

Dave Salmon

Devon & Somerset (North Hill)

THE season has had a faltering start in the West Country. This has tended to lead to a more pioneering approach to cross-country flights, several departing North Hill with little chance of return. Exceptionally, a foray westward reached Redruth radio mast, some 150km into dragon country, and returned! Excursions to the east, towards the wimpy up-country cloudbases, are more normal. There has been a club expedition to Talgarth, which proved an eye-opener for some members – and we think we get rain in Devon! Also, encouraged by Steve "The Boss" Westlake (the singing pilot), members have made a determined effort to compete in the local Inter-Club League. That is, if you can consider a desperate single-figure flight into a sodden field for a meagre point as determination. On the home front; congratulations are due to Eric Alston on completing his Basic Instructor rating and Roland Clarke for achieving two hours of continuous soaring whilst keeping the whole country informed by radio!

Phil Morrison

Dukeries (Gamston)

WE have had a very busy time with our AGM and annual dinner-dance where the trophies were awarded as follows: Chairman's Cup, Alan Jones; Achievement Cup, Tim Cawood; Outstanding Flight Cup, Glen Barratt and John Talbot; Height Cup, Mike Terry. Thanks to



*Stephanie Kapes with Terry Cawthorne, who sent her off on her first solo on April 19 at **Deeside GC***

Craig Hobson for running our flying week from May 24: the weather was kind and we flew every day. It gave new solo pilots the chance to consolidate and the more experienced to get some practice in before our annual visit to Pocklington for the two-seater comp in August. The barbecue on the last Saturday was well attended, requiring the customary treatment of Aspirin and a late start the following day.
Mike Terry

East Sussex (Ringmer)

CONGRATULATIONS to John Northen and Adrian Lyth on achieving Full ratings and to Henry Weston and Bjorn Birk on their well earned BI ratings. Our tug celebrates its first birthday with us, what a difference it has made to our operations, and it now boasts a 'New Fuel Filler Cap'. If anyone finds the old one, can we have it back, please! The clubhouse is being renovated with new windows and a new kitchen. Our ranks have been swelled this year by in excess of 12 new members, to whom we wish a warm welcome. A successful flying week resulted in many height and duration gains. Successful trips have been made to Talgarth, Denbigh and even South Africa.
Adrian Lyth

Enstone Eagles (Enstone)

A REUNION of former members of Enstone Eagles took place at Enstone over the weekend of May 10-11. This annual event initially started as a reunion for members who were still at Enstone when the club closed, but has now expanded and this year included a number of guests from other clubs. This was a two-day flying event and included a superb dinner at a local hostelry on the Saturday evening. We had nine gliders and a motorglider operating over the weekend and although the weather wasn't too kind to us we still enjoyed some good soaring flights. with Geoff Dixon managing to log his 1,000th hour on the Sunday. It was a very enjoyable weekend and our thanks to Ray Brownrigg and OSF for allowing us to operate at Enstone for the weekend, and to Dave Moore from Aston Down for providing and flying the tug. Planning has already started for next year – call 01235 850031if you're interested in coming.
Mike Weston

Essex (Ridgewell/North Weald)

CONGRATULATIONS to Tony Hampshire on completing his Bronze, Terry Stone on gaining a Bronze leg, Graham Winch on doing his five hours in his Swallow (he is now at home recovering!) and Roy Briggs (one of our team of tug pilots) on gaining his Silver height and duration in one flight, thereby completing his Silver Badge. A flight some days previously saw a marginal claim, so just to be sure he did it again! A local newspaper reported on one of our dedicated Sundays at North Weald flying members of the public; this again proved a success, gaining a new lady member and sending away a very satisfied young reporter after his flight between all the showers. We were lucky to have the use of our old Super Cub for that day, and we thank the new owner for making it available to us. Thanks are due in no small measure to all those club members whose hard work made the day so enjoyable for all those who flew with us. Before becoming fully operational as a tug within the club, our new Pawnee sadly suffered an engine fire at North Weald whilst airborne. However, due to a very high standard of airmanship, skill and extreme coolness under pressure, our President John Fricker managed to land it safely. We hope to have it flying again by the end of June. Apart from our special Sundays at North Weald, flying is at present concentrated at our Ridgewell site.
Peter Perry

Essex & Suffolk (Wormingford)

PERHAPS it's my imagination but the summer seems to be starting off really quite well (that's put the kybosh on



***East Sussex**'s oldest soloist, Lee Randall, helped by its youngest solo pilot, Debbie Stroud, to get his leg over... the cockpit side, on the occasion of his 80th birthday*

it for sure) and we are achieving some good early performances. We have had three first solos, from Peter Sohn, Richard Crockett and Paul Carroll, as well as Silver distance flights from Bob Godden, Kim Smith and (at last) Graham Drinkell. Our Wednesday and Friday flying days are now well established and seem to be the days that enjoy the best conditions, probably because I can never get to either.
Steve Jones

Fenland (RAF Marham)

HELLO Fenlanders. Time has come again for me to put pen to paper, or in this case, fingertip to keyboard to pass on all the club news. And joyous news it is; for the club is proud to announce two new solos; first Bob Boughen was sent on his merry ownsome by the CFI Del Ley in April and much rejoicing was to be had and the bell was rung so loudly that your erstwhile reporter heard it in Kuwait! Talking about distant lands, all our gallant young men sent to the front have returned safe and well. More rejoicing! Hoorah! The first flurries of cross-countries have been attempted with varying degrees of success. No actual claims yet, but they won't be far off. Luke Booth has had a productive couple of months; also going solo, albeit in faraway Bicestershire, he also now has two Bronze legs. As if that wasn't enough a Silver height, too. And if it wasn't for those poor tootsies getting cold, there could have been the five-hour tick as well. Ah well, get your thick woolly socks out, Luke! Or buy some foot warmers. See Timmy for details! Yours as always in a Scoop like Fashion.
Graham French

Four Counties (Syerston)

OUR Wednesday evening flying evenings are proving to be a success – Vicky Grainger, Chris Emerson and Simon Taylor have gone solo. We are participating in the Inter-Club League although at the time of going to press, we are languishing in the lower half of the competition! Hopefully we can improve our performance, especially on our host weekend. Do check out Adrian Hatton's website for updates on field selection, which can be found at *www.field-landings.co.uk*
Sue Armstrong

Fulmar (Easterton)

FIRSTLY, I would like to take the opportunity on behalf of the club to welcome our new CFI, John Leighton, I am sure we will try our best to make things easy for him! The Inter-Club League has been and gone and we didn't, unfortunately, manage to retain the trophy. However the competition brought about some outstanding flying from all those involved so congratulations are still due. We have had a mixed bag of weather in the past few months, so we are looking forward to a good run over the next few months. So expect the next report to be full of badge flights and huge cross-countries, well, fingers crossed anyway!
Mark Brown

Glasgow Caledonian (Portmoak)

GLASGOW Caledonian University GC started in December 2002 and flying finally commenced from March 15, 2003. Thank you to Gordon McTweed and Eilidh Sigrist of Caley Uni's Sports Union, who were instrumental in getting us started. The Scottish Gliding Centre (Portmoak) kindly accommodated us at their club and Edinburgh University generously offered use of their K-13. Thanks to Kevin Hook and Irene for their support and help, and thanks to everyone else at Portmoak who has made us feel very welcome. Our first member to fly was Alisdair Pye, who had his first flight with Ian Trotter on March 15. Other first-timers were Andreas Komninos, Nikolaos Zacharopoulos, Clement Girod, Roxandra Gotsi, Scott Neilson, Jan Ewan and Ian Dickson. The response has been excellent and we hope it continues into the next academic year. The flying itself has been productive. Alisdair Pye has caught the bug and is now a regular flyer, making very good progress. I have kept up my close ties with Cairngorm, flying regularly at both Feshie and Portmoak. I finally achieved my Silver height at Portmoak, thankfully I remembered the barograph this time. Next on the agenda for CUGC is a trip to Feshie this summer to give students a taste of different scenery and flying conditions. Details of the trips and club photos can be viewed at the club website at *www.sarmed.com/caleyglide*
Sarmed Mirza

Herefordshire (Shobdon)

THE recent "Herefordshire Aviation Days" event was once again a big success. In conjunction with Herefordshire Aero Club, Sabre Microlights and Tiger Helicopters, our doors were thrown open to the general public for the weekend. Visitors were invited to view the static aircraft display, sit in many of the cockpits and some even took a trial lesson in the aerial conveyance of their choice. Things are certainly looking up as two have already returned for further flying. The next big event will be the hangar dance on July 26, where we hope to have a big band, two local rock bands, a pig roast and a bar the length of two ASH 25 wingspans!
Mike Hayes

Highland (Easterton)

THE last two months have seen some good flying with good thermals and plenty of wave flying. The first leg of the Inter-Club League was held at Easterton with three full competition days. Special mention must go Jonathan Davidson: he's 12 years old and will be a great pilot one day. He must have connected the rope to every glider that was launched with great speed and enthusiasm and launch time must have been reduced. He will be sadly missed when he moves with his dad on posting to Bicester. The second leg was held at Portmoak with the final results being Portmoak 1st, Deeside 2nd and Highland 3rd. Congratulations go to Robert Tait, our CFI, on getting his NPPL. There are no badge claims to report as I landed out yet again while trying to get my Silver distance!
Roy Scothern

Imperial (Lasham)

ENTHUSIASM is high at the moment as our summer expedition to the Czech Republic is only weeks away; we are grateful that we took the opportunity to run a 'practice trip' to the Long Mynd as it exposed many

Black Mountains



Above: The Black Mountains GC site at Talgarth in Wales as you might recall it from times past, with the old clubhouse. Below, a recent aerial view, showing the new clubhouse

THE Black Mountains GC was conceived in 1978 after a chance meeting between John Bally and local farmer Derrick Eckley, when – over a beer in a local hotel – they discovered a mutual interest in flying and gliding. Following some initial trial flights out of the present site, which at that time was being farmed by Derrick, it became clear that the nearby Black Mountains offered fantastic ridge-soaring opportunities. John and Derrick bought a Rallye and Blanik from Shobdon and started gliding out of Talgarth on a regular basis during 1979. These were pioneering days, not altogether approved of by the BGA, but as experience grew and the potential of the site became clear, it soon became a fully affiliated BGA club with the best soaring:launches ratio of any UK site.

In 1998, we negotiated to buy the 27-acre site plus the Pawnee tug from Derrick and so secure the future of gliding in the Black Mountains. Shortly afterwards, we applied successfully for a lottery grant to replace the decidedly rickety original hangar; this was completed last year. A huge amount of goodwill came into play, which enabled us to add a new clubhouse, tug pilot accommodation, kitchen and hot showers. All this has been achieved in the last few years; the spirit in the club must be experienced to be believed.

We have appointed a full-time manager/instructor to ensure that we can offer seven days a week flying during the summer for members and visitors. Always a fascinating site, Talgarth concentrates on providing superb gliding to pilots who have already gone solo elsewhere. We are also seeing an increase in *ab initios*, who progress rapidly to solo in the club Junior.

As a site, we have frequent wave, thermals and over 100 miles (honestly!) of ridges that work in almost every wind direction. The site altitude record stands at 32,500ft, achieved by the late Tony Burton in south-westerly wave in the lee of the Black Mountains. Gold height climbs are pretty regular occurrences and the only airspace restriction near us is airway Amber 25 (base FL125 overhead). Despite rumours, we do have excellent thermals in Wales and these open up flights to the west as far as the Welsh coast, north to Snowdon and east into England for those Diamond distances.

Membership is growing, facilities are very good with a terrific variety of non-gliding activities in the area such as hill walking, canoeing, sailing and pony trekking. Local pubs and farmhouse have accommodation. Visiting pilots are always welcome and comprehensive notes on our website allow you to prepare to get the best out of a remarkable gliding site.

Robbie Robertson

At a glance...

Full membership cost: £195

Launch type and cost:
aerotow only, £22-50 to 2,000ft

Club fleet: K-13 (x2); Junior

Private gliders: 30

Instructors: 20

Types of lift: Thermal, wave and ridge

Flying members: 80

Operates: 7 days/week in summer, winter variable but always at weekends

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Club news



***Kestrel** DCFI Marc Morley congratulates 16-year-old Robert Armstrong just after he completed his first solo*

faults in our trailers! Congratulations go to Shaun Murdoch for his first solo, to Sejul Shah and Jamie Denton for Bronze and to Nouri Samsatli for finally achieving his Silver distance. Finally, after three years and almost 300 launches, my graduation is fast approaching and it's time for me to move on, though to soften the blow I've got a whole summer of flying lined up! Thanks to everyone who has helped me take care of the club over the past year, and I hope that everyone can get as much out of university gliding as I have.
Alan Bamford

Kent (Challock)

AT the time of writing, we are just two weeks away from our open weekend, when we hope to welcome many members of the public and give them a taste of gliding. The BGA soaring course had mixed weather but, even so, there were plenty of good flights to be had between the showers. We have taken delivery of our second K-21, bringing our number of two-seaters back up to four. All we need now is to find a loving home for our K-7.
Caroline Whitbread

Kestrel (Odiham)

CONGRATULATIONS to Rob Armstrong on going solo in the K-21. Trial lesson flights were provided to past and present members of 618 VGS to help celebrate their 40th anniversary. Thanks to Lasham and Al Stacey and Adam Clarke from Keevil for the loan of a T-31 and two T-21s, which enabled old veterans to relive that wind-in-the-hair experience. Marc Morley continues to set the standard with several more unofficial 500kms in his ASW 27. Thanks to Neil Armstrong for organising a successful long weekend course attended by five service personnel. Giles Austin becomes club chairman and Chris Wick becomes CFI.
Simon Boyden

Kondor (AGA Brüggen)

OUR very first AGM demonstrated that the youngest BGA club has had a very successful start. So far, we have logged more than 700 launches at Brüggen and membership is increasing. We all have to say a big thank you to our OIC, Hugh Jenkins, for his outstanding work in founding the club, and welcome our new OIC, R Tuck-Brown. The former Odiham K-21, A7, arrived, but still needs some work. Thanks to Alan Harris, who appeared for a weekend with a Rotax Falke from Juist Island, we had the opportunity to do lots of aerotows, and Helmar Haberl gained his tug pilot rating. On another long weekend we test-flew the DG-1000s factory demonstrator for the Army Gliding Association *(see picture, right)*. After 59 winch launches with this superb 18/20-metre two-seater the only problem remaining was where to find the money to buy one. A team of young and enthusiastic members took our old K-7 to the local competition at Emmerich and came second – well done!
Jochen Ewald

Lakes (Walney Island)

WE have benefited from the site's unique geography recently: members have enjoyed an interesting mix of conditions with wave, ridge and sea breeze fronts all being utilised. Jan Eldem continues to make rapid progress, climbing to Silver height on his sixth solo, unfortunately without the benefit of a barograph. This situation was rectified the following week when Jan, and barograph, climbed to Gold height on the best day of the year so far. Phil Storer used the wave to claim his five hours whilst others used the conditions to inundate the club ladder steward. On a more down-to-earth note the airfield owners are reviewing airfield security and have decided we must be locked in at weekends! Visitors by road will need to ring the club mobile on 0860 135447 to gain access to the airfield. The recent AGM resulted in Peter Seddon stepping down as secretary and we thank him for his efforts; I have stepped into his shoes.
Neil Braithwaite

Lasham Gliding Society (Lasham)

WITH great pleasure the Committee of Management have announced that Colin Dennis has accepted the post of Manager/Secretary of Lasham. We thank Phil Phillips for standing in as temporary secretary. Our vice-chairman Peter Paterson and committee member Al Nunn stood down at the end of their tenure; we welcome John Gorringe and Richard Moyse respectively in their places. At the AGM, our chairman Ross Stuart presented the Roy Wensley Smith Trophy for an outstanding (non-flying) contribution to Lasham to Joe and Brenda Pridel for completely refurbishing two K-13s. Colin Short, chairman of the flying committee, presented the following members with awards: Chris Mann (earliest Silver distance of the year); Graham Prophet (first 300km of the year); Chris Starkey (best place in the 15-Metre or Standard Class Nationals); Gary Pullen (most meritorious flight in a two-seater); David Masson (most outstanding flight or series of flights); Chris Sterritt (best progress by pilot trained at Lasham); David Williams (outstanding contribution to a flying group); Patrick Naegeli (fastest 100km triangle – Lasham-Chilbolton-Hungerford); Kay Draper (best female pilot of the year). We welcome our summer winch driver Simon Berkeljon and our summer assistant chef Paul Fleck from South Africa. Both decided to learn to glide and have now gone solo.
Tony Segal

Lincolnshire (Strubby)

CONGRATULATIONS to soloists Alan Pratt and father-and-son team Keith and Alex Brown. Keith resolos after a long break and Alex went solo on his 16th birthday. It's cost Keith a fortune in the bar. The first Hour of the Year Trophy has been claimed by John Brooks in his Swallow. The Blanik is back flying after a long lay-off. The flying week was a great success: the weather was very kind to us with only one day missed and lots of



*Nearly 60 flights over a weekend at **Kondor** gave the DG-1000s demonstrator a good airing (Jochen Ewald)*



*Alex Brown feels terra firma again after going solo at **Lincolnshire GC** on his 16th birthday*

pilots had lots of fun. Phil Niner has taken over as treasurer from the very much-missed Gerry. We have acquired a new tow-out vehicle – an electric pavement buggy, which is fine for our hard runway, but several members lack confidence in its cross-country ability on wet grass.
Dick Skerry

London (Dunstable)

CONGRATULATIONS to 16-year-old Andy Mills, who achieved Silver Badge (distance, height and duration) in one flight to Husbands Bosworth during May flying a K-23 followed two weeks later by a P1 rating. Ed Downham flew his ASW 27 to complete 758km on May 15, after failing one week earlier by going 738km. Our thanks and appreciation go to retiring chairman Mark Newland-Smith for the past four years; he stepped down from the committee at the AGM. He has been heading the team planning a new hangar. We welcome new chairman, aerobatic pilot Peter Miles, to the hot seat. Our recent vintage glider weekend went well with an ever-popular barbecue – cooked by experts from the Krajanek BGA 655 syndicate and washed down by the famous Old Gertie's Brew. You may or may not remember that this won a gold medal at Gertie's 50th birthday party in 2001. Cross-country soaring courses and normal flying courses together with evening courses are proving as popular as ever together with the club's newly-acquired ASW 24. A number of new cadets have been recruited and have commenced their training programme.
Geoff Moore

Mendip (Halesland)

THE AGM was well attended. The new format of meeting, prizegiving and (free) refreshments seems to work well – the members even agreed to an increase in fees! Lynda Thomson's progress won her the best newcomer award while Clive Brown picked up the trophy for the furthest outlanding. Outstanding flight went to a certain BI who crossed the Severn Estuary to Cardiff in wave (the aerial sort) and returned to base. The same BI also acquired the CFI's "red ball" award, not so much for a particular indiscretion, more for the fact that he was caught doing it. (Ask any club member for full and lurid details). Matt James has already surrendered his "youngest member" tag. Among a group of new members our new youngest is a very keen Bradley Parker. We were all saddened by the sudden death of John Winchester, who collapsed at the club and died without regaining consciousness the following day *(see obituary, p59)*.
Keith Simmons

Club news

Midland (The Long Mynd)

CFI Neal Clements has ushered in the launch director system, which tightens up safety and efficiency on the ground. Some have taken it very seriously. The experience of having "hangar unpacking!" shouted in your ear at 06.30hrs is reminiscent of the National Service one only just missed. Another initiative is that now one week in every four is designated a club week. This is for new members who have joined in the preceding 12 months or those on fixed-price-to-solo schemes and no other courses are sold for that time. We are in the final stage of negotiations with the Faulkes Flying Foundation and hope to have a DG-505 at the Mynd to fly the young people that they send us. Hopefully it will be an expansion of the training we already do for groups from Shrewsbury and Hereford Cathedral schools. On May 6 David Rance flew a 630km, during which he actually thermalled over the North Sea – but he needed another type of gas to get back from Worcester (tittering amongst the purists). We managed to sweep the board at Rockpolishers and so many congratulations to Walter Bauman, Julian Fack and Iain Evans. Also to Caroline Roberts for going solo, firstly on a bus and then in a glider. It's a natural progression in Caroline's case.
Roland Bailey

Needwood Forest (Cross Hayes)

ROLL on July 10. We're going to get another 1,000ft to play with as the Daventry airway in our region is receding. This will be great for those of us with cross-country aspirations. Our airspace is not the only thing growing as we welcomed five new members. Our committee is busily working on various initiatives, spurred on by a couple of well-attended and successful club development workshops that were held recently. We offer Bob Thacker many thanks for his years of hard work on the committee, and wish Jim Follon a warm welcome in his place. Congratulations to Dave Bowden for attaining the mantle of Basic Instructor, which he is thoroughly enjoying. Congratulations also to two of our teenage members. Firstly to Anna Griffiths for soloing in the Astir that she now has a share in. Also to Anthony Bradford for completing a two-hour flight towards his Cross-country Endorsement, though it was debatable whether the grin on his face came from that or the fact that he was allowed to drive the tractor. Well, I'm off to Ontur, so why don't you see what everyone else is doing at *www.GoGliding.co.uk*
Paul Machacek

Nene Valley (Upwood)

THE summer has started well, with several notable flights and the club's refurbished K-7/13 never short of eager students. The Junior has acquired a GPS thanks to the Social Committee's fundraising. A Cobra, Primary and a second K-6cr have joined the private fleet. The Friday evening flying groups are in full swing, with the Barge proving as popular as ever. Congratulations to Pete Seymour, whose new BI rating is getting well used. A big thank you to the maintenance team and all the willing helpers who make these evenings possible; they are a valuable source of revenue and new members.
Chris Godfrey

Norfolk (Tibenham)

FOOTLIGHTS rather than flight lines occupied our thoughts earlier this summer while we planned to host a production of the play Lilies on the Land in our main hangar. The performance, initiated by contacts in Tibenham village, is one of a series given by the Lion's Part theatre company during their summer tour, and will be accompanied by an exhibition and barbecue. The play, based on letters from those who served in the Women's Land Army, recounts stories of hardship and joy during the wartime period through narrative and song. Given NGC's history, rural location and our wish to further develop community links, the setting seems very appropriate. Continuing the feminine theme, the club has scheduled a "women-only" flying evening organised by Rose Goodwin, with half-price flying to encourage more women to experience gliding generally and, we hope, join the club. Our first task week was marked by only one non-flyable day and some good flights were recorded, including several 200kms. As well as our own wide range of club courses which have been well supported, we provided the venue for a BGA soaring course coached by Simon Adlard complete with the BGA Duo Discus. Our own soaring course will take place in August and hopefully generate more interest in Harvest task week. Finally, congratulations to Tom Smith, one of our Cadet Scheme members, who not content with soloing on his 16th birthday (a flight that also earned him a first Bronze leg), within a month flew a second Bronze flight and then gained Silver height. We await his further progress with interest!
Alan Harber



***Mendip GC**'s new Rotax Falke, Peter Turner's RF4, and the club's K-18 on its way to the launchpoint, where Bocian and K-8 are waiting in line (Keith Simmons)*

North Wales (Llantisilio)

YOU might find this hard to believe, but we do get a form of summer up here in the top left hand corner (TLHC). We get the hint when we look at the log and see that the number of five-minute circuit hops is gradually decreasing and the number of people scrambling for Bronze legs actually make it. By the time you read this, we will be past Midsummer and planning for Christmas. (Well our summer is short.) More and more tourists are finding their way back to Wales after the foot-and-mouth disaster and our trial lesson numbers bear this out. New acquisitions: Our CFI and several other guilty ones are eagerly awaiting the arrival of their new toy from the USA. A Falke 2000 no less. Other recent solos are eyeing up the now-for-sale Skylark IV as a result. At this rate we will have the UK's largest Skylark fleet. There are now four on site: three Mk IV's and a Mk IIa. Plastic aeroplanes are outnumbered 9:1. Our dear old L13 Blanik is being pressed back into training service and the Bergfalke IV is going back in its box for a well-earned rest. Yes, we all know it soars better, but rigging and de-rigging gets to be a pain in the posterior every week and up here in the TLHC we haven't learned how to build hangars yet! According to the local planning office, we have to build one that will stand 150-knot winds and half a metre of snow! Life is fun in the mountains.
David Trotter

Northumbria (Currock Hill)

DESPITE, or maybe because of, the new P18 controlled airspace, there has been much cross-country action. On April 26, the Chairman, Don Welsh, climbed over site in wave to 10,500ft within the zone (permission granted by Newcastle via R/T). He went out and back to Brampton. On the same day, Eddie Stephenson did 100km in wave, reaching 12,000ft. On May 10, Roy Mitchison did 107km and Alan Adams took his Standard Cirrus to Milfield, completing Silver with this distance flight and regaining the Hotspur Trophy. Steve Gooch has soloed and Craig Storey has his Silver height. Ted Brandi gained his second Bronze leg. Don Welsh and Ian Plant have completed the Basic Instructor course. Despite a poor forecast, the Spring Bank Holiday open day was successful: 50 members of the public were given soaring flights. A substantial number of members are attending the radio licence course at Newcastle Aero Club. Roy Mitchison is now the Junior/Cadet Mentor. With Ted Brandi as webmaster and the ubiquitous Craig Storey as web designer, the club website (*www.northumbria-gliding-club.co.uk*) has been revamped. Frank Mcloughlin's visitors' guide has been incorporated. The Martin Fellis original site served as an excellent model. On June 6 The "Magnificent Seven" (K-7) went to pastures new (well, Milfield looks like a pasture) not by air, but on its trailer. It has lodged in the Currock hangar for several decades. Some say the hangar was built around it.
Len Dent

Oxford (RAF Weston-on-the-Green)

THINGS are starting to hot up at OGC with our first two cadets of the season going solo. Lisa Hastings and Rebecca Stone had simultaneous good hair days and found out what it's like not to have their dads nagging them from the back seat. John Mart, who doesn't have to worry about his hair, also went solo and Karen King re-soloed. And like last year, OGC did the business at the National Aerobatics Championship. Stewart Otterburn and Maz Makari flew outstandingly well against stiff opposition in the hotly contested Sports Class and came home with Gold and Silver respectively while Simon Walker had a ding-dong battle in the Intermediate Class and came home with the Bronze medal. They'd all like to thank their fellow competitors for the help (and gliders) they were given when their old bucket went u/s. Other achievements of note were Anthony Buck keeping it up for five hours to complete his Silver and Stewart Otterburn getting his assistant instructor rating. Who knows what will be in the next thrilling instalment!
Steve McCurdy

Peterborough & Spalding (Crowland)

GOOD soaring days came in with the spring. Laurie Clarke and Rob Thiel made the most of it by completing their 300kms. Congratulations to Paul Davey on becoming a 'Half Cat' instructor and good luck to Graham Morriss and Rob, who are on their way to becoming Basic Instructors. Several of our members are working their way through Bronze with Cross-country Endorsement. We also have two newly-qualified tug pilots, Graham Morriss and Dave Mason, who keep club members entertained with their friendly rivalry. The BGA Soaring Course, held during our flying week, was a great success. Several club members took the opportunity to fly the BGA Duo Discus and we thank National Coach Simon Adlard for sharing his knowledge and experience, which was appreciated by everyone. Our final flying week of the year starts August 23, when we welcome any visitors who wish to join us.
Joan Pybus

Portsmouth Naval (Lee-On-Solent)

WE held our first continuous course of 2003 over Easter. Fortunately, the week was blessed with some fine weather and three course members achieved their first solos. The same week, Andy Hepburn and Richard Parker got to Parham in K-8s to claim Silver distances, and Paula Aitken resisted the call of nature for more than five hours to complete her Silver at Lasham. The late spring Bank Holiday weekend saw expeditions to Yeovilton and Keevil; many thanks to both clubs for their hospitality. We temporarily swapped our K-21 with Rivar Hill's Puchacz to enable our BI candidates to sample the delights of spinning. Roy Gaunt was kept



Newly-solo Lisa Hastings and her father, Martin, who is the CFI elect at ***Oxford GC****...*

busy over the first weekend in June flying with Paula Aitken, Andy Hepburn, Kevin Hills, Mark Holden, Steve Morgan, Richard Parker and Rob Woodhams, so they could gain their BI ratings. Many thanks to Roy for his hard work and not least for his patience. Sadly, we have to report the death of George Byrne after a long battle against illness. We will miss his quiet, good humour and willingness to help.
Steve Morgan

Scottish Gliding Union (Portmoak)

THE last round of the 2003 Scottish Inter-Club League was held at Portmoak in May and we are delighted that our pundits won the league. At the previous leg, held at Easterton, Dave Thompson won two classes on the last day allowing us to go into the last leg on home territory with a slender lead. Teams from Angus, Cairngorm, Deeside, Fulmar and Highland took part, and director Mike Carruthers and task-setter/scorer Kevin Hook worked well to set up an excellent weekend. Duncan McKay from Deeside won the Novice Class in his Oly 2, landing in the same field as a rather different vintage LS7. Neil Irving landed his Astir beyond Dollar to win the Intermediate Class to extend our overall lead. Sunday provided a win for our John Williams in the Pundit Class, and a 3rd place in the Novice Class for Dave Thompson. This allowed us to win the league by seven points from Deeside, with Highland third. Huge thanks to our team of John Ferguson, Gavin Goudie, Kevin Hook, Neil Irving, Dave Thompson, John Williams, Mike Carruthers, Ian Trotter and Steve and Irene Donald. Welcome to new cadets David Brown, Ewan Stewart and Graeme Miller. Well done to Stewart Hennesay and Mike Lithgow on first solos, and Ruaridh Nicol for Silver height and duration – oh, and yours truly got his Silver height.
Ian Easson

Shalbourne Soaring Society (Rivar Hill)

SUMMER has arrived and the trial lesson evenings are well under way. The first club expedition of the year saw a group heading to Denbigh to sample the delights of Wales. Others went further north to Portmoak to successfully pursue Silver heights and durations. Several members have been working hard for their Bronze papers. On May 31 we welcomed Dave Bullock, BGA National Coach, with a BGA Falke for aerotowing and field landing practice. In mid-May the question arose, how many instructors can a K-21 hold? Clearly not enough, judging by the scramble by our instructors to clamber inside it one weekend. Our Puchacz headed south on its holidays to Lee-on-Solent to provide spinning exercises on a BI training course. In exchange, we enjoyed the use of their K-21 for three weeks and took great delight in seeing our instructors vying to be the first to fly it. Spring Bank Holiday Monday saw four intrepid glider pilots heading off to Swindon to take part in the Rotary Club's Family Fun Day. No flying, but plenty of rigging and de-rigging practice! Ignoring warnings of sticky fingers, the 334 syndicate 'volunteered' their glider to go on display. Fine weather brought out the crowds and we stimulated a lot of interest in gliding and our club, with the added bonus of selling some trial lessons. Liz Sparrow and Kay Draper were the British Club Class entry in the 2nd Women's Championship in Jihalva, Czech Republic. Great team work saw Liz win a day, and she has the flying witch to prove it. One new solo pilot to report on, the club secretary, yes, that's me.
Liz Seaman

Shenington (Shenington)

CONGRATULATIONS to Rowan Griffins for his Gold Badge, Paul Duffy for a Silver distance, Andy Moore for a Silver height, and Andrew Short for completing his Silver Badge with a distance flight in April. We have two new basic instructors in Tim Parker and Dave Heath. We've had a busy spring with lots of good flying and plenty of social events, including our AGM. We had a weekend of aerobatic demonstration and instruction in May, courtesy of Andy Cunningham and his Flying Fox – this was a very popular event. Our very own Mary Meagher appeared on *The Weakest Link* in May! We have more barbecues planned. Check *www.gliding-club.co.uk* for up-to-date details, and do come and join us! During the week our courses are busy, and we've had a couple of club expeditions too. Call the office if you want to come over midweek – visitors welcome.
Tess Whiting

Southdown (Parham)

THE spirit of adventure is alive and well this summer with Paul Barker and Guy Westgate planning the declaration of a lifetime. The idea is for them to fly their DG-400s across the Channel, down the east coast of France and cross the Alps into Italy before soaring Mount Etna. Mt Etna offers ridge soaring possibilities, not to mention the odd thermal from the volcano itself. The out-and-return flight covers a distance of around 5,000km and they hope to enjoy the hospitality of some French and Italian gliding clubs *en route*. Paul has recently gained his Diamond distance, while Guy has won the National Aerobatics Championship. With a month's leave from British Airways, and both pilots in top form, they are confident of success. We wish them light airs, fair winds and lots of luck. *(Their adventures will feature in S&G later this year – Ed).* Our five new bursary students began training in spring and Alexander Stewart is the first to go solo. They are all keen to follow what is fast becoming a tradition of aviation success for ex-bursary students at Parham. In particular, we congratulate Nicola Lofthouse, who is commencing training as an RAF pilot. Groups have visited St Auban and Fayence regularly in recent years, so a trip to La Motte is planned this summer by way of a change. Collective wisdom from these visits rubs off on every member. Nothing makes the gods laugh more than listening to glider pilots making plans for competition flying. The Inter-Club League leg at Parham on May 3-5 was typically short on soarable weather. Nevertheless, the last day enabled Tony Hoskins' Southdown team to beat Lasham, Kenley and Kent – well done. We now have a syndicate-owned Capstan and members with sufficient brownie points from rigging/retrieving can chose between this, a T-21 and a DG-500. But the latest white-knuckle entertainment is soaring the cliffs at Beachy Head in the club K-21. All visiting pilots, from Lasham or from anywhere else, are strongly advised to take a check flight with local enthusiasts before joining in.
Peter Holloway

Staffordshire (Seighford)

CONGRATULATIONS to Mattthew Woodiwiss for his 16th birthday solo, and to Dan Welch who now has his



... and newly-solo Becky Stone with her father, Howie, who is ***Oxford****'s CFI*

five hours. A number of members are beginning to accumulate points on the cross-country ladder. Paul Cooper leads with 5149pts and a best flight of 237km (Std Cirrus). Brian Pearson is close behind with 4434pts and a best flight of 257km (DG-400). We are looking forward to a number of soaring and flying weeks – thanks to all those involved. Our Cadet Week will be taking place on August 4-8. The aim is to encourage young people to fly. Eight will be accepted on to the flying week, at the end of which at least one person will be offered free flying up to solo standard. For further details, please see *www.staffordshiregliding.co.uk*. Our May open days resulted in the recruitment of a number of new members. Thanks to all who helped in the running on the day and publicity beforehand. Louise O'Grady has now taken over as social secretary – thanks to Alice May for her previous hard work (she now takes over the 100 Club). We are looking forward to a Hangar Dance at Seighford on Saturday, August 9.
Paul (Barney) Crump

Stratford on Avon (Snitterfield)

THE BGA soaring course here was very successful, giving pilots the chance to experience Simon Adlard's excellent tuition. Conditions were superb most days, giving optimistic forecast to encourage us to test our skills without risking too many near-outlandings in the Duo Discus – thanks, Simon. Congratulations to Jonty Boddington for resoloing after 13 years and to Bryn Floyd for completing his BI course at Bicester. Alan Wrights and Trevor Tibbetts are running the first two weeks of full-time operations, followed by Phil Pickett, who has now recovered from his various orthopaedic traumas. The annual expedition to Sutton Bank was enjoyable, despite rather mixed conditions. We are radically improving the ground equipment, with a new red double-decker bus for launch control, sourced by Dave Ireland, with new electronics, solar panels, radio and signalling equipment by Barry Monslow. A new toilet block has been installed courtesy of Martin Greenwood and Barry. Andy Balkwill has taken over as secretary from Nigel Spedding, Phil Pickett is technical officer, following Derek Phillips, who has been there since time immemorial, and Richard Maksymowicz succeeds Geoff Butler as membership secretary. Thank you so much to Nigel, Derek and Geoff. Finally, a complete resurfacing of the drive to the club, courtesy of Martin Greenwood and Lee Ingram, with planings from various motorways has been a great success.
Harry Williams

Surrey & Hants (Lasham)

OUR AGM was concluded on June 7; the meeting heard that fleet and finances are in good shape, but the gliders aren't flying enough! Those lucky few who are able to fly midweek have definitely had the best

Club news

weather so far this year – we need a run of good weekends. Trophies for 2002 were awarded to Nigel Pocock (the splendid new Wally Kahn Trophy, most meritorious flight or series of flights) and Graham Prophet (Dukinfield Jones Trophy, first Gold Badge claim – 300km – of the year). Our K-8, 474, is back in service after being re-covered by the Vintage GC, looking immaculate. It celebrated in the hands of Shaun Lapworth, who flew to Bicester and completed all three legs of his Silver in the one flight. Back in March, Discus 397 joined the Lasham expedition to Jaca (Spain) and spent a happy three weeks exploring the Pyrenees. We welcome a number of new members who have recently soloed at Lasham, and look forward to seeing them progress over the summer.
Graham Prophet

The Soaring Centre (Husbands Bosworth)

CONGRATULATIONS to Christopher Rex and Jason Dear who have both gone solo, to Sarah Curtis on her Silver duration, and to Paul Howard who has completed his Bronze Badge. Dave Booth did the first flight from the club this season of more than 500km, with a task of 514km in May. Alan Fretwell and Mike Cater are now CAA Motor Glider Instructors, able to instruct towards the SLMG NPPL. Ron Beezer has renewed his Full Cat Rating. The club held a very successful "Greek" evening on June 14. Many thanks to all who helped organise the event, especially Katia Pozerskis. We wish all our club members good luck at their respective competitions this season, but in particular Paul and Stephen Crabb, who will be flying in the World Gliding Championships in Lezno, Poland, from July 27-August 9. It is with sadness that we report the death of Peter Croskin, a long-time club member, who died suddenly in May *(see obituary, opposite).*
Siobhan Crabb

Trent Valley (Kirton-in-Lindsey)

WITH the soaring season now upon us many members have taken advantage, especially Paul Nock, who gained Silver distance (Kirton to Pocklington). Well done to Kevin Miller for going solo. Gordon Bowes declared his first 300km of the year, which sadly ended at the first turning point. However, it was not a complete disaster as he landed in a field next to Pickering's Annual Steam Rally. He was able to sample the delights of coal dust and soot whilst waiting for his Dad, Norman, his retrieve crew. The two-day hiring of the BGA Duo Discus was a great success, with many members enjoying soaring flights. However, there were several grown men near to tears when it was time for de-rigging and returning; never mind, I have it on good authority that the CFI will endeavour to get it back next year. Members enjoyed a spectacular private display by the Red Arrows during their pre-season practice over Kirton.
Janet Nicholson

Ulster (Bellarena)

HARRY Hanna has stood down as CFI after over nine years in post. It is fair to say that Harry was one of the best CFI's the club has ever had; his tireless contribution in that demanding capacity has left a lasting impression on us all. Alan McKillen has been appointed CFI and Phil Hazelhurst has been seconded to the committee as Health and Safety Officer. The "Walking on Air" visit at the beginning of May by Joe Fisher and his team was a resounding success in spite of the intervention of mixed weather. Disability Sport Northern Ireland helped co-ordinate the week-long event, which saw 20 people with varying degrees of incapacity experience the thrill of gliding. The club is now actively pursuing funding options to assist in the possible purchase of a new adapted K-21. The increasing numbers of commercial aircraft making use of the ILS into Eglinton has necessitated the club to rule that gliders using the south-west face of Binevanagh must not fly in the 2,000-3,000ft height band without a serviceable radio monitoring the Eglinton Approach frequency. The weather gets the blame for spoiling our open day at the end of May as well as interfering with our participation in the two-day Airshow at Portrush. Nevertheless, we did entertain the large crowd by opening the event with one formation flypast on the Saturday, and a glider static display drew a large amount of interest.
Seamus Doran

Vale of White Horse (Sandhill Farm)

THANKS in particular to Mike Leach's very professional planning and preparation we held a most successful open weekend in early June, which attracted a large amount of attention from people with a serious interest in aviation. We are hopeful that this may turn out to be part of the way to bring more people into the gliding fold. The highlight for me over that weekend was to fly with a former glider pilot on his 81st birthday; he had originally learned to fly in Kranichs and Minimoas. Our cross-country season is proceeding quite well, in fact much better than in previous years, largely due to the availability of our own tug which has enabled us to catch the odd Weatherjack '4' day midweek when we might otherwise not have flown at all. A number of flights have now been entered in our out-and-return competition, and the two days of a mini-competition held over the late spring Bank Holiday were won by Steve Nash and Gerry Brown.
Graham Turner

Welland (Lyveden)

SINCE April our new Cirrus has seen some airtime as have a couple of new syndicates. Dave Chisholm has his Silver height. Two of our younger members, Robert Lockwood and Dominic Chisholm, have soloed having, at last, reached their 16th birthdays. We have seen some Wednesday flying mostly with our elder members and the first of our Friday guest evenings. Our K-8 has been refurbished and now looks and flies like new. Absence of communication has resulted in our absence from the East Anglia Inter-Club League. Perhaps our competitive spirit can be exercised in other ways: some early claims have been made on the National Ladder and we may yet be able to compete for the Anglia Cup in September. Our 'Flying Week' begins on August 2, with Nene Valley GC again sharing the festivities.
Strzeb

Wolds (Pocklington)

WELL done to Keith Lorenz for going solo at 16 and to Steve Gibson for recently gaining his Bronze Badge, his Cross-country Endorsement, and his Silver height. Gareth Carruthers is gradually recovering from his shortest flight yet without the aid of a tailplane, and is considering getting another glider. Our evening visits are continuing to prove popular with those work colleagues and friends who have always wanted to try gliding. Weekday flying is also proving popular and has now been extended to solo pilots who want to fly seven days a week.
Ged McCann

Wyvern (Upavon)

MAY and June have seen both a hectic social and flying calendar, with two *ab initio* courses being run successfully and two major social events. Our thanks to Roy Gaunt and Pete Brennan for throwing a super birthday bash and skittles evening. On the flying front people are now venturing away from local soaring and cutting their teeth on early cross-country flights. Roy Gaunt continues to tease the 'less experienced' (read younger!) members of the club, challenging them to race him around a 100km triangle – twice. Still, a number of us have managed once around, although at nothing like the speed Roy flies at! Darren Gay has successfully completed his 50km, with an out-and-return to Lasham. Tochi Marwaha is leading the field at field landings! A number of members have completed Bronze papers and legs. The new launchpoint bus is continuing to take shape, and our thanks to those stalwart members of the club who are putting in the effort to transform it. I am moving to take over as Secretary of the Army Gliding Association from the start of July and hand over as Secretary of Wyvern to Andy Gibson.
Brian Penfold

York Gliding Centre (Rufforth)

THIS summer continues to show strong flying hours for the club, and more enthusiasm for cross-country flying. Solo pilots are now opting for dual cross-country training in the DG-505 with experienced cross-country instructors, which is excellent news. One of the club K-7m two-seaters has been sold and we are buying a K-13 to replace it. The summer barbecue was a great success, following on from the spring one.
Mike Cohler

Yorkshire (Sutton Bank)

THE clutch of recent achievements includes three Gold heights from Bill Payton (completing his Gold Badge) and James Ewence on May 5, and Rory O'Conor on June 7 (who also completed his 100km Diploma). Also to be congratulated are Toby Wilson for his solo at 16 on April 6 and speedy conversion to the Astir, and Steve Ball for his Silver height, completing his Silver. Tony Kane has his five hours, as has Kelly Janski, finishing her Silver, and John Ellis did over 500km at c 100km/h on May 17. The club is shuffling its feet excitedly at the prospect of the new DG-1000 promised us in June and the start of the summer competitions. The Vintage GC Rally brought us many lovely old – and colourful – aircraft, including an immaculate Capstan, two Kirby Kites and a Czechoslovakian Zlin 24 Krajnak. Finally, it is regret that we say goodbye to Lise from the office and wish her much luck in her future life.
Alex May

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Obituaries

Harry Davies – Clevelands

HARRY (1923-2003) was a late starter to gliding, taking his first flight in 1980 at RAF Dishforth. He flew for over 20 years, having shares in a Swallow, and later a Dart, but he did most of his flying in his Blanik, 769. At one time, his 'map-reading' expeditions gained a certain notoriety when he took to making unplanned landings at just about every field in the Vale of York! Despite this, Harry was a safe pilot, and never damaged himself or his aircraft. He was a great supporter of club activities, both flying and social (he particularly enjoyed fancy dress, and we remember his many guises, from King Charles to a Luftwaffe officer!). He and his wife Jean spent all their summer weekend in their caravan on the airfield, sometimes with the grandchildren too; Harry continued to fly all winter. He addressed the thankless task of producing club statistics with gusto, finding ways to present figures in new and interesting formats, specialising in 'what-if' scenarios about club economics and organisation. Harry's unfailing cheeriness and boundless enthusiasm are much missed and he will be long fondly remembered. We extend our deepest sympathies to Jean and all his family.

Jill Povall/Polly Whitehead

Gerry Bloor – Lincolnshire

GERRY (1937-2003) died recently, following a long illness. After national service in the RAF, he eventually found himself involved in the jeweller's trade in Mablethorpe. He began flying and completed his Bronze with us but illness forced him to curtail his flying of late. With his business acumen and undoubted skill Gerry was a natural choice for treasurer and vice chairman of the club. He revolutionised our accounts to such a point that they made sense to the accountants. His financial good sense got the club on to a sound financial base from which to move onward. Gerry was also a great raconteur. Get him a pint and he would keep the gathered throng enthralled for hours with stores of his past. But it is the financial security of the club that will be Gerry's legacy to us. Our sympathy and condolences are with Anne and his family at this time.

Dick Skerry

Chris Clarke – Cotswold

CHRIS, a giant of a man in all senses, was, under his occasional gruff exterior, a thoughtful person and a real family man. His interests were broad. He found time for involvement in rugby, motor sport, sailing and skiing. Chris (1946- 2003) joined Cotswold GC in 1978, became a key member and, when elected to Tech Member Ground, was happiest when solving challenges for launching gliders. Our unique autotow method was, for Chris, a marriage of interests – powerful cars and flying. Chris could be relied upon to rise to a challenge, especially against the elements, whether rigging his glider (almost) regardless of the weather, saying "That's what we're here for, isn't it?" or, taking a yacht out of Portsmouth in the most appalling sea conditions. For a number of years, Chris organised and inspired the Rockpolishers at Aston Down with great success, reflected in the competition results. He went on to become a successful club chairman. He had vision to see where we needed to go, and drive to achieve it. Chris was no mean glider pilot. He did not count himself as a pundit but could out-fly many other pilots on difficult days. He was a man of action, no time for dilettantes and, famously, one who did not suffer fools gladly. Chris knew people and enjoyed watching them, deriving pleasure from the rich entertainment the members provided. His pithy observations were legendary. His deadpan description of a finely-judged finish at the Lasham Regionals was: "It was the man on the bicycle I felt sorry for!". Our sympathies are with Sandy, his wife, Russell, Kathryn, and all his family.

Cotswold GC



Chris Clarke, right, with his son Russell in their glider 109 at their neighbouring club, Nympsfield, in 1998

Peter Croskin – The Soaring Centre

NEWS of the death of Peter Croskin (1925-2003) took my thoughts back over 30 years to when he and a few other *ab initios* were among my early pupils as a very new and inexperienced instructor. When Pete's: "But with the greatest respect..." reached your ears, you knew that his enquiring mind and above all his wicked sense of humour were about to tax your patience! Never one to take anything at face value, Pete (who had a long career in the pharmaceutical supply business), would question his flying training every step of the way. However, to give him credit, following his first launch failure, which coincided with his first solo winch launch, his first words to me were: "I think there might be something about this BGA training method". Peter later went on to form a flying group with two of his fellow students, firstly in a Pirat and then later in one of the very first DG-100s to be imported. I dubbed them the "Three Musketeers" as their flying careers were so closely matched. For one who was for ever winding up those around him, Pete was surprisingly easily trapped into farcical situations from which he would emerge with good grace befitting his own sense of fun. Only slightly larger than life, Peter Croskin was a good man to have around on social occasions and will be sorely missed by his many friends and fellow pilots.

Ron Davidson

Dave WH Roberts – Oxford

WE are sad to have to report the death of David (1921-2003), in March at a nursing home in Chipping Norton. I first met him after World War Two, when he joined the Pressed Steel Company in Oxford from a job in the aircraft industry with Short Brothers. We had a common interest in aviation and I persuaded him into a trial flight after he injured his ankle in the clearly dangerous sport of rugby. It was not long before he trained for and earned an instructor rating, and he eventually became our CFI. He soon found that flying only club gliders restricted his flying so he formed a syndicate to buy one of the last Olympias made by Elliots of Newbury. (Ralph Jones will remember repairing this glider after a certain airborne incident in a gliding competition.) The Olympia was followed by other gliders, including his much-loved K-6e and a Libelle. He flew in the Dunstable and Western Regionals and Competition Enterprise. Having completed Silver, he got his PPL, soloing on a Tiger Moth. He was a founder member of the group that bought an aircraft mainly to tug for Oxford, but towed at other sites, too, especially Nympsfield and North Hill. He will be remembered, I am sure, not only for the laughs he gave us but particularly for his generosity.

John Gibbons

Henry Williams – Lincolnshire

HENRY (1925-2003) died suddenly recently. He was someone who drifted into the club because something was going on and he wanted to see what it was. He soloed, then became more of an occasional flyer, loving nothing better than soaring with an instructor on a gentle day. An engineer by trade, he started as an airframe fitter in the wartime RAF. His catchphrase, if anyone had a part fail, was: "Ah'll mek thee one" – a week later, he would produce an immaculately made replacement, for no charge. If he were offered payment for the materials he would merely say it was from his scrap bin. This was bottomless, and contained every metal known to man. However, it was as a canopy repairer that Henry was at his best. He could repair any hole we could make; the price was always the same – a launch and a good flight. Henry's other great passion was wildlife. His bungalow gave him direct access to the dunes and marshes of this part of Lincolnshire and he was a warden at the local seal sanctuary. Henry will be remembered as a truly gentle man, and our thoughts are with his family.

Dick Skerry

John Winchester – Mendip

IT is with great sadness that we report the death of our dear friend John Winchester (1935-2003), who collapsed on the airfield on Thursday, April 24 and died in hospital the following day. John was a very dedicated and hard-working club member. His inventive and engineering skills are evident in the numerous pieces of equipment that he designed and constructed; they didn't always work first time but he persevered until they did. He also spent many hours keeping our MT and winches in good working order, sometimes to the detriment of his own flying. He was a fine man and will be greatly missed, especially by the Thursday Group. Our thoughts are with Maureen and the family.

Barry Hogarth

Treating engines badly

Phil Phillips describes how Lasham Gliding Society solved the problem of thermal stress cracking tug engine cylinders



the ***White Planes*** picture co.

Lasham Gliding Society's six tugs once lost 28 cylinders to cracking over four years – and the club had to buy two new engines a year, as well – despite careful monitoring of the cylinder-head temperatures. What was the answer?

THE MOST common engines for GA (general aviation) aircraft remain the Lycoming range. Designed more than 60 years ago and being hardly changed since shows they were a good design for the time. UK gliding typically uses Pawnees, Super Cubs, and Robin DR400s to aerotow launch gliders. These use Lycoming engines between 150 and 260HP.

A normal flight profile is to tow the glider between 50-70kt to 2,000ft using full power then get to get back on the ground with the minimum delay. All too often minimum delay meant closing the throttle and descending at high airspeed. Bad news for the poor old engine. Just think, in a life of 2,000 hours, which we now invariably achieve, this equates to 12,000 full-power climbs and descents with no time at a steady cruise power setting – harsh treatment for any engine.

In the four years between 1987 and 1991 Lasham, probably the largest gliding club in the world, operated six tugs and did over 60,000 aerotows.

The club bought two new engines most years. However, they also had to replace 28 cracked cylinders in this four-year period.

Most cylinders cracked between the valve seats and into the exhaust port or to the plug-hole, but two actually blew the head right off the engine.

The symptoms were obvious, a significant loss of power, rough running, and worried pilots.

Economy demanded we rewelded or bought reconditioned cylinders, this was still expensive and had flight safety implications.

Initially it was all rear cylinders that were cracking; we alerted our pilots to monitor the CHT (cylinder-head temperature) carefully and speed up if it neared the redline.

The following summer showed this was not the answer. We cracked another 10 cylinders, six rear, four front.

By the end of the four years this had become 18 rear cylinders and 10 front. Clearly our method of operation was inducing severe thermal stresses.

To study the problem Lasham fitted an engine with approved flight test engine instrumentation. This immediately showed the damping and lag in normal CHT gauges made them unsuitable for cooling trials. Led by David Oliver, the tugmaster, we made a lot of flights recording CHT *vs* height and time for each cylinder. We confirmed rear cylinders got the hottest, usually by 15°C, and found from full throttle the rate of cooling of hot cylinders was dependent on quite small reductions in power. Just 50rpm reduction starts cylinder cooling without an increase in airspeed. Increasing the airspeed at the same time gave a cooling rate faster than the Lycoming recommended maximum of 28°C a minute. We were in a cleft stick! We needed to descend but we could barely throttle back or we might crack another cylinder.

'We were in a cleft stick! We needed to descend but we could barely throttle back or we might crack another cylinder'

Fortunately, the better instrumentation enabled us to develop a practical technique for throttling back a hot engine. The critical time is the first few seconds, too much rpm reduction or any increase in airspeed causes over cooling. Too little rpm reduction simply delays the start of cooling and prevents descending.

We changed the operational technique so that after the glider release rpm was slowly reduced over 10 seconds, from 2550 to 2400, height was maintained or increased a bit so there was no significant increase in airspeed. During the next 10 seconds, rpm was reduced to 2300 and speed was gradually increased in a descent.

After this the 2300 was maintained and the airspeed steadily increased to 110kt. After a minute the CHT will be below 200°, out of the danger zone, and appropriate power settings for the rejoin could be used.

We also bought only *new* engines and *new* cylinders. The engines had to have solid crankshafts to avoid the dead band.

What did this achieve? Cheaper engines and improved safety. We now rarely have to change a cylinder and sometimes get up to 2,600 hours out of an engine.

We also showed that pilots, once they are using the right techniques, can make a huge difference to engine life and can keep our Lycoming engines going perhaps for another 60 years.

In your general aviation flying and your tugging, think about thermal shock and never go from full power to idling, especially combined with an increase in speed – your cylinders are at considerable risk! Think "engine comfort" for safer flying.

Sailplane & Gliding's thanks to GASCO's *Flight Safety* magazine, in which this article first appeared for permission to reproduce it (Spring 2003 issue – Vol 39, No. 1)

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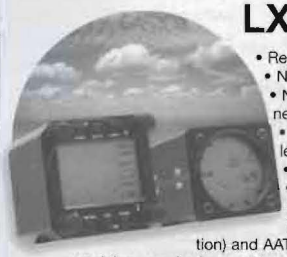
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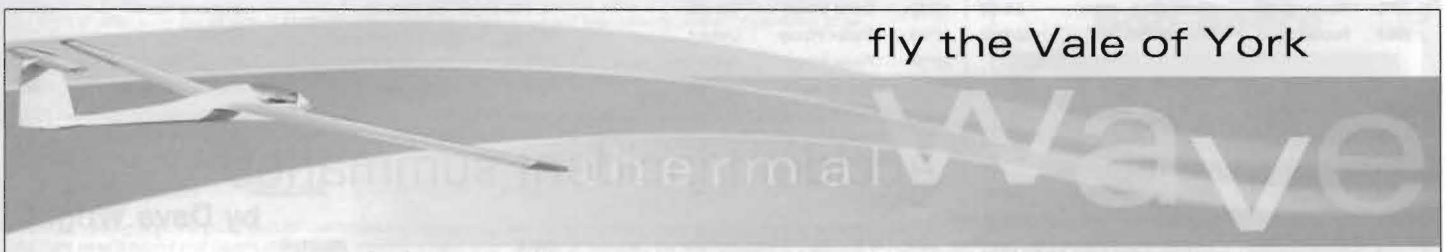
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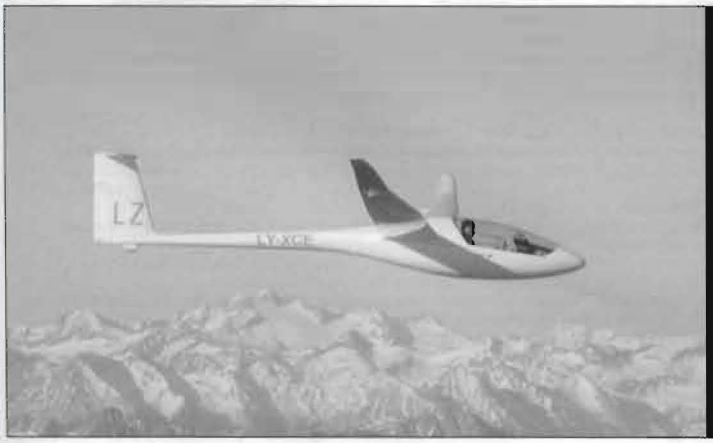
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British Gliding Association Badges

BGA 750km DIPLOMA

	Pilot	Club (place of flight if different)	Date
39	Edward Downham	London – 756.8km	15/5/03

DIAMOND BADGE

	Pilot	Club (place of flight if different)	Date
640	Jane Randle	Cotswold	4/3/03
641	Chris Fiorentini	Cairngorm	14/2/03
642	Edward Foxon	Lasham	31/10/02
643	David Tanner	Booker	22/3/03

Diamond distance

	Pilot	Club (place of flight if different)	Date
1-909	Chris Fiorentini	Cairngorm (Narromine)	14/2/03
1-910	Edward Foxon	Lasham (Omarama)	31/10/02
1-911	Paul Barker	Southdown	6/5/03
1-912	John Marriott	Bicester	15/5/03

Diamond goal

	Pilot	Club (place of flight if different)	Date
2-2896	Hannah Hay	Lasham (Benalla)	15/12/02
2-2897	Michael Baker	Cranwell (Saltby)	22/4/03
2-2898	Neil Irving	Scottish	30/3/03
2-2899	Lawrence Clarke	Peterboro' & Spalding	12/4/03
2-2900	Michael Mann	Lasham	9/5/03
2-2901	Martin Rayner	Kent	6/5/03
2-2902	Mike Collett	Booker	6/5/03
2-2903	Rowan Griffin	Shenington	6/5/03
2-2904	Robert Theil	Buckminster	22/4/03

Diamond height

	Pilot	Club (place of flight if different)	Date
3-1600	Ann Laylee	Lasham (Omarama)	16/2/03
3-1601	Jane Randle	Cotswold (Omarama)	4/3/03
3-1602	Philip Duffin	ESGC (Omarama)	4/3/03
3-1603	Ian Craigie	Four Counties (Portmoak)	3/4/03
3-1604	Edward Foxon	Lasham (Omarama)	20/10/02
3-1605	David Tanner	Booker (Minden)	22/3/03
3-1606	Thomas Rose	London (Minden)	22/3/03
3-1607	Roy Garden	Deeside	26/4/03

GOLD BADGE

	Pilot	Club (place of flight if different)	Date
2270	Paul Browne	Cambridge (Portmoak)	3/4/03
2271	Philip Duffin	ESGC (Omarama)	4/3/03
2272	John Bailey	Lasham (Tocumwal)	7/1/03
2273	Andrew Langton	Four Counties (Portmoak)	30/3/03
2274	Arthur Docherty	Soaring Ctr (Portmoak)	30/3/03
2275	Rowan Griffin	Shenington	6/5/03

Gold distance

Pilot	Club (place of flight if different)	Date
Hannah Hay	Lasham (Benalla)	15/12/02
Michael Baker	Cranwell (Saltby)	22/4/03
Lawrence Clarke	Peterboro' & Spalding	12/4/03
Michael Mann	Lasham	9/5/03
Martin Rayner	Kent	6/5/03
Mike Collett	Booker	6/5/03
Rowan Griffin	Shenington	6/5/03
Robert Theil	Buckminster	22/4/03

Gold height

Pilot	Club (place of flight if different)	Date
Paul Browne	Cambridge (Portmoak)	3/4/03
Philip Duffin	ESGC (Omarama)	4/3/03
John Bailey	Lasham (Tocumwal)	7/1/03
David Graham	Anglia (Aboyne)	24/10/02
Andrew Langton	Four Counties (Portmoak)	30/3/03
Thomas Rose	London (Minden)	22/3/03
Michael Black	Fulmar	22/3/03
Arthur Docherty	Soaring Ctr (Portmoak)	30/3/03

SILVER BADGE

	Pilot	Club (place of flight if different)	Date
11168	Paul Hogarth	Mendip	26/3/03
11169	Shaun McLaughlin	Pboro & Spalding	5/4/03
11170	Charles Frecheville	Denbigh	26/2/03
11171	David Graham	Anglia	4/11/01
11172	Paul Bateman	Kent	8/4/03
11173	Philip Harris	Four Counties	31/3/03
11174	Nicholas Smith	Lasham	23/4/03
11175	Anthony Buck	Oxford	23/4/03
11176	Martin Rayner	Kent	9/4/03
11177	Brian Milburn	Northumbria	9/4/03
11178	Andrew Mills	London	22/4/03
11179	Andrew Short	Shenington	22/4/03
11180	Ian Bateman	Southdown	2/4/03
11181	Thomas Rose	London	8/4/03
11182	David Brown	London	12/4/03
11183	Stefan Winter	London	19/3/03
11184	Paula Aitken	Portsmouth Naval	23/4/03
11185	Amelia Nash	London	12/4/03
11186	Stephen Ball	Yorkshire	10/5/03
11187	Holly Garner	Bicester	11/5/03
11188	Claudia Gray	Booker	22/4/03
11189	Roy Briggs	Essex	15/5/03
11190	Peter Sharpe	London	6/5/03
11191	Robert Burton	Lasham	9/5/03
1192	Alan Adams	Northumbria	10/5/03
11193	Charles Oliver	Lasham	6/5/03
11194	Rachel Hine	Four Counties	23/4/03
11195	Tim Coldicott	Lasham	22/12/02
11196	Alex Bundock	Booker	23/4/03
11197	David Shearer	Kent	5/5/03
11198	David Paffett	Lasham	6/5/03
11199	Claire Hooper	Cambridge	30/3/03
11200	Christopher Franklin	Cranwell	12/4/03
11201	Patrick Greer	London	23/4/03
11202	Elwood Mancini	Southdown	6/5/03

BGA 100km DIPLOMA

	Pilot	Club (place of flight if different)	Date
Pt1	Martin Rayner	Kent	9/4/03
Pt1	Andrew Mills	London	22/4/03
Pt1	Amelia Nash	London	12/4/03

AEROBATIC BADGES

Neil McAulay	Standard Known	14/6/03
Mark Erlund	Sports Known	30/5/03
Peter Miles	Sports Known	31/5/03
Joe Fisher	Standard Known	14/6/03

Accident/incident summaries

by Dave Wright

AIRCRAFT Ref	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
029	K-18	2973	Minor	02-Mar-03 1525	Parham	51	None	73

During a crosswind landing the upwind wing started to lift and the pilot applied the wheel brake to stop more quickly. The torque reaction stud on the wheel brake failed and caused the wheel to lock, damaging the undercarriage frame. There was evidence of a pre-existing shear failure developing.

030	Falke motorglider	G-FLKS	Minor	19-Mar-03 1115	Dunstable	58 50	None None	898 153

The motorglider pilot was having a check flight and was attempting a touch-and-go when, as he closed the spoilers and swapped hands on the stick, the glider ballooned and he moved the stick forward, causing it to land and strike the propeller. With enough power for level flight and little room ahead, P1 flew a gentle turn and landed downwind.

031	Diamant 18	–	None	–Mar-03 1510	Incident Rpt	45	None	

After soaring for an hour the glider's canopy came open and slid forward. The pilot was able to pull it back into position but not re-latch it. Holding the canopy in position he was able to return to the airfield, alerting traffic to his situation. Unable to adjust the airbrakes, he landed in an undershoot field. A worn latch caused the problem.

032	K-7	–	Minor	–Mar-03	Incident Rpt		None	

In the early hours of the morning the glider's front canopy was maliciously damaged rendering it unserviceable along with a second glider (see report 33/2003).

033	K-7	–	Substantial	–Mar-03	Incident Rpt		None	

During the early hours of the morning this and another glider (see report 32/2003) were maliciously damaged. The wing was damaged in two areas, possibly by hammer blows. The glider was rendered unserviceable.

034	K-21	–	Minor	–Mar-03	Incident Rpt		None	

The glider was being towed out behind a car using a tow bar attached to the tail dolly and a wing outrigger. On a downhill section the glider began to oscillate from side to side and eventually hit the car, damaging the rudder and elevator. With two chutes and a battery in the cockpit there was very little weight on the tail dolly.

035	not known	–	Minor	–Mar-03	Incident Rpt		None	

This incident occurred during de-rigging. The glider was placed on its dolly and the wings were removed. Unfortunately the undercarriage had not been retracted, making the fuselage unstable, and the glider fell over, smashing the canopy.

Accident/incident summaries (continued)

AIRCRAFT Ref	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
036	K-21	2588	Minor	01-Mar-03	Tibenham	46	Minor	1142
				–		59	None	243

During a training practice competition finish the glider hit a seagull while flying at 120kt and under 100ft. The bird smashed the side of the rear canopy, which shattered, sending shards into the rear of the cockpit. Fortunately P1 received only a small cut on the head. Gulls were known to be present before the exercise was started.

037	Astir	3283	Substantial	23-Mar-03 1530	Lasham	33	None	86

After a short flight the pilot decided to land up the field near his trailer. Finding he was undershooting he closed the airbrakes but then misjudged his landing and the glider bounced back into the air. The second landing was rather nose down and the undercarriage collapsed.

038	K-6E	3426	Minor	15-Apr-03 1730	Aboyne	55	None	467

The pilot was making an approach through severe turbulence using high speed, 75kts, and full brake. They misjudged the high rate of descent and failed to reduce the airbrake or round out sufficiently to prevent a heavy landing, which burst the mainwheel tyre.

039	K-21	3586	Minor	12-Apr-03	Long Mynd	36	None	487
				1625		20	None	0

P2, in the front seat, went through their take-off checks while the instructor monitored front the back. At about 30ft during the launch the rear canopy flew open and was smashed. P1 released and landed straight ahead. He believes that, while it is possible to mis-latch the canopy, the most likely cause was that he had not fully engaged the latches.

040	Pegasus	3578	Minor	20-Mar-03 1355	North Hill	59	None	214

Following a slow launch the pilot released at about 15ft and lowered the nose. The probable combination of too steep an attitude and undulating/rough ground caused the glider to bounce back into the air, striking the tail and then impacting the ground with the underside of the nose.

041	ASW 15	4078	Minor	19-Apr-03 1535	Spain	54	None	22

The pilot was flying at a Spanish site. He made a full airbrake approach to avoid curlover and then misjudged his roundout, easing the airbrakes and pulling back, causing the glider to balloon to about 5ft. The glider stalled onto the ground, causing the undercarriage to collapse.

042	Discus	4838	Minor	11-Apr-03 1520	Nympsfield	76	Minor	90

The pilot landed the glider with the wheel up, causing considerable damage to the fuselage and also bruising his back. The glider was not fitted with an undercarriage warning and the cushion used was not dynafoam.

043	Pegasus 101	1347	Write-off	17-Apr-03 1235	North Hill	49	Fatal	71

This FATAL ACCIDENT is under investigation by the BGA. The glider was seen to make a normal launch and then start to thermal. After a number of turns it entered a steep drive then recovered and flew towards another, thermalling glider. It was then seen to dive vertically into the ground, killing the pilot.

044	Falke motorglider	G-AXJR	Substantial	23-Apr-03 1955	Nympsfield	38	None	1600

The motorglider was being taxied to the fuel pump, running slightly into the field to avoid rough ground. Meanwhile a winch cable, dropping after a practice cable break launch, drifted across the field and, despite the winch driver cutting the power as it drifted out of his view, fell across the aircraft, damaging the wing.

045	DG202	4423	Substantial	10-May-03 1330	Bashall Eves	52	None	303

During a soaring flight the pilot found he had to make a field landing and chose a good-sized grass field. As the glider landed the right wing dropped and caught in the grass, causing a rapid groundloop that snapped the rear fuselage and damaged an aileron.

046	K-8	–	Substantial	12-Mar-03 1237	Brentor	–	Minor	349

The experienced pilot had been briefed to expect turbulence and a steep wind gradient before his flight. He thought he had allowed enough height for his approach and half opened the airbrakes. However, the glider sunk rapidly and undershot into a metal boundary fence despite the brakes being quickly closed.

047	PA18 Tug	G-BJCI	Minor	11-May-03 1520	Milfield	55	None	600

The tug pilot taxied downwind back to the launchpoint with full flap selected and the controls in the elevator in the neutral position. As he stopped the aircraft was apparently hit by a gust and it tipped on to its nose, damaging the propeller.

048	Pegase 101A	–	None	–May-03	Incident Rpt	–	None	98

The visiting pilot rigged his glider but did not do positive control checks, as there was no-one around to assist. During the winch launch the starboard airbrake opened and the pilot made a short circuit and landed, unaware of the problem. Inspection showed the hotelier pin in position although the control rod was not connected.

049	Nimbus 2C	2701	Minor	15-May-03 1115	Kilburn (near)	71	None	9819

The pilot, who was very experienced, but had only five flights on type, mistakenly extended the airbrakes instead of flaps while thermalling. He did not realise this until too late and had to make a landing in a small field. The glider's wing clipped a fence on the approach damaging the wing.

050	Astir	4720	Substantial	03-May-03 1600	Odiham	54	None	270

During a hangar flight the pilot became low after encountering sink in the circuit. He decided to land short on a peritrack, which is not normally landed upon, rather than the grass area to its right. During the landing a wing dropped and hit a short post at the side of the taxiway, spinning the glider through 360°, causing substantial damage.

051	K-21	4500	Minor	29-May-03	Long Mynd	–	None	609
				1845		40	None	4

This was the first flight of an evening course at an airfield where there were a number of sheep grazing to the left of the runway. There was one sheep to the right and as the glider rounded out it ran across the path of the landing glider. The glider's wing hit the sheep, killing it outright.

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23/8/03 — 15m Nationals @ Booker
23/8/03 — Regionals @ Gransden Lodge
30/8/03 — Junior Championships @ Nympsfield

LX7000 pro IGC

The LX7000 incorporates an integrated 12 channel, full featured GPS and the 80mm control unit contains an extra large, multi-function, graphic LC display showing a wide range of flight parameters such as course deviation, distance to TP, wind vector, averages, height required, speed command etc. It also displays a full moving map with task route, TP zones and airspace, a zoom in/out feature allows detailed verification of the actual flight path through the TP zone, and a 57mm LCD electronic meter with configurable concentric vario needles and numeric displays complements the graphic display. A fully approved IGC/FAI flight recorder function with variable sampling and engine running noise recorder is also built in. Pilot configurable functional groups include: T/E compensated vario (electronic or probe selectable), Netto or Relative Netto vario, Digital true averager, Speed Command Indicator and Audio which can be configured across wide bands of frequency and type. GPS-calculated parameters include Track, Bearing and Distance to TP, Ground speed, ETA,ETE and Vector wind. A comprehensive post-flight statistics function is incorporated.

The LX7000 is supplied with all cables, software, GPS antenna and installation kit. Also available as optional extra s are a remote control unit which can be mounted onto the top of a stick, and a magnetic field sensor.

LX7000PRO £2995.00

Colibri



IGC approved GPS/Logger. Includes an integral 12 channel GPS, LCD navigation display, 100 hours logging time at 10 second intervals. It is fully programmable to set and edit tasks, with an electronic task declaration, and post flight analysis function. Fully IGC approved engine sensor for use with Turbos and Motorgliders. The Colibri has an NMEA output, and acts as GPS engine to drive both the LX160S and PDA moving map software.

COLIBRI £625.00

DYNAFOAM

In the pursuit of safer cockpit environments we are proud to represent dynafoam, the energy-absorbent seat-foam material widely used in civilian and military applications, as well as in gliders where safety and comfort are at a premium. Fly in comfort, and protect your lower spine during the innevitable hard field landing! Dynafoam deforms at such a rate as to absorb the shock and rebounds only slowly after the period of peak acceleration has passed.

Safety — Dynafoam is made from 50% plant materials and has low toxicity.

Physical Properties — Dynafoam has a density of 5lb/3ft. It is available in a variety of thicknesses.

Comfort — Dynafoam is a memory foam with slow spring back. It flows to match the contours of the body and reduces sitting fatigue through uniform pressure distribution. The open-cell structure maximises airflow to reduce heat build-up.

Energy Absorption — Dynafoam is formulated to withstand impact, repeated shocks and constant vibration, absorbing 90% of impact energy.

Despite its energy absorbing properties, Dynafoam is easy to work. It can be cut with a knife and glued with contact adhesive. Available in three thicknesses, all 410x460mm square.

Dynafoam cushion pad 12.5mm thick DF05 £19.95
Dynafoam cushion pad 25mm thick DF10 £23.50
Dynafoam cushion pad 50mm thick DF20 £32.00

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