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VOL. 60 NO.5

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Steve Longland continues his series on how aircraft instruments work and tells us why it makes sense to trust your eyes rather than the altimeter



MEMBER OF THE ROYAL AERO CLUB AND THE
FEDERATION AERONAUTIQUE INTERNATIONALE



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COVER STORY

A magical wave flight for Steve Derwin, pictured at 8,500ft during Edensoaring's Open Week, in WA2 - an LS7 adapted by ex-chairman of Walking on Air, Joe Fisher. Turn to page 38 for the full story (sandyprints)

DEADLINES

December 2009/January 2010
Articles, Letters, Club News: 9 October
Display advertisements: 23 October
Classifieds: 3 November

February/March 2010

Articles, Letters, Club News: 4 December
Display advertisements: 22 December
Classifieds: 5 January

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► Pilots are reminded that 129.975 is to be used as a common glider field frequency within 10NM of gliding sites that do not have their own allocated frequency, up to a height of 3,000ft. Use of this frequency is intended to improve situational awareness around gliding sites. If you are unsure about correct use of gliding frequencies, details are in BGA Laws & Rules under Recommended Practice 34.

► The interim process for BGA ARC renewals has come to an end and the BGA CAMO can now only accept renewed Airworthiness Review Certificates (ARC) from authorised BGA inspectors who are also ARC signatories. Find a BGA ARC signatory at www.gliding.co.uk/bgainfo/technical/contacts.htm

► We regret to report that former World Open Class Champion Ray Lynskey died on 19 August at age 54 from a brain tumour. A New Zealander, Ray was the first pilot to soar 2,000 km (1991). At Ely, Nevada, he flew six 1,000 km flights in two weeks.

► The Royal Aero Club Trust has announced its bursary scheme for young people for the 2010 season. The bursaries include the Peter Cruddas Foundation Scholarship worth up to £1,000, two further bursaries each worth up to £750, and additional bursaries worth up to £500. The closing date for applications is 31 March, 2010. Full details, rules and an application form are available at www.royalaeroclubtrust.org

► Recent events have reinforced the importance of keeping a good lookout. The CAA has published a Flight Operations Communication (FODCOM) about this - www.caa.co.uk/docs/33/20090817FOD200927SeeAndAvoid.pdf This refers to a Safety Sense leaflet, written for GA pilots. This recommended reading is at www.caa.co.uk/docs/33/ga_srg_09_webSSL13.pdf

► The recent launch of BingoLotto gives players a chance to win one of the big cash and other prizes, while helping gliding at the same time. The show, on Virgin 1, Sundays at 7pm and hosted by Ulrika Jonsson, combines live bingo games with the thrill of a lottery draw. The gamecards are available at any Tesco store and cost £2. Twenty per cent of all revenues will go to good causes, with the main beneficiaries being members of the National Council for Voluntary Organisations (NCVO) and of the Central Council of Physical Recreation (CCPR), including the BGA.

► Air Commodore Ian Dugmore has been appointed Director of the UK Airprox Board. Previously Director of Aviation Regulation and Safety in the MoD, Air Commodore Dugmore replaced Peter Hunt on his retirement.

UPDATE ON AIRSPACE

■ **Norwich Airport:** The BGA, as well as a number of member clubs and individuals, have responded to the Norwich airport proposal to develop a large piece of Class D controlled airspace in Norfolk. As soon as the BGA is aware of a formal response from the sponsor of the proposals at Norwich airport, member clubs and individuals will be advised through the website and newsletter.

■ **Oxford (London) Airport:** The owners of Oxford airport have plans to commercially develop the airport, including scheduled passenger operations. Their website details some of these plans at www.oxfordairport.co.uk/home/airline.htm

The BGA is aware of the potential threat to gliding and other airport activities that could arise from a significant amount of commercial passenger operations at Oxford Airport. During September 2009, The BGA will be further developing its future strategy relating to this and other airspace issues.

■ **Stansted Transponder Mandatory Zones:** The CAA has detailed the TMZ's at each end of the existing Stansted controlled airspace. These came into effect on 24 September and the areas, which apply to all aircraft including gliders, are significantly smaller than those originally proposed by Stansted during their consultation. They are designed to protect Stansted traffic from aeroplane infringements.

■ **Mode S:** Following the CAA final decision on the implementation of Mode S, in 2012 a general exemption will be removed thereby requiring transponder equipage by gliders in controlled airspace, in TMZ's and above FL100. To achieve a proportional approach to the requirement, the BGA is continuing to work with the CAA to ensure that by 2012 all LOA's that currently and safely provide access to limited areas of controlled airspace can continue after 2012 with non-transponder access, and to ensure that suitably-sized non-transponder zones are available above FL100 for wave soaring. Permanent TMZ's are subject to the normal Airspace Change Procedures as described in CAP 725 and, as usual, the BGA will continue in each case to represent the interests of all glider pilots in its work with CAA, NATS and the airspace change proposers.

■ **Support:** Even though the BGA works increasingly with other air sport organisations on airspace matters, the BGA Airspace sub-committee can only become busier in years to come! If you are a glider pilot, ideally with a background as an ATCO or commercial pilot, and have some time and an interest in working with in a voluntary capacity to help protect our sport from those who view airspace as a commercial opportunity rather than a natural asset that should be safely accessible to all, please do get in touch with Carr Withall carrwithall@btinternet.com

DATES NATIONALS, REGIONALS AND OTHERS

Power vs Glider (aerobatic)	Wickenby	2-4/10/09
World GP Gliding Champ	Santiago (Chile)	2-9/1/10
Worlds (unflapped)	Prievidza (Slovakia)	3-18/7/10
15m Class Nationals	Nympsfield	3-11/7/10
Club Class Nationals	Hus Bos	24/7-1/8/10
Worlds (flapped)	Szeged (Hungary)	24/7-8/8/10
Open Class Nationals	Aston Down	7-15/8/10
Standard Class Nationals	Aston Down	7-15/8/10
18m Class Nationals	Lasham	21-29/8/10
Junior Championships	Bicester	21-29/8/10

■ BGA Junior Strategy (junior gliding mini-conference) - 10 October, 2009 at Husbands Bosworth

■ BGA Chairmen's Conference and Treasurers' Forum - 14 November, 2009 at Woodside, Kenilworth

■ BGA Conference and AGM - 20 March, 2010 at the Barcelo Daventry Hotel

WINNERS OF 2009 REGIONALS

BIDFORD REGIONALS

Phil Jones

SHENINGTON REGIONALS

Andy and Matt Davis

BOOKER REGIONALS

Jon Gatfield

BICESTER REGIONALS

Sunay Shah (sports)

John Wilton (open)

DUNSTABLE REGIONALS

Justin Craig (blue)

Paul Rackham (red)

NORTHERN REGIONALS

Mike Armstrong

LASHAM REGIONALS

Brian Scougall

MIDLAND REGIONALS

Andy Davis

GRANDSEN REGIONALS

Rob Jarvis (sport)

Steve Eyles (club)



MEP Emma McClarkin with (left to right) former World Champions Leigh Wells and Phil Jones, and Tim Scott who was 15m National Champion last time the competition was hosted by Cotswold GC, having just beaten Leigh by two points in an eight-day contest (Alison Randle)

■ **EMMA McClarkin MEP opened the 15m National championships at Aston Down during August. During her visit to the site, Emma, a Conservative MEP for the East Midlands, met competitors, flew the BGA simulator and discussed a number of topical issues with David Roberts, Chairman of the Royal Aeroclub and Pete Stratten, BGA CEO.**

■ **Later during the same competition, Sallie Barker of the Central Council for Physical Recreation spent some time meeting competitors and watched the grid launch before a meeting with her hosts for the day Diana King and Alison Randle, BGA Development Officer. The CCPR and the BGA are working together on a number of BGA development projects.**

TECHNOLOGY IN SUPPORT OF EFFECTIVE LOOKOUT

FOLLOWING an operational FLARM trial at the Scottish Gliding Centre in 2007, the trial report included a recommendation that 'the British Gliding Association consider whether it should encourage the voluntary uptake of FLARM compatible technology in the UK gliding fleet over the next two to three years'. The BGA position at that time was that it supported efforts that will develop potential users' understanding of all the operational implications of FLARM use. The SGC report is at www.gliding.co.uk/bgainfo/safety/sguflarmreport.pdf

During 2009, and following a period of careful consideration and reflection, the BGA Operations Group, comprising the chairmen of the safety, flying operations, instructing, airspace, technical and licensing sub-committees and working groups agreed the following revised BGA position:

"Effective lookout is vitally important at all times. The BGA considers that the widespread adoption of mutually compatible and low-cost proximity/collision awareness technology in support of effective lookout can be beneficial to the gliding community. Owners who choose to equip with such technology should consider, among other installation and operational issues, compatibility with existing systems. These currently include FLARM, used primarily within air sport, and devices capable of detecting transponders employed elsewhere in aviation."

■ **BGA accident statistics demonstrate that there is a higher risk of a mid-air collision in the circuit, in thermals and when hill/mountain soaring than in any other phases of flight. Effective lookout is vital at all times.**

KEEP ALERT TO AIRWORTHINESS

AIRCRAFT owners (including glider owners) are responsible for ensuring that their aircraft remain airworthy. This includes staying up to date with Airworthiness Directives. The BGA recommends that owners subscribe to the CAA airworthiness newsletter email service to receive Emergency Airworthiness Directives (EADs) at www.caa.co.uk/subscriptions

It recommends ticking the Notify box and including the Emergency Airworthiness Directives, Aviation Maintenance and Aviation Safety categories in your preferences.

The CAA also maintains a list of EADs at www.caa.co.uk/eads. EASA also publishes Airworthiness Directives at <http://ad.easa.europa.eu/>

This very comprehensive website contains all EASA ADs. There is a filtering system and a free subscription notification service.

The BGA Airworthiness organisation provides important guidance and advice for all BGA owners of EASA and Annex 2 gliders, motorgliders and tugs. This support will continue to grow and it is recommended that all owners subscribe to receive free BGA airworthiness email alerts by entering a few details at www.gliding.co.uk/subscriptions

Owners without internet access should discuss how they can access relevant airworthiness information with their club Technical Officer or with a BGA inspector.

BGA COLLECTION

THE BGA has a historically valuable collection of gliding-related books and other publications. It plans to work with an appropriate library or similar to ensure that this collection is maintained to a good standard and is available rather than hidden away in storage.

The association is looking for someone who is interested in taking on a temporary BGA volunteer role of arranging and managing the re-homing of this collection of gliding books and publications.

If you believe you are the right person to take the lead in preserving a piece of gliding history, please contact Pete Stratten at pete@gliding.co.uk or on 0116 2531051.

FLYING STRAIGHT AND LEVEL

I WOULD like to respond to Mike Fox's article (*Accurate basic handling*, Aug/Sept, p30). Obviously, in turbulent conditions, bank disturbances provide an immediate cue for general corrections, but I believe it is extremely unlikely that the ability to fly straight accurately relies on detecting if the wings are level by looking ahead, even though this has been taught from time immemorial.

Most pilots are eventually able to fly straight even when close to lumpy land or in poor visibility with no clear horizontal ground datum. In rough numbers, a glider at a one degree bank angle will turn at about half a degree per second.

Telling a pupil drifting off course to keep the wings level just frustrates anybody to whom the wings already seem to be so. I doubt if many pilots could always guarantee to spot such a small

bank. Not only is it tempting to use the movement of the nose over the horizon as a guide to keeping straight, pilots end up doing it all the time by "closing the loop" on the heading, not the bank.

If your wings are not level, it is unnecessary to see by how much because you will be turning. When pilots are accustomed to in-flight orientation, small heading changes are visible at once, alerting pilots to correct things with aileron inputs. There is no unique bank angle to maintain straight flight other than that it should keep the heading constant, as is obvious in a straight sideslipped approach with bank.

More than 40 years ago, National Coach John Everitt was teaching the "rolling on a point" exercise of wing rocking over a range of bank angles while coordinating with rudder to stop the nose from swinging. This quickly teaches the essence of aileron-rudder coordination for both precision straight flight and rapid turn entry/exit, though of course it is only one part of the full turn coordination technique.

However it is taught, as Mike says, there is little point in trying to teach accurate straight flight before a pupil can stop the nose swinging sufficiently well to control the turn rate.

John Gibson, Kendal, Cumbria

Mike Fox replies: *I'm grateful for John's reply, as a healthy debate always gets us thinking! I'm not as sure as John that 'most pilots' cannot keep their wings level accurately by looking ahead.*

Take an aerotow launch of an ASW22

for example. The wingtips may be only 1 metre from the ground (with ballast) at the start of the take-off roll. This (if my Trig is correct) means that the glider has to roll only 4.3 degrees before the wingtip makes contact with the ground. Those pilots seem to get away with this normally!

I am well aware that some pupils will have problems keeping the wings level by looking ahead. It is an instructor's job to diagnose the cause of the pupil's problem, and not, as John rightly says, simply keep telling the pupil to keep the wings level. If the solution is to detect heading changes, and work from there; so be it.

Every pupil is different. However, one of the limitations of this method is that to detect a change of heading a pilot has to stare ahead for a few seconds, especially if the rate of heading change is small. This leads to less than adequate lookout if a student gets into this habit. The advantage of checking that the wings are level is that only a quick glance ahead is required, even if this results in a fairly coarse assessment of bank angle. With practice, this method works for most pupils, and avoids the glider weaving around the sky!

In practice, of course, we use all sorts of cues - one of them being changes in heading. I will concede that I probably can't detect tiny bank angles, so may end up pointing in a slightly different direction than desired after say 30 seconds of inattention. A coordinated correction is then made. I think the important thing is to accept the limitations of all the methods, and make sure emphasis is placed on coordinating rudder and aileron and good lookout.

Self-launchers in France

FOR some time I have flown my DG400 in France under the privileges of my JAR PPL. Not any more. During my last trip I was informed that self-launchers are now considered as pure gliders and to be within their regulatory system I would have to obtain a temporary or full French licence. Whilst being "entitled to use the PPL" to fly, the BGA, CAA and insurance companies recommend compliance.

Peter Poole, Herefordshire

Pete Stratten replies: *The UK ANO refers to any self-launching sailplane (eg DG400) or touring motorglider (eg Falke) as a Self Launching Motor Glider, otherwise known as SLMG. That isn't the case elsewhere. As pilot licencing requirements vary internationally, the BGA recommends that UK pilots visiting other countries ensure that they have the correct licence or the correct validation of a UK licence or certificate before they commit to an expensive visit. In most cases, the club you are visiting can guide you. There is also information available at www.gliding.co.uk/bgainfo/npl/downloads*

Sharing the pleasure of gliding

HAVING qualified as a BI earlier in the year, I had the pleasure of flying my father on his first glider flight. As he had spent a number of years in the Parachute Regiment, I deliberately kept the parachute and bail-out brief short as, thankfully, I do not have any experience in this area! Despite the low cloudbase and steady procession of heavy showers, we managed to take an aerotow up to 3,000ft and released onto final glide. We flew over nearby Longleat House and its

impressive grounds, did some chandelles and micro-gravity bunts before settling into the circuit and landing. After rolling to a halt, it was obvious that he had enjoyed the flight, despite the lack of soaring - especially as he did not have to get out halfway through!

It just goes to show that you don't have to fly ever faster over the same ground to enjoy a fantastic flight.

Mark Radice

Bath, Wilts & N Dorset GC

INDICATED VS TRUE AIRSPEED

STEVE LONGLAND is to be congratulated for raising this important, but often overlooked, issue and its safety implications (*Instruments*, Aug/Sept, p40). This letter is not in any way intended to question his knowledge of the subject but, as a teacher of College maths and a gliding instructor, I can see a high degree of confusion resulting from the presentation of some of the data.

The 2 per cent rule for converting IAS to TAS would have been fine on its own. The statement that TAS is double IAS at 36,000ft is immediately contradicted by it (a 72 per cent increase can't be called double). Also, the conversion factors graph (fig 8) implies percentage increases per 1,000ft varying from 4.5 per cent to 1.5 per cent even though the lines are designated as 2 per cent per 1,000ft lines. For instance, it shows that an IAS of 40kt would be a TAS of 58kt at 10,000ft (which is 4.5 per cent per 1,000ft). The 2 per cent rule would give 48kt – too large a discrepancy. The reason is that this graph is not based on a proportional increase from IAS to TAS (as it surely should be) but on a fixed increase of 1.8kt per 1,000ft, regardless of speed.

I accept that the physics and maths of all this are not simple, so that a simple rule won't be totally accurate, but in the cockpit the simple pilot (I'm one) needs a simple rule and the 2 per cent rule will do nicely. Even easier, a

placard VNE of 135kt must be reduced by 2kt per 1,000ft (approx 1.5 per cent reduction per 1,000ft).

Awareness of the IAS/TAS difference is also of use in assessing head/tailwinds.

One further gripe: maybe our Scottish ASIs are unusual as our needles swinging backwards might turn an initial indication of 80kt into 50kt – but not vice-versa!

Alister Morrison, Cairngorm GC

■ I HAVE just finished reading Steve Longland's article on the ASI and would like to congratulate him on a very well laid out, and informative piece – compulsory reading for all *ab-initio* pilots. I look forward to the other articles in the series.

Aaron Sharp, E&SGC

Steve Longland replies: *Alister is right. The correction factor graph, which even at the time seemed a bit like trying to nail smoke to the floor, is not correct, so don't use it. Use the 2 per cent rule instead. In the graph I assumed that all the correction lines would have the same slope as the one that's almost right. Oops! Wrong answer. They don't, for the reasons Alister outlines. As for his final sentence, 'backwards' to me means anti-clockwise', as it does to all the people I've since quizzed.*



WHAT'S IN A NAME?

IN THE latest issue of *S&G* is an article about flying in NZ and most entertaining and interesting it is. There is, however, one flaw and that is the source of 'The Long White Cloud'. The article suggests, and indeed it was also my understanding, that this term was referring to the extensive lenticulars generated by the Southern Alps. However, it seems this is not the case.

My friend Dave Lewis who lives in Nelson, NZ, and used to instruct at a club on the north island several decades ago, tells me that in fact the term refers to the cloud generated over the North Island. When the incoming sea air from the South Pacific and from the Tasman Sea meet they set up a several hundred kilometre long conversion zone, which is topped by the Long White Cloud.

Since the Maori name for NZ is derived from the Maori term meaning The Long White Cloud and they were predominantly in the North of the North Island, this would lend weight to Dave's belief.

I have not read of anyone using this conversion zone for long flights but Dave did say he and his contemporaries had on occasion tried to contact it.

Tony Walker, NVGC

Please send letters (marked 'for publication') to the editor at editor@sailplaneandgliding.co.uk or the address on p3, including your full contact details. The deadline for the next issue is 9 October

Aerotows: long and short of it

LONG aerotows are not unusual. On 5 June, 1950, I was on aerotow in an Olympia for eight and three-quarter hours on route from Redhill, Surrey to Varlose, Copenhagen, Denmark. Lorne Welch and Ann Douglas delivered a Spalinger from Redhill to Switzerland back in 1947. The great Robert Kronfeld was towed all over Europe long before the war. As for the military, Simon Marriott's father-in-law Wing Commander McMonnies commanded a squadron of Halifax bombers and towed gliders out to North Africa.

Wally Kahn, Long Sutton, Hants

■ I HAVE some comments generated by Mike Wood's letter (*Record-breaking aerotow*, Aug/Sept, p6). To be pedantic, the aircraft converted to gliders (there were two, not one) were US C-47s. Dakota was a British appellation not used by the Americans. Google XCG-17 for leads to

the story of the glider conversions (and to details of many long distance aerotows with a variety of tugs and gliders).

To me, Mike's claim that a DC-6 (a civil aircraft) was used as a tug seems highly dubious. The DC-6 first flew on 15 February 1946 and the first delivery (which was for routine airline service) was in March 1947. Tracing the histories of the C-47s converted to gliders, some sources say one was placed in storage on 25 August 1946 and that the other was scrapped on 5 May 1947. The tugs usually listed for the trials with these glider conversions are: B-17, B-24, C-46, a single C-47, dual C-47s, C-54.

Incidentally, some years ago, friends of mine did a Maule/IS-32 tow from a gliding site near Perth to a gliding site near Melbourne. I was invited to participate – but my friends knew full well that I would be at work 10,000 miles away!

Ged Terry

REASONS TO BE CHEERFUL

BGA Chairman **Patrick Naegeli** reflects on how three recent events – including the impressive performance of the British Team – have confirmed his belief that we have everything we need to continue to make successive ages of gliding golden



I THINK of the opportunity of writing for S&G as a real privilege. The BGA Chairman does not have an automatic right to a column – I have, like everyone else, to persuade the editor that I have a worthwhile set of things to cover (and a passing chance of meeting a deadline) otherwise I will not be given space. Of course, the reality is that I always have a range of items that I could report on and the challenge is making sure that I don't miss anything in the space available; this time round was no different.

Despite that, I found it much harder than usual to put words on to the Microsoft equivalent of “paper”. In large part that was because of an unsettling comment someone made to me recently. They suggested that the “golden age” of British gliding had long gone, because the unending creep of regulation, airspace and the such-like would gradually stifle and then suffocate the movement.

Whilst I can understand how they might have come to their particular conclusion, it is not a school of thought to which I subscribe. Indeed, my own view is that, irrespective of the nonsense the regulators might launch in our direction, it is the quality and ambition of our individual and collective endeavours that will determine whether or not there are more “golden ages” in British gliding.

I have seen several things recently that support this more positive view. More than that, they continue to make me genuinely optimistic about the future.

Firstly, the British Team have turned in an impressive set of performances in the recent European, Women's World, and Junior World championships. We have two new European Champions and a number of further medallists and very highly placed pilots. The breadth and depth of our performance in international competitions means that we are not only close to the top of our game, but also close to the top of THE game.

Congratulations to all the pilots that represented our country

this year – we continue our golden age in competition in more ways than one.

Secondly, I have observed two clubs at close quarters as they celebrated historic landmarks.

I have been aware of the Southdown Gliding Club at Parham pretty much since I started gliding and have often flown either past or into the site at the foot of the South Downs ridge. I had never known, however, that it sits not far from the location of the first soaring flight, certainly in the UK and quite probably the world. On 27 June, 1909, Eric Gordon England – a young lad with far more of a spirit of adventure than he had either flight experience or training – was launched off the ridge near Amberley. He gained about 40 feet in height before eventually landing at the foot of the ridge. He made the flight in a glider designed and built by José Weiss. From that point on, they and other pioneers of gliding began to put what became our sport firmly in the public domain.

One hundred years on and to the day, the weather was perfect for an event to mark such a significant early milestone in gliding flight.

I had the great honour to be invited to the centenary celebrations at Parham during the day and then to a special dinner at Amberley in the evening. It was a splendid and very well organised event; a tribute to the inspiration and hard work of club members. Various attractions, including a beautifully made scale replica of the Weiss glider, which flew under remote control at the end of the afternoon, drew a substantial crowd. We were also treated to a day-long visual fest of lovingly preserved vintage gliders, an exciting demonstration of formation glider/powered aerobatics, and various other ground and airborne displays.

I had a similarly enjoyable trip, a few weeks later, to the Long Mynd for the Midland Gliding Club's 75th anniversary celebrations. Another club in a stunning location that simply takes your breath away, marking another significant milestone in gliding history. In so doing, the club also clearly demonstrated that people are as passionate about our sport now as they have been at any time in the past.

My third reason to feel cheerful came from observing the everyday life of a gliding club.

Before going to the Long Mynd, I paid a brief visit to the gliding club at Shobdon – yet another stunning location. No special anniversary celebrations this time. The club members were doing what they, in common with members at every other club, do day in and day out – taking pleasure in their flying, helping each other, and welcoming visitors. As a consequence, I came away from Shobdon with my own, already high, spirits further uplifted.

So, the reality is that we have everything we need to continue to make successive ages of gliding golden. Whilst it might not be as easy to begin lobbying gliders – or people for that matter – into the air from wherever takes our fancy as it might have been in the past, that does not mean that we should regard it as impossible and not try. When we look into our history – from early to more recent – it ought to remind us of just what we are capable of achieving tomorrow.

Stay safe, have fun.

Patrick Naegeli
Chairman, British Gliding Association
August 2009

SAILPLANE & GLIDING



Andy Davis
Competition flying



Andy Miller
SLMG



Howard Torode
Airworthiness



John Marriott
Tugging



Mike Fox
Instructing



Dr Peter Saundby
Medical



Andy Holmes
Winch operating



Carr Withall
Airspace



Alison Randle
Development

S&G is privileged to be able to call on the advice of some of gliding's leading experts. If you have a question for our experts on any of the subjects listed above, contact the editor (details p3).

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New Zealand

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Leaders in Instruction and Adventure Soaring

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Tremaine Callier, Lasham GC.

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photo: Jon Lewis



There was an enthusiastic gathering of young pilots at this year's IUTW (Alison Randle)

10

University gliding

This year's Inter-University Task Week (IUTW) was a thoroughly enjoyable event and it was great to see old and new faces when I joined them for the annual BGA workshop. I didn't fly as it was quite clear that anything with wings on was already being flown to within an inch of its life and the queues were very long. A new addition to this year's event was BI training. It was heartening (and fun) to see such an enthusiasm of young pilots gathered together in one place (see report on p32).

Are you off to university this year? Or perhaps you are about to select potential universities? Don't forget to hunt out your local club at Freshers' Fair. If your Student's Union doesn't have a Uni gliding club and you have enough people to set one up, then please contact me and I'll put you in contact with Dick Poole, the BGA University Club Liaison Officer. The latest club to form is Salford Uni GC and there is at least one other currently in gestation.



Alison Randle
BGA Development Officer
alison@gliding.co.uk

Exploring how your club can benefit from bequest possibilities

ACCORDING to research carried out by charities, many people review their wills before winter sets in. Gliding is a sport that people generally give a great deal of their lives to and your club members may be well disposed towards making some provision for a bequest to their gliding club in their will.

How does it work? In simple terms, an individual discusses the options with a suitably qualified professional and then sets down their wishes in their will, either at the time of writing, or later by adding a codicil.

After their death, any bequests are distributed by the Executors of the estate. Remember that those people who have estates with enough spare to make bequests, in addition to the provisions they want to make for their families, may have a reasonably sophisticated financial estate so may already have an accountant and solicitor.

The British are famously shy about asking for money, but on the other hand personal tax planning is healthy, prudent, legal and, as an extra bonus, any results are enhanced (by tax relief) if donations are made to a Community Amateur Sports Club (CASC).

As regular readers of Development News will recall, CASC status is equivalent to charitable status and CASC registration is administered by the HM Revenue & Customs' charities department.

There is evidence from the charities sector that people are happy to make bequests, but logically they are more likely to do so if they know it is a possibility or if they have been asked in some way.

Some clubs do already communicate with club members about the possibilities, but if yours is a club that doesn't yet, there are a number of options open to you. You could:

- Put something on your club website
- Publicise any bequests the club has already received
- Produce a leaflet.

If possible, get the message across that although someone may wish to leave a sum of money for a specific purpose (such as buying the airfield), circumstances change (airfield had been purchased whilst estate was in probate) so they should also leave room for the club management of the day to otherwise use the bequest for the benefit of club members.

There are many lessons to be learned from the experiences of some of the major UK charities. **Don't try these at your club:**

- Supply legal advice on will writing
- Be patronising towards potential donors
- Target individuals
- Attempt to find out how much money you are likely to get (ie count chickens before they hatch).

It is far better to keep it low key and make sure that everyone is aware of the possibility.

Junior gliding mini-conference

This will be held at Hus Bos on Saturday 10 October for people involved with running Junior Gliding Schemes (aka Cadet Schemes) and the current Junior Gliding Centres.

We will be hearing from related organisations as well as discussing the progress to date, next steps and the potential of the BGA Junior Strategy.

If your club hasn't yet nominated a delegate and would like to, please phone Debbie Carr in the BGA Office or email Debbie@gliding.co.uk as soon as possible. The day is being funded by a grant from Sport England.

Chairmen's Conference

The date is set (Saturday 14 November at Woodside in Kenilworth) for the next gathering of club chairmen and treasurers. The agenda will comprise a range of talks and discussions covering pertinent topics and include a chance to discuss club matters with relevant BGA representatives. Further details will be sent to clubs and posted on the BGA website.



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Skylaunch built a re-engineered winch for Surrey Hills GC using components refurbished to a nearly-new condition (Russell King)

Surrey Hills gets a 'new' winch

SURREY HILLS Gliding Club has two claims to uniqueness, **writes Adrian Hewlett**. First, it is the only gliding club inside the M25 – and under the 2,500ft LTMA. Secondly, it is, I think, the only club that cannot fly at weekends (or chunks of school holidays), sharing as we do historic Kenley Airfield with 615 VGS of the Air Cadets.

So what? Well, in order to exist, for the last 20 years the club has had to employ both a full-time instructor/manager and a winch-driver, leaving little financial resources for other than second-hand aircraft and, in particular, winches.

In that time, we have had seven winches, the majority of which had significant drawbacks – including thirst for petrol, difficulty of use and lack of power, which became a serious issue when our ageing K-7s were replaced by Grob 103's.

Until we acquired Cotswold's LPG-powered Tost 4, our most successful and reliable winch was modified and rebuilt by

member Dennis Henley from a standard RAF unit, serving well for nearly 10 years.

When Steve Codd joined as instructor/manager in spring 2007, we had improved the gliding fleet, but the winch state was just a little precarious to say the least. One winch 'fit for purpose' and if that died...! There is a saying – "It's not what you know, but who you know!" and Steve contacted Mike Groves of Skylaunch with a plan.

Any useful winch components went to Mike's chop-shop, any remnants going for scrap – at a time when there was a seller's market. Instead of buying a new winch, would Skylaunch agree to build a re-engineered winch using, where possible, the components refurbished to nearly-new condition at a manageable cost?

The details and fixed cost were signed-off in May 2008 with a delivery date of late March 2009.

The next in the list of credits goes to The Philip Wills Memorial Trust, which has

agreed to loan 70 per cent of the cost over five years, giving the club a very manageable spread of payment – without which commercial funding would have been required.

The re-engineered winch was exhibited by Skylaunch at the Aero 2009 aviation fair at Friedrichshafen (as reported in the June/July edition of S&G) and attracted much interest – as did its Skyrope. The winch was displayed and demonstrated at several German and Dutch clubs while in Europe before delivery to Surrey Hills on its return to the UK – and yes, it is like going up on rails!

Two final points – not only have Skylaunch built us a winch to be envied, but they also, when a gremlin appeared which we could not fix, demonstrated a next-day after-sales service that set a standard we could only dream of. We now have two serviceable, fit for purpose winches, so why not pay us a visit?

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PEOPLE MAKE THE DIFFERENCE

BGA Chief Executive **Pete Stratten** reflects on the fundamentally volunteer nature of gliding and on the need to understand possible barriers to participation, acting accordingly on individuals' needs in order to increase participation



A

NUMBER

of BGA clubs are celebrating or about to celebrate significant anniversaries. Events which bring together the young and the young at heart, pilots and the local community, as well as give the opportunity to mix it with colourful and beautifully finished vintage gliders, reinforce the fact that gliding is a long-established and important countryside sport and recreational activity.

These events also remind us of the fundamentally volunteer nature of gliding. Without the foresight and unstinting support, as well as skill and experience, of so many volunteers over very many years, our sport certainly wouldn't be where it is now.

One of the more enjoyable aspects of working for the BGA is the opportunity to meet people. One example, at a regional competition this summer, was meeting the Mayor of a large town very close to one of our bigger clubs, who incidentally had recently discovered that the Polish town with which his local council had recently established a twinning relationship also had a very active gliding site nearby.

It's clear that this particular Mayor, as well as the gliding club chairman, want to encourage the natural relationship between the community and the local BGA club.

Another example was the

local councillor I met at another club, who was visiting the site to establish how the club might be able to become more formally established as a potentially important part of local tourism, with all the potential benefits this can bring to both the club and the local community.

A common topic of conversation at any gliding site, and a BGA priority, is the need to increase participation. Over six million people regularly participate in countryside sport and the BGA is committed to helping clubs increase the number that regularly take part in gliding. But there is no magic wand. There is, however, a need to understand the barriers to participation that can develop from personal, inter-personal and situational constraints felt by everyone.

An example might be where a newly-solo pilot at a site is somehow expected to understand the complexities of getting themselves moved up the system to Bronze and beyond – just knowing what's next and having easy access to resources can be very supporting. Other pilots who seem to be losing interest may be wondering how on earth they become a cross-country or aerobatic pilot or an instructor, but are not confident enough to ask. It could be that they are temporarily a bit short of cash.

These rather simplified examples are not necessarily typical, but the point is that to motivate and keep people at our clubs, it's vital that we consider and act on individual members' needs.

Many club officials, and hopefully by now a number of other people, will be aware of the emerging Junior participation work being led by Andy Perkins – a BGA Executive Committee member by night and LS8 (and occasionally B737) pilot by day – and supported by many others.

Focusing on Scouting, Air Cadets and Universities, at the core of this vitally important work is the establishment of Junior Gliding Centres at clubs where young people, with or without previous gliding experience, can join a welcoming, well-organised and safe environment in which their needs will be considered and their potential developed.

Understanding that it takes two to tango, steps are also being taken to ensure that those Juniors coming into BGA gliding

with previous experience, eg Air Cadets, are aware of the differences they will encounter when changing from a military and prescriptive to a sporting and recreational gliding environment. This has involved ongoing work with our friends within the Air Cadet Organisation and its many gliding squadrons, who operate Grob 103s and Grob 109bs at numerous sites across the UK.

This initiative will work only if it's driven by committed people within participating clubs, so if you want to tap into a source of young, experienced, motivated and switched-on potential members, take a look at www.juniorgliding.co.uk and get involved.



Vintage moment for Pete Stratten, pictured flying a Petrel at Southdown's centenary celebrations (Bob Boyd)

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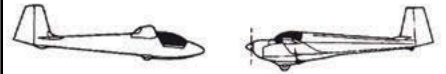
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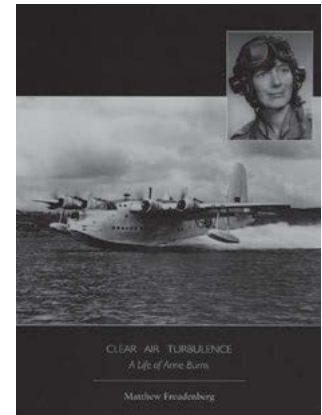
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TAILFEATHERS

Why winners win – and why you and I trail behind

14

IN MOST sports you can observe and record every move each player makes. In 1936, Joe Louis lost his World Heavyweight Boxing title to Max Schmeling, who had studied movies showing how Joe Louis occasionally dropped his guard and left an opening for a knockout punch. After that shock, Louis studied likewise, and in the return bout in 1938 flattened Schmeling in 90 seconds.

This kind of competitive study has not been possible in gliding – at least until GPS and loggers came along.

I got my first Garmin in 1992 with a logger (possibly the first in the UK) for an enormous sum of money – equal to £2,500 in today's pounds. The output was fascinating, and it became more so when everybody else had loggers, and maggot-races became a common form of post-race entertainment – and sometimes humiliation.

In Poland in 1994 I was made red-faced by somebody shouting: "What was Platypus doing in that one-knot thermal when Bill Bloggins was climbing at five knots just one mile away?" (Nevertheless Marion Barritt and I did manage fourth place in the Open Class, by dint of getting back every day.)

Now logger analysis software such as SeeYou can give us the answers to the mystery of why some pilots consistently outperform others – or at least the opportunity to ask intelligent questions and to make us search in the right place. (Good research does not always give you answers on a plate – but does make you ask better questions, which is half the battle.)

I don't know if anybody is making a systematic analysis of what it takes to win a world gliding champs; if so they are keeping very quiet about it indeed. Perhaps in darkened rooms, huddled around screens, top pilots, team managers and coaches, sworn to secrecy, are all trying to tease out the magic formula. Perhaps they have found it already and are guarding it jealously.

However, if my own investigations start to bear fruit I shall publish them fearlessly for all the world to see. Of course, I shall have to be careful about walking down any dark alleyways while this research is in progress...

Let's start with a very basic example from a world 15-metre champs contest day, comparing the quickest and slowest out of 28 pilots:

	Speed kph	Rate of climb m/sec
Fastest	118	2.3
Slowest	72	1.1
difference	46	1.2
% difference	65%	109%

This simple (not to say downright crude) comparison shows that the winner went nearly two-thirds faster than the slowest. You'll notice he climbed more than twice as fast as the slowest.

"If he climbed twice as fast, why did he not cover the ground twice as fast?" you ask. Well, cross-country speed is more or less proportionate to the square root of the rate of climb (assuming no difference in the glide) so if, for example, I wanted to go round the course 40 per cent faster than you, I would need to climb twice as fast.

According to that square root theory, the winner in this example should have gone round the course 45 per cent faster, but in fact he did it 65 per cent faster.

What makes up the difference? Let's add an extra column

	Speed kph	Rate of climb m/sec	glide km
Fastest	118	2.3	25
Slowest	72	1.1	12
difference	46	1.2	14
% difference	65%	109%	117%

I think the answer must be inter-thermal performance: the winner's distance covered between climbs was a massive 117 per cent better.

"In that case, maybe the winner's advantage in inter-thermal performance was more important to his victory than his superior rate of climb?"

You're getting way ahead of me! Let's analyse the scores a bit further and see if that stands up.

We really ought to look at the ordinary pilots in the middle of the rankings – although since they are representing their country in a World Championships most of them should be pretty good.

	Speed kph	Rate of climb m/sec	glide km
Fastest	118	2.3	25
Median	104	2.0	22
difference	14	0.3	3
% difference	13%	15%	14%

You can immediately see that the gap between the winner and the median pilot – the guy in the middle of the rankings – is much smaller in all departments.

"Not much sign of the square root rule operating here, then?"

Yes, but interestingly the square root rule seems to be operating when you compare the median and the slowest. The median pilot climbs 82 per cent faster than the slowest, goes 91 per cent further in the glide and gets round the course 45 per cent faster. But clearly much more delving is required, and a larger database is needed. These are just crude illustrations to indicate the way we are working.

	Speed kph	Rate of climb m/sec	glide km
Top 3	113	2.2	22
Middle 3	104	1.8	17
Bottom 3	86	1.4	15
Top/middle	9%	21%	27%
Top/bottom	32%	52%	48%

This table compares the top three, the middle three and the bottom three. Again we see the gap between the top and the middle is much smaller than between the middle and the bottom. Is this general? We need to examine more competitions, but I think it is likely to be so.

"How does the square root rule stand up now?" Brilliantly, he says smugly. (No, I did not pick this example to prove some point. It was the first one I came across.) If you take the square root of all 29 pilots' rates of climb and multiply by a constant of 75 you get their cross-country speed in kilometres per hour within four kph or about 4 per cent of the median cross-country speed or 9 per cent of the spread in speeds between fastest and slowest. Which is not bad, though 4 per cent is a heck of a lot between the top guys, I admit.

Whether that constant of 75 remains much the same for a particular class of glider

(with an allowance for very windy days as per windcapping) I don't know, but since I am a keen betting man I am prepared to take a substantial wager that it is.

Another way of looking at the relationship between climb and cross-country speed is to calculate a correlation coefficient, which of course PCs do without a blink – 54 years ago it would have taken me a day to do it, with masses of opportunities for error. That coefficient is 0.8. Eighty per cent correlation sounds a lot, but it leaves masses of room for other factors – not just average glide distance between thermals but average glide angle achieved, average cruise speed in the glides, deviations from track, lift and sink between climbs, etc, etc.

These we will turn to in the next issue!

Progress: the grave-digger of jokes

I was somewhat downcast the other day by hearing a literary critic say that, unlike tragedy, humour does not last. "Who reads James Thurber or S J Perelman these days?" he demanded to know.

Who the heck are James Thurber or S J Perelman anyway? Ed.*

Madam, you have made the critic's point perfectly. You are a member of the younger generation, and the rib-ticklers of grandpa's generation leave one not so much cold as just baffled. What are these supposedly funny people talking about?

For example, in the days when 90 per cent of the population had either no water-closet at all – or the use of one that required a dash through the rain to a small, dark, freezing shed – people used pots under the bed. These pots were the subject of innumerable jokes that kept the entire music-hall/vaudeville business going for centuries. Nowadays jokes about chamber-pots would mean nothing to people under 70.

While striving for half a century to be funny for no material reward, I occasionally consoled myself with the thought that when I joined the ever-lasting gaggle in the sky, young glider pilots would be falling about reading my stuff, simply aching with laughter. Of course they won't be doing anything of the kind.

Here is an example relevant to our sport:

In the old days camphor had two uses: the main one was the relief of respiratory complaints; the other, much rarer, use was by glider pilots needing to blacken the aluminium foil of a barograph preparatory to

a contest, badge or record flight.

If you set a lump of camphor alight, black smoke immediately billowed forth, and when you emerged from the murk you had soot all over your foil as required. And all over you, too. It was much better than an oil lamp with a smelly wick often used for the same purpose. So a gag making a connection between the shop-girl's chest and clouds of dense black smoke would leave modern readers quite puzzled. (And so would jokes about smelly wicks.) Here for example is a sample from my column in the 1980s:

Platypus at the chemist

I stroll into the small suburban emporium, intent on the next competition and aware of nothing except the usual pathetic state of unreadiness for it.

*"Some camphor blocks, please," I say calmly, trying to keep my head absolutely level and hoping they have forgotten the Polaroid episode of the week before – when I took the glasses out into the street and stood, rotating my head 45 degrees from side to side to see if the haze-caps looked different**.*

"Got a bad chest, then, Dearie?" she says, handing me the merchandise, shipped all the way from the People's Republic of China.

"Thank you, Madam, but my chest is in a good shape as your own." (A slight exaggeration, but never mind.)

"If you are desirous of knowing my purpose, I intend to set alight to this stuff to make clouds of dense black smoke."

I notice she is edging towards the telephone...

As you can see, this anecdote would be totally wasted on today's thrusting young pilots, whose easy mastery of everything electronic is so sickening. I don't know what the kids in gliding smoke these days but it certainly isn't barographs.

One small consolation is that future historians of our sport will solemnly study these uproarious pieces in order to better understand*** the trends in the gliding movement a century ago, the way classicists study Aristophanes comedies to get an idea of how the Athenians behaved in 400BC. But for these earnest pedants my precious oeuvre will be no laughing matter.

PLATYPUS

*Perelman wrote many of the Marx Brothers' scripts.

** They do.

*** My first deliberate split infinitive in print – Go for it, Star Trek!

GEORGE'S HEROES

AFTER the interview with George Moffat went to press (p14, June/July 09) I asked him a supplementary question:

PLATYPUS: What are the most memorable aspects of soaring, after a half-century career?

GEORGE: Certainly, the people. I count myself extraordinarily lucky to have known such giants as Klaus Holighaus and Gerhard Waibel, who together have produced the innovations in design that have resulted in wins in upwards of 30 World Championships.

Not to mention the champions themselves: Philip Willis; George Lee, whom I flew against often; the great Ingo Renner, four times World Champion; Helmut Reichmann; Hans Werner Grosse, with his many world records – just to mention a few.

I was also fortunate to be part of the youth movement in the States during the Sixties and Seventies that produced such a remarkable pool of talent and innovation. Karl Striedieck comes to mind, who flew his first Out-and-Return World Record in a K-8. Dick Butler, whose ship modifications led to new breakthroughs in Open Class glider performance; Ray Gimney; and somewhat later Doug Jacobs – all with a long list of Nationals wins.

So many friends in so many countries, tied together by our love of soaring and interest in stretching the envelope.

I WAS ALSO FORTUNATE TO BE PART OF THE YOUTH MOVEMENT IN THE STATES DURING THE SIXTIES AND SEVENTIES THAT PRODUCED SUCH A REMARKABLE POOL OF TALENT AND INNOVATION

– GEORGE MOFFAT

WHEN Schempp-Hirth presented its Janus 35 years ago, the first serial-built composite flapped two-seater with an 18.2m span, Schempp started a new era in gliding.

Competitive, high performance two-seater flying had been in 'sleeping mode' since two-seater class flying was abandoned in the World Championships during the 1950s, but with the Janus it became attractive again. Soon, other manufacturers offered high performance GRP two-seaters and pilots started asking for a new two-seater class in which to compete. The class was introduced with a 20-metre span limit to make it 'club friendly'.

In 1979, the Janus C was built using the then new carbon-fibre technology which allowed its span to be stretched to 20 metres while reducing its empty weight. The Janus remained successful until 1993 when Schempp

Jochen Ewald takes to the skies in Schempp-Hirth's Arcus which, with its new wing shape, not only introduces an elegant new silhouette into the air, but creates the 'ultimate benchmark' in the 20-metre two-seater class

ARCUS

SETTING NEW STANDARDS



introduced the Duo Discus which, although it had no flaps, set up a new standard.

Since then, Schempp engineers have been working on a new, flapped wing to raise performance in the class – and the Arcus was born.

The prototype was ready just in time to go on display at this year's AeroExpo in Friedrichshafen, and its maiden flight was made immediately afterwards.

For the new wing, Schempp chose to use an aerofoil developed by Dr Werner Würz at the laminar wind tunnel in Stuttgart, adapted to the special requirements of the new glider. Together with Jan Himisch and Professor Karl-Heinz Horstmann (the 'H' of the HQ-aerofoils), the wing shape was optimised and the winglets were designed by Professor Mark Maughmer from the US.

This 'joint venture iteration' led to the actual shape of the Arcus wing, where six different aerofoil sections have been designed to produce optimal airflow along the wing. For such a curved wing a further especially important design consideration was the aero-elasticity and any tendency to flutter. Up to now, this was checked before starting the flight tests in the higher speed range, by 'vibrating' the aircraft on the ground to find out the critical frequencies – and this often caused expensive modifications such the installation of mass balance weights.

Jan Schwochow, of the DLR Goettingen, researches the possibility of 'numeric prediction' of such problems, and Andreas Lutz did the research on the Arcus. Of course, this new method still cannot (yet) replace 'ground' trials, but should reduce the expense of later modifications to prevent flutter.

The fuselage of the Arcus T is, except for the additional flap installation, the same as the Duo Discus XLT. The inner wing sections' spar tongues are inserted into the fuselage and secured with one main bolt. With their weight of about 100kg each, they cannot really be called 'lightweight', but building such a slim wing lighter for a glider with a MTOW of 800kg appears impossible with today's technology.

With the aileron and flap connections already in the fuselage 'mixed' to a 'flaperon' function, there are only two automatic 'Hahnle' type connections for the flaperon and airbrake, plus a torsional connector to open the 95-litre water ballast tank in each wing. The water ballast is filled in through an opening close to the inner wing's end.

The Schempp-Hirth airbrakes on the wing's upper surface have a new design philosophy:

they are relatively narrow and open very high with three blades. The aim is to deliver a high 'braking effect' without destroying too much lift and raising the required approach speed. Installing the system of airbrake-flap connection as on the Duo Discus X or on the Nimbus 4D in this wing was not possible within 'acceptable cost'. The lightweight outer wingtips have tube spars and are inserted until a spring-loaded bolt snaps in.

The flaperon sections on these outer wings have flat tongues that connect automatically; they move upwards with the inner flaperons, but remain in a nearly neutral position as the inner flaperons go down to reduce aileron drag.

The tail fin contains an 11-litre water ballast tank interconnected to the wing water ballast valves to compensate for the nose-heavy moment of the wing tanks (and also of that of the rear pilot).

The tailplane is rigged using the automatic Hahnle-system. As with all Schempp-Hirth gliders, the canopy opens to the right and, in an emergency, just needs unlocking normally when it will fly off as the right hinges break. Happily, the canopy now opens a little wider than it did on the Duo Discus XLT prototype I flew recently – this modification (made to all the S-H two-seaters) helps to prevent the open canopy being blown closed when the left wing is on the ground.

Following some fine tuning by the factory after the initial flight tests, I was invited to fly it at Hahnweide. For our flight the prototype, with an 'equipped weight' of 500kg plus Bernd Weber and me in the cockpit, some fuel and eight litres of water ballast in the rear tank, was about 690kg take-off weight, with a wing loading of 44kg/sqm, and a CoG slightly aft of central.

The prototype has a small skid under the belly instead of the usual small nosewheel, the rationale being that with a relatively high tailwheel load the risk of nodding the nose down during braking is minimal, and the small skid produces less drag; if a pilot has to brake very firmly it should protect the belly well enough. A conventional nosewheel is available as an option.

Schempp-Hirth pilots will feel immediately at home in the cockpit. The instrument 'mushroom', which can be swung up for easy access (and emergency exit), and the

THIS 'JOINT VENTURE ITERATION' LED TO THE ACTUAL SHAPE OF THE ARCUS WING, WHERE SIX DIFFERENT AEROFOIL SECTIONS HAVE BEEN DESIGNED TO PRODUCE OPTIMAL AIRFLOW ALONG THE WING



It's a 'new impression' when you look sideways out of the cockpit

Bernd Weber presents the lightweight outer wingtip with its Maughmer winglet



**CLEARLY THE
NEW 'ULTIMATE
BENCHMARK' OF
THE 20-METRE
TWO-SEATER
CLASS, AND
IT SHOULD
BE A GREAT
CHALLENGE
FOR ITS
COMPETITORS
TO TRY TO
EQUAL**

20



The in-flight cockpit view is excellent



In the front cockpit, flap lever (black), airbrake lever (blue) and trim button (green) are placed ergonomically, the cable release (yellow) a bit too low

✎ handles beside the rear panel make getting into the cockpit easy for both.

To make the emergency exit easier from the front seat, I would like to see small steps in the front cockpit floor between the pedals and knee-rest or the installation of an NOAH emergency exit cushion, which raises you up to sidewall level. Everything in the cockpit is recognisable from the Duo Discus XL or, as it has flaps, the Nimbus 4 DL: it's roomy, with good ergonomics and 'simply comfortable'.

Just two things disturbed me a bit: For pilots with large thighs the cable release handle might be installed a bit higher and, on the ground, the flap lever of the prototype did not 'snap' easily into its locking positions. There were two reasons for this: firstly, the locking positions had just been changed and were still a little narrow; secondly, a spring compensates for the aerodynamic loads produced by the flaps in flight, which results in a light tension when 'pulling the lever' on the ground. In flight, I had no problems setting the flaps to the desired positions.

When I flew the Arcus T, the flaps could be set into eight positions, S, -2, -1, 0, 1, 2, L and +L, although these positions had not been finalised. For aerotowing at the Hahnweide in nearly no wind I tried the L position; under crosswind conditions, selecting -1 first and then, to lift off, switching to L is recommended.

The bow-like increasing dihedral of the wing gives the wingtips good ground clearance, which is also good for field landings. Although the wingloading was quite high, the Arcus T took off very quickly and, from the first moment on, gave me the impression of flying a lightweight single-seater.

Comfort, good cockpit ventilation and the panoramic view through the large canopy together with easy control harmony gives a relaxed feeling when flying this new two-seater. The undercarriage is straightforward to operate and it's clear when it is locked up or down.

When entering a thermal with the flaps set to 1 or 2, the wing's feedback indicates the position of the best climb clearly and makes centring as easy as in a lightweight single-seater. With the flaps pulled back to L, it climbs well even at speeds below 49kt with 30 degrees bank, and at about 52kt with 45

degrees, still keeping its 'handy' feeling - it simply does not feel like flying a 44kg/sq.m wing loading.

After centring in the thermal, I tried the +L flap position, which was installed for testing. Of course, the roll rate is clearly slower in this position and I needed some opposite aileron to keep the string in the centre. But I liked this flap position, it enabled me to thermal the Arcus T like a vintage glider - flat, slow (below 46kt) and obviously efficient (but this is just my impression - Schempp-Hirth is still evaluating whether this +L position makes sense).

There was no need to use opposite aileron in the L and +L positions when I let a little bit of sideslip creep into my circling, the slip-roll moment compensated for the loss of lift at the inner wing: I could even thermal 'hands-off'.

The impression of the handy roll rate can also be shown in the numbers: with the flaps set to 1 it needed only 3.7 seconds for a 45 degree bank change at 59kt, and in position 2, 4.1 seconds; at 57kt in flap position L it was 5.1 seconds and in +L, 6 seconds. I also tried it with the flaps at 0 at 59kt, and found that the roll rate was, at 4.3 seconds, slightly slower than in 1.

The reason for this might be a laminar flow separation below the fully-up deflected aileron - normally, the laminar airflow 'sticks' until it is released by turbulator tape around the centre of the flaperons to avoid separation bubbles. The control harmony with the flaps set to 2 appears optimal at about 56kt, while at slower speeds a little more rudder is required.

The Arcus's stall behaviour is gentle. To improve the ASI indication, the static probe positions at the fuselage have been changed so that the glider no longer indicates too slow a speed in the slow speed range.

With the flaps at 0, the controls start to feel mushy below an indicated 46kt and buffeting starts below 44kt; after this the ASI indication becomes erratic because the pitot tube in front of the tail fin is hit by the vortices from the wing root. Pulling the stick further back results in a wallowing, which can at first be controlled by careful use of the rudder and, with the stick even further back, results in a wing drop which immediately stops when the stick is eased forward and opposite rudder is applied.

With the flaps set at 1/2/L/+L, the behaviour is similar with the speed 2kt/1.5kt/1kt and 1kt slower. Opening the airbrakes increases the minimum speed by around 2kt and stabilises the wallowing stall;

a previously trimmed speed of 48kt increases to 56kt with the airbrakes open – just about perfect to avoid changing the trim setting during the approach.

At higher speeds, the influence of the flap settings on the trimmed speed requires just a push of the trim button forward. Starting at 43kt with the flaps set to +L, the Arcus T's speed increases to 45/51/58/6/70/73 and 75kt in the flap positions L/2/1/0 -1/-2 and S. To fly faster without stick forces, the precisely adjustable trim lever has to be pushed forward with a moderate force. At the time of our flight, the VNE was still limited to 108kt because flutter testing had yet to be done.

This prototype Arcus is a 'T' and equipped with the well-known Oehler 'Turbo' that we described fully when we reported on the Duo Discus XLT (Oct/Nov 2008).

With its easy operation via the TB06 engine control unit and the decompression handle it starts without the need to accelerate much: I got it running within 25 seconds with very little loss of altitude. Its performance is also about the same as we experienced in the Duo: a climb rate of about 2kt at 46kt enables the pilots to fly about 200km when using the 'sawtooth' method, and flying level is possible at about 65kt. Switching the ignition off starts the fully automatic retraction process.

For our landing in the calm wind conditions at Hahnweide I set the flaps to L and made the approach at 52kt. For a turbulent approach, flaps 2 and about 54kt (plus half windspeed) is recommended (it might be better to call setting 2 'L' and the L and +L 'T' and '+T' (for thermal).

The airbrakes are very efficient and changing height by just pushing the nose down is possible without the speed increasing too much. Sideslipping is not so efficient and barely makes sense with this glider's effective brakes: with full aileron and only a bit of opposite rudder (which is sucked towards its stop by light forces) it does not increase the sink rate very much.

With the airbrakes opened during a sideslip, there is a light nose-heavy moment but it's easy to compensate for with the elevator. Held off into two-point attitude, the Arcus T touches down softly and its excellent suspended main wheel smoothes even bumpy fields; the bicycle-type brake lever of the Beringer wheel's hydraulic disc brake provides easy control and efficient braking without the nose nodding down.

The Arcus is the first really new design in the 20-metre, two-seater class for a long time. With its latest technology wings it should

be hard to beat in competitions. With its gentle flying characteristics and 'single-seater handling qualities' that are quite similar to those of a 15/18m glider, it provides real fun for its pilots – even if they are not 'competition pilots pushing to win'.

Its large wingtip-ground clearance and the robust, well-suspended main wheel make field landings easy and safe and minimise the risk of damage. This also makes the Arcus very suitable for club use – a perfect 'flagship' for a modern fleet.

Schempp-Hirth is offering the Arcus not only as a pure glider (70kg lighter than the T) and 'Turbo' (T) sustainer as described here, but there will be also two self-launching versions coming: The Arcus M, equipped with the engine of the Nimbus 4DLM, and the Arcus E, in co-operation with Lange Aviation, with the electric self-launcher drive of the Antares 20E.

The installation and support of the electric drive system will be in the hands of Lange Aviation at Zweibrücken airfield. Thanks to the flapped wing, the self-launching performance should be very good with these motors.

In producing the Arcus, the engineering and production crew of Schempp-Hirth have launched a great new glider. It is clearly the new 'ultimate benchmark' of the 20-metre two-seater class, and it should be a great challenge for its competitors to try to equal.

Last, but not least, it highlights a further feature that appears 'typical and traditional' for Schempp-Hirth gliders since they presented the Wolf and the Minimoa or, later, the Discus: with its new wing shape it brings again a new, characteristic and elegant silhouette into the air – a real eyecatcher!



The Oehler solo 2350 sustainer drive

TECHNICAL DATA

Span: 20m (65ft 7.4in)
Wing area: 15,6sq m (167.9sq ft)
Aspect ratio: 25,64
Length: 8,73m (28ft 7.7in)
Empty weight: ca. 485kg (1069lb)
Equipped empty weight
D-KARC: 500kg (1102lb)
Max. take-off weight: 800kg (1764lb)
Max waterballast wings: 190l
Max waterballast tailfin: 11l
Wingloading: ca. 36-51.3kg/m²
Performance data published after calibration:
VNE: 280km/h (151kt)
Sustainer drive: Oehler system with solo 2350



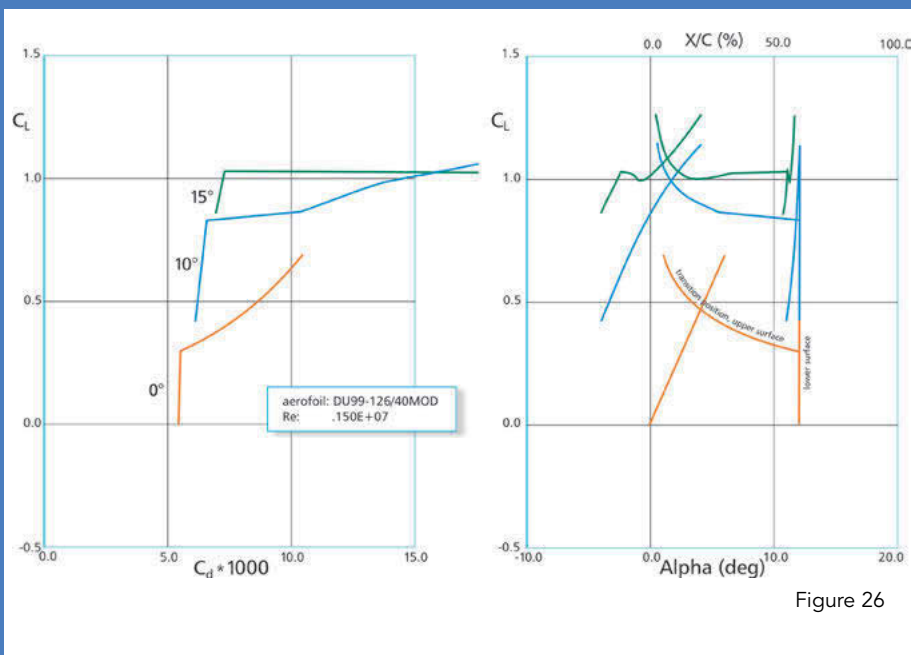


Figure 26

Figure 26 Calculated aerodynamic characteristics of airfoil DU99-126/40MOD at Reynolds number $1.5 \cdot 10^6$

Figure 27 Streamlines calculated at the tailplanes of the Antares at rudder deflection of 25 degrees and a yaw angle of 2 degrees

Figure 28 Drag contributions in case of boundary layer suction

Figure 29 The blasting cabinet for micro abrasive air jetting, with traversing system on top

Figure 30 Wind tunnel model for boundary layer experiments in the interchangeable test section of the Low Speed Low Turbulence Wind Tunnel of TU Delft

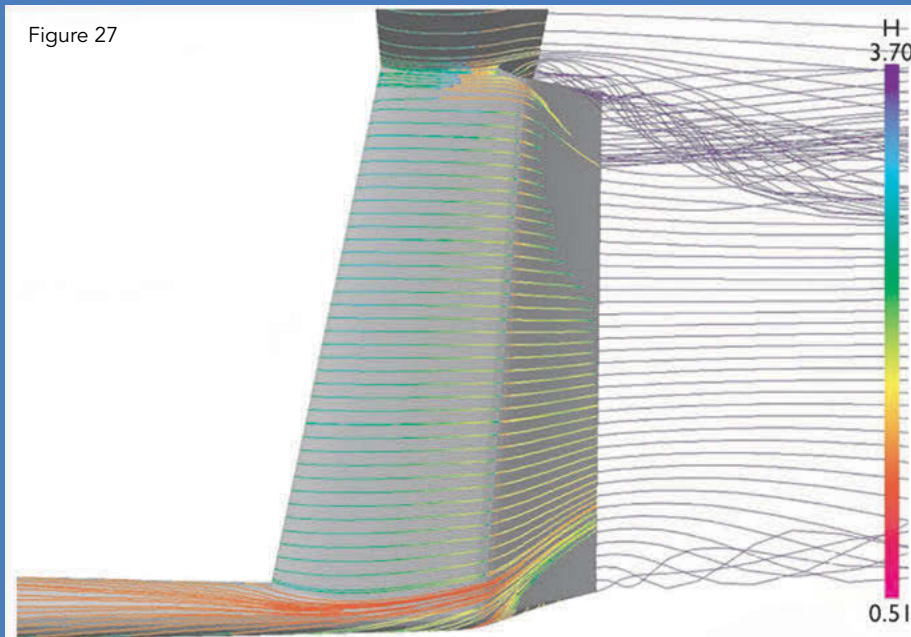


Figure 27

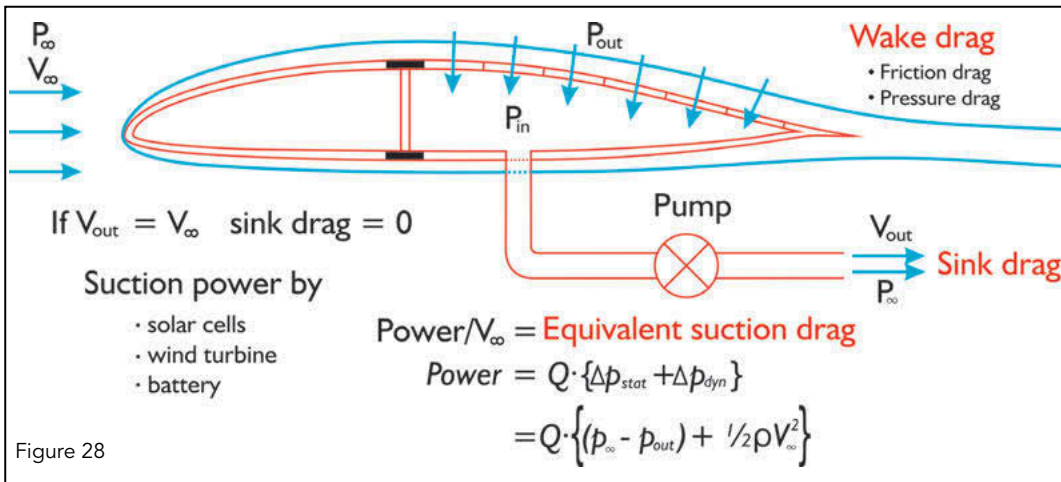
Loek Boermans concludes his series on aerodynamic developments at Delft University and how they are being applied in high-performance sailplanes

NEW horizontal tailplane airfoils have been developed with laminar flow on the upper and lower surfaces up to the elevator, where artificial transition is forced by zigzag tape. As well as realising low drag, the challenge is to postpone the loss of lift due to separation at high elevator deflections as occurs in the case of an emergency, such as a cable break.

Three-dimensional effects due to the tip vortices, which appreciably reduce the angle of attack (and lift coefficient) in low aspect ratio wings, are helpful in this respect as will be shown in the next example.

Figure 26 presents the calculated characteristics of the new airfoil applied in the vertical tailplane of the Antares. The figure on the right shows that laminar flow is present up to the 40 per cent depth rudder, where transition is fixed by zigzag tape except when natural transition occurs earlier. The lift curve in this figure, for a rudder deflection of 15 degrees, indicates that separation on the rudder starts at an angle of attack of -2 degrees. In practice, however, due to the three-dimensional effects mentioned, the local lift coefficient on the low-aspect ratio vertical tailplane is much lower than the two-dimensional value, and calculations show that separation of the rudder starts at a yaw angle of about 5 degrees.

Due to the endplate effect of the horizontal tailplane and the tip effect at the lower end, separation starts at the upper end of the rudder and progresses downward.



A LITTLE SUCTION THROUGH A POROUS WING SURFACE KEEPS THE BOUNDARY LAYER LAMINAR AND POSTPONES SEPARATION, WHICH REDUCES THE DRAG AND INCREASES THE LIFT

Similar effects occur at a larger rudder deflection; at a 25-degree deflection the flow on the rudder of the two-dimensional airfoil starts to separate at an angle of attack of -5 degrees, but in the three-dimensional case the flow remains attached up to a yaw angle of 1 degree. Figure 27 illustrates the situation at a yaw angle of 2 degrees; flow separation occurs on the upper part of the rudder as indicated by the end of the streamlines. The vortices trailing off the ends of the horizontal and vertical tailplanes are clearly shown. Calculations at practical turning flight conditions substantiate that the flow on the rudder is always attached.

Boundary layer suction

The goal of boundary layer control by suction is to reduce drag by keeping the boundary layer laminar and attached up to the trailing edge, and/or to increase lift by keeping the turbulent boundary layer attached.

As illustrated in Figure 28, the drag of an airfoil with boundary layer suction – in the present case on the rear upper surface – is composed of wake drag, sink drag and equivalent suction drag.

Wake drag is due to the boundary layer development on upper and lower surfaces forming the wake, and is composed of friction drag and pressure drag.

Sink drag is created by the momentum loss of the sucked air brought to rest in the wing, and can be reduced to zero again

by blowing this air out backwards with a velocity equal to the flight speed.

The equivalent suction drag implies the power needed to bring the sucked air back to ambient pressure and flight speed.

The principle of blowing the sucked air out backwards in order to reduce the sink drag, no matter the power source (solar cells, wind turbine, batteries), can be interpreted as thrust, and thrust is not allowed according to the present FAI definition of a sailplane.

As will be shown, the improvement in sailplane performance due to boundary layer suction is so large that it would be unfair to compete with such a sailplane in the existing classes. Therefore a new class has to be defined and, in doing so, the International Gliding Commission of the FAI should take new technological possibilities into consideration.

A breakthrough for the application of boundary layer suction is the possibility to produce many tiny holes (0.1mm diameter, every 1mm) in carbon fibre laminate by micro abrasive air jetting, an adapted version of sandblasting. This new and cheap technology, developed at Delft University of Technology⁶, is based on the erosion of a mask-protected carbon laminate by a high-velocity beam of abrasive powder (bulk material), blown by pressurised air through a nozzle.

The geometry of the mask, consisting of a customised filtration sieve available on



Figure 29



Figure 30

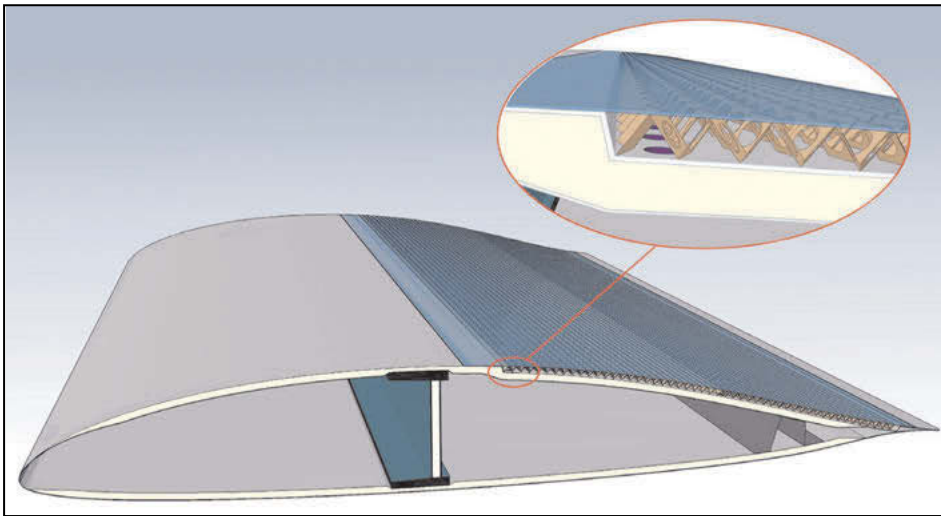


Figure 31 Layout of the suction sandwich on top of the structural sandwich. The air is sucked through the porous outer skin, flows forward through perforated folded core and finally through throttling holes into the wing

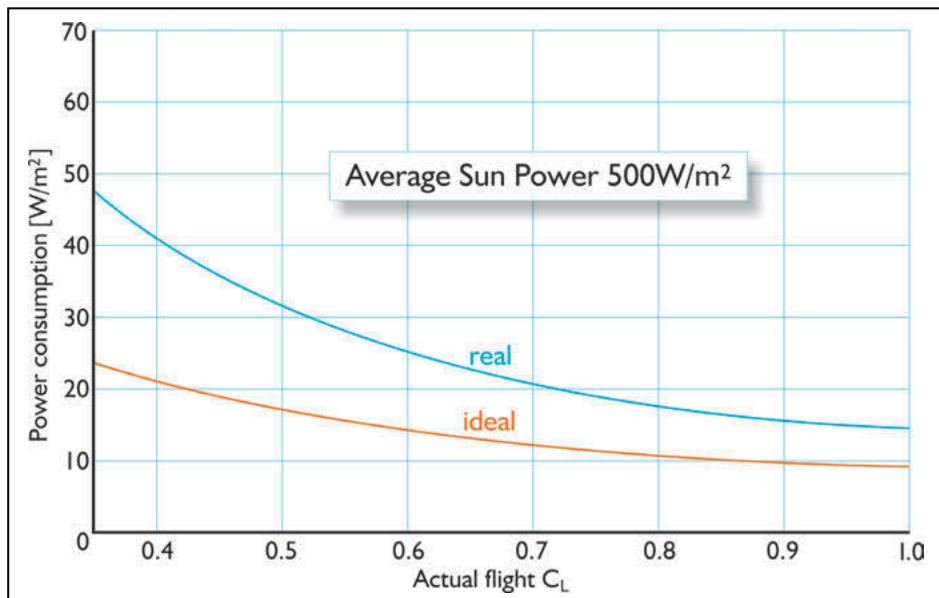


Figure 32 Ideal minimum suction power and the real suction power

**IMPROVEMENT
IN SAILPLANE
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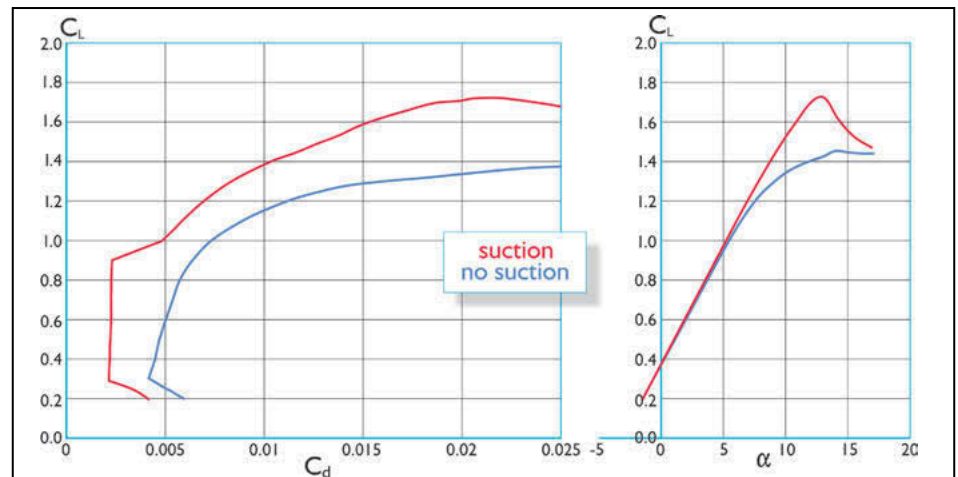


Figure 33 Calculated aerodynamic characteristics without and with boundary layer suction

the market, determines the hole pattern. A blasting cabinet with a computer-controlled traversing system has been built (Figure 29), and research is going on to further optimise this technology for use on a large scale.

While a minimum amount of suction is required to keep the boundary layer laminar and attached, there is an upper limit as well, because strong suction produces vortices that originate at each hole and become unstable, acting like a turbulator.

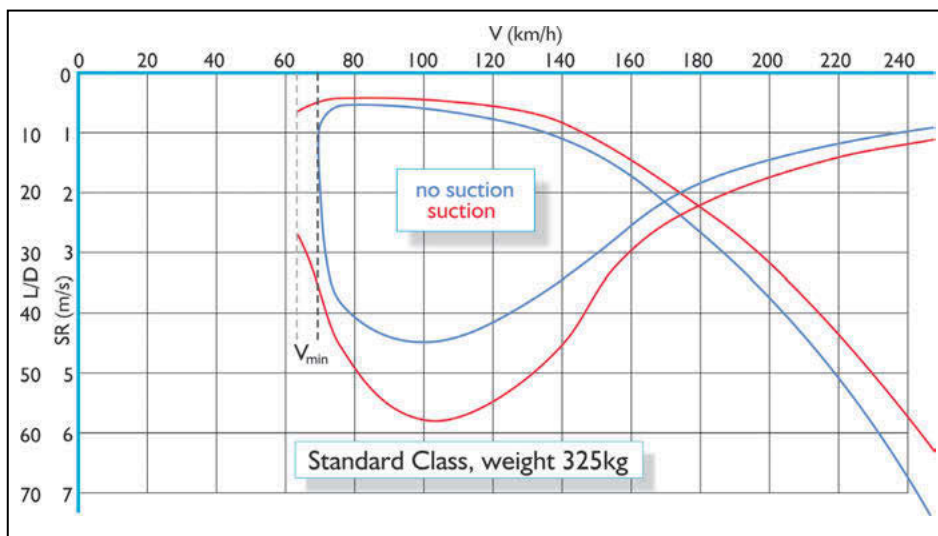
In order to determine this suction limit, as well as the pressure loss of the suction holes, wind tunnel tests have been carried out with a model especially designed for this purpose and equipped with a suction sandwich skin indicated by the dark area in Figure 30.

As shown by the expression for the suction power in Figure 28, minimum suction power is realised when the required minimum suction flow rate is brought back to ambient pressure and flight speed. The required minimum suction flow rate is determined by the suction distribution in chordwise direction required to keep the boundary layer laminar and attached.

This suction distribution is realised with a specific pressure difference between the outer and inner sides of the porous outer skin, and since the outer pressure varies in chordwise direction, the inner pressure should vary too. When this suction air is finally brought back to ambient pressure and flight speed, the ideal minimum suction power is obtained.

In practice, the minimum suction distribution can be realised by a special layout of the suction sandwich on top of the structural sandwich (Figure 31).

The air is sucked through the perforated outer skin, flows in forward direction through a perforated folded core and finally through



Illustrations by Steve Longland

Figure 34 Improvement of the speed polar of a Standard Class sailplane by boundary layer suction

throttling holes into the inner space of the wing, where the pressure is controlled by a pump. The suction sandwich is divided in segments named buffers and an imperforated wall of the folded core separates the buffers.

The suction sandwich can be compared with corrugated cardboard with many tiny holes in the upper skin, larger and fewer holes in the folded core and still larger and fewer holes in the lower skin.

The folded core is a new core material developed at the Institut für Flugzeugbau of the TU Stuttgart. The channel-type structure enables cleaning of the inner structure when pollen and dirt are sucked into the suction sandwich.

While the minimum suction distribution at a particular flight speed can be realised in practice, the ideal minimum suction power cannot be realised because all the suction air has to be brought back from a certain inner pressure – and not an inner pressure that varies in chordwise direction – to ambient pressure.

This inner pressure has to be slightly lower than the lowest outer pressure on the airfoil. In addition, the layout of the perforations in the suction sandwich can be optimised for one flight speed only.

When suction is applied on the rear upper surface of a Standard Class sailplane wing, Figure 32 shows the ideal minimum suction power and the real suction power (per square metre wing area) for the best suction sandwich layout with two buffers.

Although the actual power is about twice the ideal one, the power required is still very low, as indicated by the solar power datum used for the design of the solar powered

glider Icare-2. Figure 33 shows the dramatic reduction in profile drag and the increase in lift due to suction.

At lift coefficients below 0.9 suction keeps the boundary layer laminar, thus reducing pressure drag and friction drag. At lift coefficients above 0.9, natural transition occurs in front of the suction area and the same suction distribution needed for laminarisation is now applied to postpone separation of the turbulent boundary layer, thus increasing the lift.

Finally, Figure 34 shows the corresponding enormous improvement of the speed polar and glide ratio.

Research on boundary layer suction is going on in an effort to solve the remaining problems step by step, and to develop an airfoil specially designed for boundary layer suction, because the improvement in performance is a very beckoning perspective.

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The contest site of World Air Games 2009 was the Alpine foothills. Each event was allocated a 'slot' which, for the gliding, meant that launching would be at 1pm-1.30pm and finishing at 5pm-5.30pm, regardless of the weather. The opening ceremony was a 'big thing' locally and was held in the Piazza Castello, Turin's equivalent of Trafalgar Square, on a big stage in front of a crowd of thousands (Sarah Kelman)



ANTICS

The World Air Games, the aviation version of the Olympic Games, was held in June at Turin. Sarah Kelman (the only female competitor) reports

SOME people have noticed that I'm a bit of a fan of competitions. However, when I received an invitation to participate in the World Air Games earlier this year, I wasn't quick to respond. The contest site would be the Alpine foothills and the closest I get to seeing a mountain in East Anglia is if the ground below me actually gets above sea level. Also, it was to be a 15m Grand Prix style event and I fly a Standard Class glider. However, after some cajoling from a certain FAI official and a bit of gossip with team-mate and fellow invitee, Gill Spreckley, I agreed.

The World Air Games was conceived to be a showcase for all air sports, no matter how bizarre, crazy or incomprehensible – an aviation version of the Olympic games.

For the first time this year, the FAI was attempting to hold them all at one location and at the same time. I, of course, was going as the 'token girl' so I made sure to pack my lipstick and some jewellery to parade on the grid to the waiting throngs. I considered flying in a skirt, but practicalities meant that any skirts would rapidly become x-rated as I did up the parachute crotch straps, and anyone who knows me also knows that my legs are best covered.

Turin is an amazing city of stunning baroque architecture and pretty good shopping set at the foot of the Alps. The host airfield was the Aeritalia site within the city boundary. The airfield was the former main airport for Turin so, during the circuit to land, I had excellent low-level views of the fantastic designer boutique on the famous Via Roma.

The competition was an utter hoot. It was effectively an airshow so every event had been allocated its 'slots' before the competitors had even arrived. For the gliding, this meant that launching would be at 1pm to 1:30pm, and finishing would be at 5pm to 5:30pm, regardless of the weather.

This meant that the IGC had to devise a cunning plan to manage the tasks – we competed to a remote finish some 15km from the airfield with a hard deck of just under 3,000ft above the field. If we finished within the arrival slot, we could continue final glide home. If we were early, we'd have to local soar until the allotted time, then 'restage' the finish by arriving spectacularly over the airfield in the correct order (easier said than done) and, if we were late, we'd just have to go and land at another airfield some 30km away. I briefed my intrepid crew to get the trailer ready...

The weather was seasonably hot, sunny and stable, which was great for all the other crazy sports but tricky for glider racing. Tasks took us up and down the foothills and it was often unsoarable in the plain with very weak blue thermals coming off only the most

UP IN THE SKY



precipitous ridges and barely rising above the tops. Having said that, we also had a nice typical cumulus day with a spot of wave for added entertainment and I proved that I could do as well as the others.

The flapped gliders left the climb and dived off for a long glide to the next mountain ridge. I decided that I really had no chance of getting there above the top so elected to fly more on track towards a smaller isolated hill which gave me a cracker of a climb and I ended out in front.

Once I got over the shock, I managed to fuff around sufficiently to let the more intrepid pilots get ahead again, but still finished 6th on the day. I repeated this technique again on Day 2 but then promptly fell off the hills and landed out.

This was not entirely surprising as the cloudbase had fallen to 4,000ft over hills, which were 6,000ft and I landed with 2,000ft on the altimeter.

All the sports had suffered some bending of their normal competition format to satisfy the tight schedule and improve the spectator experience.

For glider racing, the Grand Prix formula was fantastic fun – it takes all those tricky decisions out of competition flying, like when to start, and the tasks are reasonably short so there are none of those seven-hour epic endurance tasks you see in conventional comps. There was also no chance of a grid squat as we either launched on time or not at all.

We also had two days off which gave us time to enjoy the other competitions and take in some of Turin's magic.

The whole event was a Big Thing locally. The opening ceremony was held in the Piazza Castello, Turin's equivalent of Trafalgar Square, on a big stage in front of a crowd of thousands, and included bands, minstrels

and a real eagle. Each day, members of the public paid good money to watch and it is quite a thrill to do a beat-up – sorry 'competition finish' – at VNE in front of an adoring crowd.

Without exception, all the other competitors thought the gliding mob were mad. Nobody else had to stay airborne longer than 10 minutes whilst we were disappearing off for hours at a time without an engine.

Personally, I thought they were all nuts too – microlight pylon racing at 100ft pulling 4g in the turns when the wing folds at 5g; paramotor speed trials where they undo the parachute harness in flight to get more streamlined; crazy aerobatics; experimental aircraft including a solar-powered 'glider' which couldn't get as high or stay up as long as us; ballooning; skydiving; paraglider formation aerobatic teams tumbling over each other; and the helicopter version of "It's a Knockout!" where they race head to head carrying a bucket of water on a string through a slalom course before depositing it on a bar stool without spilling any.

Of more merriment was the hang- and para-glider spot landing events where they had to land with great precision on a raft in the middle of a lake. This had been carefully positioned just outside the gliding range of the paragliders and so guaranteeing a dunking every time (unless they found a thermal first).

Some medals were awarded at the end and everyone went home after a thoroughly entertaining week and having learned a lot more about each other's sporting antics and a better understanding of our aviation colleagues.

The World Air Games was conceived to be a showcase for all air sports (top three photos by Stefano Moretti <http://picasaweb.google.com/trilly18>)

I, OF COURSE, WAS GOING AS THE 'TOKEN GIRL' SO I MADE SURE TO PACK MY LIPSTICK AND SOME JEWELLERY TO PARADE ON THE GRID TO THE WAITING THRONGS



Mother of two children (aged 4 and 2), Sarah Kelman started gliding in 1991 at Imperial College. Her first competition was in 1992 (Junior Nationals), and she was the Women's European Champion in 1999 and World Champion in 2001 and 2007. Sarah flies an ASW28 from Cambridge





Opposite page, clockwise from top left:
Taken on aerotow out of Nympsfield, from the back seat of Nimbus 3dt G-NYMB (John McWilliam)

Alistair MacKenzie's ASW20L at the end of the day at Burn GC (Kevin Moseley)

Discovering treasure at the end of the rainbow at the Mynd? (Roger Reeves)

Stunning shot of a K-21 taken on 9 August during a flying evening at North Hill (Joe Drury)

Paul Summers flying Devon and Somerset GC's Junior at Long Mynd (Lisa Humphries)

This page, clockwise from above:
This false colour near infrared photograph of the Open Nationals' Day 2 grid was taken with an IR filter (Pete Smith)

Tony Crowden waiting for a launch at Gap/Tallard airfield in July (Anne Crowden)

Returning from the Open Nationals task on Thursday 13 August (Ron Smith)

If you would like your photographs to be considered for inclusion in Gliding Gallery, please send them to:
editor@sailplaneandgliding.co.uk



THE CIRCUIT

BGA National Coach
Mike Fox offers more tips
and advice for those
new to gliding in the third
article of his series

30



ONCE again, I don't wish to cover the basics of the circuit, as you will have been briefed by your instructor and hopefully read some books on the subject. The following are simply useful tips and advice.

Before I get into the meat of the subject, I would like to make what may sound like a strange statement:

The circuit is a judgement exercise which cannot be taught...

So how can you learn it then? The only way you can learn is by trial and error, trying out your planning in different conditions and in different circuit directions. Your instructor will be helping you to acquire the judgement by asking you to keep checking things like height, angle and distance from the intended landing area. Your instructor will let you make safe mistakes, which may mean that you don't end up landing in the 'normal' place for your first attempts. But by working out what went wrong and where, you will slowly build up the judgement of what looks right and what looks wrong.

Judgement

In order that you can judge the circuit, you need to know what the aim of a successful circuit is. It is to arrive at the final turn, lined up with the landing area at an appropriate height and an appropriate distance back for your height. You do not have an engine, so you must maintain good margins of safety with regard to height and distance. This means that if you encounter sink, you can still achieve a safe outcome. A powered aeroplane circuit has a different emphasis. That is to promote an ordered flow of traffic around an aerodrome.

Your instructor will tell you that you should not use the altimeter in the circuit. There is a very good reason for this. Your altimeter is pretty useless when judging an outlanding, as you are normally unaware of the elevation of your field. We want to teach you to land at any elevation by judgement alone. You may argue that you don't ever intend to land out. I would counter that by saying that if you fly gliders long enough, you may one day find yourself in a situation where you have no choice!

So without the use of the altimeter, you can judge when to start your circuit by looking down at the size of ground features below (presuming they are at the same elevation as the landing area), and at the landing area itself. You can then ask yourself the question 'are we at the right distance away for our height'? Does the 'picture' look good?

Always remember the aim of the circuit – can we get to that final turn at about the right height? Try not to use specific ground features to fly to – they won't be there when you want to land elsewhere!

Turning in early

There is absolutely no shame in 'turning in early' or landing on an alternative landing area, if available, in order to keep things nice and safe. Once down safely, it may be time to analyse the reasons why the usual circuit could not be completed. This may have been a poorly-judged initial height, or perhaps simply sink. I still turn in early or land on an alternative runway occasionally in my LS4. I would rather do that than break my nice glider in front of everyone at the 'normal' landing area!

Wind

Often when beginning the planning of a circuit from a short training flight off the winch, it is tempting to assume that the wind is still the same as when you launched. Whilst practically this is often the case, it is a dangerous habit to fall into. Occasionally at Pocklington after the sea breeze has gone through late in the evening, with the airfield still set up as it was earlier, cross-country pilots line up on the approach only to find they are covering the ground rather fast! Remember; make sure the wind is where you thought it was before identifying your landing area.

Minimum parts

You may see the club pundit landing after a long final glide without any turns at all. This leaves no margin for error if the energy (speed and height) is low. Those pilots will certainly have other options in mind – landing in the field downwind of the end of the airfield is one! You must plan to perform part of a downwind leg at least to ensure a safe approach. If you return to the airfield with less energy than planned you need to revise your plan to keep things safe. That may well be to perform a straight-in approach without a circuit, but you must analyse the reasons this was needed after landing. Sooner or later you will find yourself with no options left.

Lookout

I said it in my last article, and I'll say it again – good lookout is a life-saver. You are very likely to be looking at the airfield a lot, and in particular the landing area while planning the circuit. You must remind yourself every so often to look around the sky as well as the

airfield. In particular there is a high workload around the base leg and final turn. This is a very high risk bit of the sky for bumping into other people, especially if your club allows left and right-hand circuits to the same landing area.

Before turning final, have a good look around, including for that 'pundit' who isn't bothering with a circuit! Once the final turn is initiated, concentrate on making that turn accurate and maintaining a good lookout. Once the landing area starts to appear near the nose you can then concentrate on lining up, taking into account any crosswind.

Final turn height

You may hear instructors saying that you should turn final not below 300ft. There are lots of good, safety related reasons for this – ask your instructor. There is another very good reason for it. It gives you, as a student, TIME when it comes to sorting out your approach control and landing. When I am instructing, I try to get my students to plan to turn a bit higher than 300ft. Five hundred feet is not too high; it gives us the opportunity to turn a little further back and take our time when it comes to opening airbrakes and getting the speed sorted. How do we know that we have turned at the appropriate height? This comes with judgement, but every so often we can calibrate our judgement by glancing at the altimeter at our home airfield. Beware though – even modern altimeters stick...

Use of the airbrakes in the circuit

Opinions are divided as to the use of airbrakes within the circuit and on the final turn. Personally, I believe that the airbrakes are a flying control, and if you need to use them, so be it. However, I also think that it is a pity to use the airbrakes as it often means that you could have used that energy in a slightly wider search for lift or other fun! It is absolutely essential though that you do not get into the habit of using the airbrakes before or during the final turn. Before you open the airbrakes, think 'do I really need to throw away energy here?'

Pre-circuit checks

There are no such things as downwind checks. You will have enough on your plate looking out, flying the glider and planning your

circuit without remembering a set of checks. It is essential to get into the habit of checking that the glider is prepared for landing before setting off downwind though. Talk to your instructor about what checks to run through.

Getting the circuit right is rather like being a brilliant jazz musician. One person's interpretation may not look anything like another's.

There is absolutely no 'perfect circuit'. The only good circuit is one that ends with a safe landing – preferably on the airfield!



The only way you can learn the circuit is by trial and error (Above, Neil Stuart Lawson, www.whiteplanes.com. Facing page, Mike Fox)

THERE IS ABSOLUTELY NO 'PERFECT CIRCUIT'. THE ONLY GOOD CIRCUIT IS ONE THAT ENDS WITH A SAFE LANDING – PREFERABLY ON THE AIRFIELD!



Mike Fox is the BGA National Coach. He flies an LS4 from Pocklington

STUDENT FORMULA FOR FUN

Colin Field reports on the Inter-University Task Week, held this year at Wolds GC



(Steve Morgan)

**WHERE ELSE
DO PEOPLE GO
CROSS-COUNTRY
IN WHATEVER
50-YEAR-OLD
WOODEN GLIDER
THEY CAN GET
THEIR HANDS ON?**

THE Inter-University Task Week is a gliding comp like no other. Where else do participants compete solely for the glory of their home club? Where else can someone's first solo flight decide the winner of a national competition? And where else do people fly cross-country in whatever 50-year-old wooden glider they can get their hands on?

This is our very own format, developed and refined for over 30 years and has produced a fun, yet challenging, competition that is the highlight of every Uni club's calendar.

This year was no exception. Hosted by Leeds University at Wolds GC (1-9 August), 11 universities competed in teams of one to nine. For those unfamiliar with the format, there are two competitions side by side; cross-country with points accumulated using the BGA ladder, and progression with points awarded for achieving another level of progression in flying aptitude with maximum points (500) awarded for going solo.

The week started a bit slowly, with Saturday (the only scrubbed day) seeing most of the competitors arrive. Sunday was a day mostly of site checks, with the first one carried out at an almost-unheard-of 7:20am! It was difficult for cross-country, however a couple of wooden gliders battled upwind to Rufforth while Mike Schlotter (Bath) flew his first 200km of the week. Monday was another difficult day, but Gareth Francis (Edinburgh) put in a fantastic effort encouraging the K-8 round 150km. We also saw our first solo of the week, by JP (Edinburgh). Well done!

Alison Randle from the BGA visited for the day to hold a workshop on Uni club

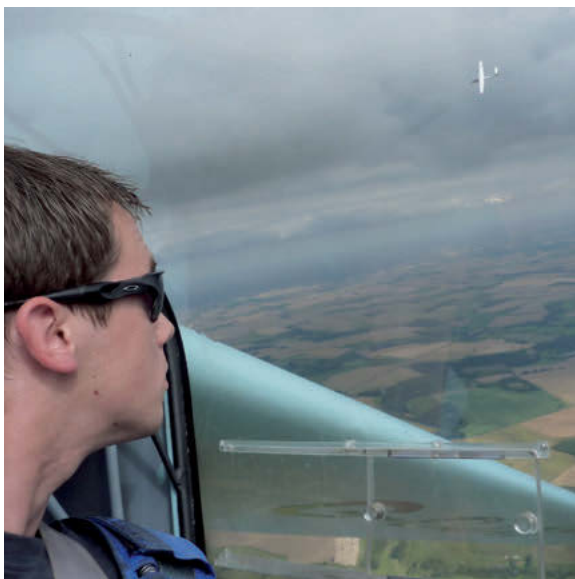
development – this vital part of the week gives clubs the opportunity to tackle our issues with the experience of others.

Tuesday was grey and uninspiring, but a group of pilots stayed at Pocklington to continue their progression while others visited the York Air Museum at Elvington to see the fascinating array of aircraft spanning more than a century.

Wednesday was also a grey day, but Toby Ayre (Bath) brightened things up by flying his first solo. Thursday looked much better, and a lot of people headed on cross-country flights far and wide. However, by mid-afternoon a front was advancing and the top cover caused a good selection of landouts. This was also our quiz night, with seven mixed teams doing their best to answer Adam Spiking's very random, yet challenging, questions.

Friday eventually turned into a good soaring day and, although it started too late for most people to fly tasks, three quick pilots flew 100km triangles. It was the biggest progression earner of the week with every university gaining some points – 21 people converted to a new glider type and especially noteworthy are Tim Marlow's (Bath) first solo flight, and Julia Robson (Cambridge) gaining her Silver height. In the evening, we were treated to a BBQ cooked by our Leeds hosts, and started planning our adventurous tasks for the next day.

Saturday was a cracking day and with our pilots flying anything from a K-6CR to a Twin Acro we clocked up over 2,500km of cross-country! Colin Field (Bath) picked up Gold distance in his Skylark 3, while Oli Bosanko (Oxford) and Carl Hutson also flew 300km in



their Astirs. Andrew Bates (Edinburgh) took his new Mosquito for a 300km test flight, picking up his Diamond goal on the way, and many other people flew 100km tasks.

Back at Pocklington, Jamie Marsden and Alex Dodds (both UCL) flew solo for the first time, and Julia Robson kept in the air for five hours to complete her Silver duration, as did Adam Hoskin (Surrey) to add the final touch to his Silver. Steve Morgan (Leeds) managed to rack up a huge progression score by completing all his Cross-Country Endorsement in one day!

Sunday came all too soon and although it was an excellent soaring day it was necessary for most people to break camp and head home. At the prizegiving ceremony, Bath

won the cross-country competition and Leeds took the progression cup; however neither won without a good fight from the others.

Edinburgh was a particularly strong contender in both competitions, and Oxford and Loughborough put in amazing performances considering there was only one person from each!

It's very satisfying to have such a successful week, especially having so many more capable and experienced pilots come the end.

The team at Wolds GC were incredibly pro-active towards all the students, providing four two-seaters and instructors every day, and the atmosphere was relaxed with

excellent catering – surely these are the most important ingredients of a successful comp!

A big thanks to Adam Spikings and Tom Elliot, who organised it this year, and of course to all the competitors for coming along. Nottingham is hosting it next year, and I hope that everyone is looking forward to it as much as I am.

Pictured clockwise from top:

Smiles all around – a common sight at the IUTW (Tom Elliot)

Local soaring above the Yorkshire Wolds for soaring competition points (Tom Elliot)

David Lisk taking his first flight in a wooden single-seater, the Wolds Club's K-8 (Matthew Reynolds)



■ THE IUTW has always been a major event in the student glider pilot's calendar because of the brilliant gliding opportunities available to all levels of experience. However, despite being drawn together for the promise of a first-class week of gliding, I believe one of the most important attributes of the IUTW, the one which makes most return year after year, is the relaxed social atmosphere that only university students – grandmasters of taking it easy – can bring to a competition.

We had several superb evening entertainment events, including even a top performance from charity band 'The Randy Monks', who collected donations for Macmillan Cancer Support on the night.

As one of the organisers, I was delighted to see how the week turned out. The list of achievements was undeniably remarkable, with five first solos, more than 50 type conversions, two BI courses, two Cross-Country Endorsements, two Silver completions, one Gold distance (in a Skylark 3!), one Diamond goal and more – all in a single week!

One of the things that allowed this year's IUTW so many brilliant achievements was the unrelenting effort and enthusiasm from Wolds Gliding Club CFI Tim Milner, DCFI John Norman, and the rest of the staff and instructors at Pocklington. All our thanks go to these outstanding people.

My congratulations to IUTW Cross-Country Trophy Shield winners Bath University Gliding Club and also to IUTW Progression Cup winners Leeds University Gliding Club. I'm sure everyone is already counting down the days to IUTW 2010.

TOM ELLIOT
CHAIRMAN, IUTW 2009

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**JUST AS I
THOUGHT I HAD
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THE MOTHER OF
ALL RETRIEVES
I RAN INTO 4KT
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SIGHTSEERS ON
THE RIDGE WHO
HAD BEGUN TO
WAVE TO ME**



At 18.30 on 14 June, Tom Smith broke the record for youngest 750km. Forty minutes later, the record was taken by Will Chappel

TIB-TEW-OAK-CHL-TIB 757km
Tom Smith (aged 22) LS-8 15m (149)

IHAD the glider rigged and watered by 10:10 and launched straight away into a sky of small cu with base a little over 2,000ft. After releasing from tow it became obvious that the thermals around Tibenham were weak, so I started at 1,200ft and spent the next 25mins grovelling 15km down the first leg.

Things began to pick up at Newmarket with a 7kt average and increasing cloudbase. The first and second legs continued uneventfully with 5kt climbs and cloudbase rising to 5,500ft in the best part of the day.

Conditions beyond Banbury on the third leg became a little more difficult with cu becoming sparser and climbs more infrequent.

On the run into Cheltenham I flew under several cu that looked good but delivered nothing, leaving me low over Cheltenham at 16:30 with overcast to the west and high ground to the east. I chose east and arrived at 300ft above the hills.

Just as I thought I had blown it and was facing the mother of all retrieves I ran into 4kt and climbed away from the sightseers on the ridge who had begun to wave to me!

Four knot climbs under evenly spaced cu made for a very relaxing downwind leg, until reaching the fens, where the climbs

weakened and some large gaps had to be negotiated.

I managed to scrape on to a marginal glide a few miles west of Lakenheath in murky sea air that had come in from the Wash, before setting off into dark overcast that was covering Norfolk.

Strangely, I got the best climb of the afternoon under the clag, which put me on a comfortable glide.

I finished at 18:50 for an average speed of 89.2kph.

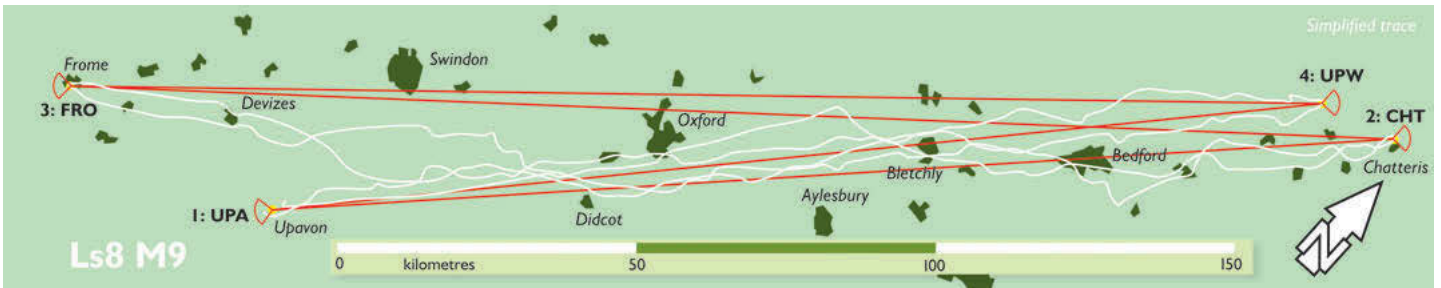
UPA-CHT-FRO-UPW-UPA 768km
Will Chappel (aged 21) LS-8 15m (M9)

TWO weeks after a failed 750km attempt from Lasham and having landed 80km away in the Pewsey Vale, I saw that the weather reports for Sunday 14 June were looking good. The night before, after looking at the weather and maps I planned Upavon – Chatteris – Frome – Upwood Hangar – Upavon, giving me 768km. This also provided me a nice clear route avoiding any major airspace!

The day started clear and crisp; the glider was rigged, watered and ready to go by 8:00 but nobody to launch me! By 9:30 other club members had arrived and the field was set up. I took the first winch launch at 10:03 to 850ft.

There was a steady 1.5kt thermal that got me going and up to cloudbase. I decided to

RECORD



start at 10:15 and once out in the Pewsey Vale conditions were good, 3kt to 3,000ft.

The first leg up to Chatteris was good with some nice streets to follow; back down to Didcot was also uneventful. The good side was that I was only about 15 minutes behind time.

Throughout this time the cloudbase was still only about 3,500-4,000ft. Just north of Membury I got low, I slowly managed to get away again and back up to cloudbase.

Over the next half of the leg to Frome there was a rise in cloudbase up to 5,000ft. I turned Frome at 15:02 with plenty of height as it was starting to go blue. To see that I had 365km still to do and it was already 3:10 felt a little daunting.

From here it was a steady run back all the way to Upwood hangar. After the turn point I started to really slow down and take most of the climbs as the clouds were good but gaps started to appear and I didn't want to lose touch with cloudbase.

At this point another LS8 shot by me slightly lower and out to the right. (I thought it was 149.) After looking at the trace it would appear that it was Tom also doing a 750km – congratulations.

The next problem came when I got to Oxford, the last cu was on its southern edge with nothing but overcast in front of me. After a slow climb I was basically on glide, however I had to duck under the airspace just south of Didcot which put me on a marginal glide that produced a surreal 62km glide in dead air and eventually coming up 300ft short of Upavon.

I finished the day in the same field as I had two weeks earlier at 19:30. Déjà vu.

At least this time I had beaten the 750km mark!



A field landing didn't stop Will Chappel (above) from achieving the record for the youngest 750km



I HAD TO DUCK UNDER THE AIRSPACE JUST SOUTH OF DIDCOT WHICH PUT ME ON A MARGINAL GLIDE THAT PRODUCED A SURREAL 62KM GLIDE IN DEAD AIR AND EVENTUALLY COMING UP 300FT SHORT OF UPAVON

YOUNGEST 750KM RECORD BROKEN TWICE IN ONE DAY

Steve Derwin masters the black art of connecting with wave and has three magical flights in quick succession, achieving his Diamond height in the process

YOU know what they say, “all good things come to those who wait.” Well I’ve been waiting for a long time; a number of years in fact and while waiting I’ve become aware of a basic truth, ‘it only happens if you are in the right place at the right time’.

I’ve waited persistently so eventually it had to happen.

What’s more I’m pleased to say that, like number 9 buses, after waiting for what seems like an eternity when one eventually came along it was closely followed by two more. I’m referring not to buses, but to wave flights; those fantastical creatures of our spectral imaginings.

I’ve been trying to discern the black art of connecting with wave for some time. In training I’d had a couple of dual flights with champions of the art in the Scottish Gliding Union, Santiago Cervantes and Mike Carruthers. With Sant in the ASH 25 I did a Scottish triangle starting at Portmoak then on to Loch Lomond, Tarbet before turning the Tay Bridge at Dundee and from



Main pic: sandyprints

ON A WAVE



WAVE

**WALKING
ON THIN AIR**



Each year WA1 (a specially-adapted, hand-controlled K-21) and a number of members of Walking on Air, some disabled, some able-bodied volunteers, travel north from the home-base of Portmoak to fly the Cairngorms. During this year's visit Steve (in WA2) experienced the highest flight of his life at 23,279ft, smack over the summit of Cairngorm (Jim Cook)

☞ there doing a 20 nautical mile final glide back to Portmoak.

Later with Mike in the same aircraft, in the 2007 Competition Enterprise, he showed me how to read the interference of wave from two directions, a phenomenon which creates a beautiful mackerel cloud effect. Reflecting on those flights, both pilots made the whole thing seem effortless, but had I learnt anything? Well, yes and no.

You need to pick a day when waves are being formed in the upper air, that's obvious, but it's the skilful act of connecting with it that always seemed a mystery to me. How to make that leap from hill lift or even from thermal and into the upper layer of wave? Two flights this spring showed me how this happens and prepared me for a third, which was to be the highest flight of my life at 23,279ft smack over the summit of Cairngorm.

The first of my wave flights happened on 22 February this year at Portmoak and was in the Walking on Air glider WA1; a specially-adapted, hand-controlled K-21. It was a flight that I was not properly prepared

for. I hadn't even changed the batteries in the EWD logger. As a result, the trace ended at just over 13,000ft and did not show the complete story of my flight. Fortunately, I had a fully-charged Mountain High oxygen

system and had dressed in extra 'shreddies' (colloquial for undergarments) as it proved to be a chilly morning.

Sitting on the launch point I knew that something special was going on aloft because of the rows of parallel lenticular bars lined up over Kinross and again out over Glen Farg. Also, by the time of my launch, pilots were starting to return reporting good wave to significant heights; so no excuses.

Following the winch launch, I established a low point over the fields on the way to the Bishop's ridge lift which mercifully proved to be working extremely well in a brisk westerly wind. One complete beat along the ridge north followed by half the beat south again saw me gain sufficient height – about 1,700ft QFE – to push out west under a darkened cloudbase and over Loch Leven in still lifting but turbulent air.

As I approached the upwind and into-sun side of the cloud the lift continued but then it reduced slightly and smoothed out. Yes, this is it, this is the magical phenomenon of wave I've been waiting for, but now above the cloud, where does it go? A friend, Peter Benbow, had shown me a trick in a previous flight of maintaining level wings at min. sink speed and on a fixed heading and listening to the vario for any decrease in the lift tone.

If that happens he had said that it was necessary to make a minor adjustment to heading and see if it increased or decreased and, from these alterations in tone, a mental picture of the structure of the invisible good stuff could be built. Employing this



Steve's first wave flight was at Portmoak on 22 February this year, when he achieved his Gold height in the Walking on Air glider WA1 (Dave Coats)

technique I climbed to 7,500ft overhead the leading edge of the Kinross wave bar and decided that I had enough height to push forward to the Glen Farg bar and see if that was working as well.

Flying low over the top of this large bright white fluffy sausage was, to say the least, interesting and gave a distinct feeling of commitment. When I got there I was relieved to find it was working and immediately I got into another good climb. Once at height again and through a gap in the clouds now far below, I was able to keep a check on my position directly overhead the dam of Glen Farg Reservoir. Yes the earth was still there and the view of it was truly comforting. I turned on the oxygen 8,000ft on the climb as it is good practice to enrich the haemoglobin before beginning to experience a depleted supply due to the reduction of partial pressures at altitude.

My climb continued up to a height of 15,630ft amsl but, as mentioned previously, my principal logger, the EWD, packed in at around the 13,000ft mark because of low battery life. I was fortunate that I had recorded enough data on it to satisfy the inscrutable demands of Basil at the BGA, who after studying my trace and claim for a Gold height agreed that I had provided just enough detail for him to allow it.

Whilst at height on the upwind side of the Glen Farg bar I was surprised to encounter the Strathaven boys in the Bocian sharing the lift and a few gentle passes in this silky smooth air enabled a bit of air-to-air photography. Suddenly it was not so lonely up here and I felt pleased that witnesses would verify that my first serious wave flight had not all been but a dream. When you're paraplegic there is little point in pinching yourself.

The lift continued and other pilots that day went on to get Diamond heights. For me time ran out and I needed to return to the field to honour an appointment I had foolishly made.

Some weeks later I towed the LS7 WA2 across the A66 to Skelling, Cumbria, for the Edensoaring Open Week at the beginning of May. A great team of guys were on hand to welcome newcomers and Peter Whitehead and Bruce Cooper were unstinting in their efforts to provide a great flying experience at their new site.

The field runs roughly north/south and is in gliding range of the westerly aspect of Cross Fell, the highest mountain in the Pennines at 2,930ft. However, it's not for the

faint-hearted, because for the hill to work it has to be a crosswind take-off and landing and this, together with the gradients, hillocks and gullies in adjacent fields, tends to focus the mind a little.

A strong and blustery westerly blew nearly all week, interspersed with strong rain showers. Through all of this, Bruce and Peter spoke authoritatively of the fact that in a westerly, if the clouds had crossed the higher Lakeland fells, then by the time they reached Skelling they had no more precipitation left in them and we would remain dry. Well that was their theory anyway!

With somewhat more credibility and great enthusiasm they also spoke of the Helm wind that can be experienced in this location in an easterly or north-easterly. In one of our convivial debriefs in the very hospitable Fox Inn, Ousby, they gave me to understand that in this direction we might expect some exceptional wave conditions indicated by the distinctive rotor cloud known as the Helm bar.

For me I was happy that it was westerly and that there was strong dynamic hill lift. You can tell by this misguided view that at this stage I had not yet fully appreciated just how much fun wave flying can be. No Helm blew that week and my flight on Thursday 7 May saw me riding the ridge from Hartside to Appleby in a promising westerly.

As the flight progressed more cloud seemed to develop. I gained height and as in my previous wave flight I pushed out to windward. Once again I continued to climb above cloudbase. This was fantastic. This is how to do it. Turning to run along the upwind face I was able to soar the cloud as if it were a hillside. What an unbelievable experience! What a privilege! What fun! Yes I'm definitely a wave convert now.

Sandy and Dave, two of the members of the newly-established Edensoaring Club, were flying their Duo Discus and doing a photo shoot with other gliders. I could hear them on the radio so I waited till they had finished and invited them to join me. We formatted above Melmerby at 8,500ft and Sandy got some cracking shots of the LS7 in the strong afternoon sun with a backdrop of wave cloud deep in the distance below.

My height gain that day was just short of another Gold with a total gain above low point of 9,682ft or 2,951m. Should have 🍀



Steve after achieving his 23,000ft Diamond height at Edensoaring in WA2, an LS7 adapted by ex-chairman of Walking on Air Joe Fisher and owned and flown by both Steve and able-bodied syndicate partner Martin Boulton (Bill Longstaff)



Discovering just how much fun wave flying can be, Steve is pictured at 8,500ft during a flight at Edensoaring (sandyprints)

**THE AWARD
OF A DIAMOND
HEIGHT AT
THE END OF
AN EVENT LIKE
THIS COULD
NEVER BE THE
PRIME REASON
FOR ENGAGING
IN SUCH A
WONDERFUL,
EVEN SPIRITUAL,
EXPERIENCE**

■ The BGA is further developing its policy for the inclusion of disabled pilots into the sport and many clubs already welcome disabled pilots into membership. For details of Walking on Air and its objects and activities, contact the secretary, Andrew Gordon, on 01383 850286 or Irene Donald at the Scottish Gliding Centre on 01592 840543 www.walkingonair.org.uk

British Disabled Flying Association - www.bdfa.net

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Norfolk GC
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Shenington GC
Stratford-on-Avon GC
Scottish Gliding Centre
Ulster GC
Wolds GC



An accomplished mountaineer and canoeist, Steve Derwin was involved in a road traffic accident in 1989 resulting in complete paralysis from chest level. In 1990 he took up hanggliding in order to get back in the mountains and in 1996 started sailplaning at Wolds GC, joining Walking on Air in 1998. On 13 May, 2009, Steve made a Diamond height flight to 23,000ft above the Cairngorms, Scotland. On 16 July, 2009, from Santa Cilia Airfield, Jaca, Spain, he flew a Diamond goal distance flight of 316km along the Pyrenean chain. A true return to the mountains

✂ dived for that low point perhaps?

Whilst airborne again I jumped wave bars upwind to turn Penrith before returning through very rough tumbling air back to the field. Eden Valley is a venue I will definitely return to as the flying was so good and the club there is bound to prosper due to its hospitality and warm welcome. Its location relative to the fantastic Pennine ridge is ideal and whilst it presently has little in the way of infrastructure this will not be a situation which exists for long judging by the enthusiasm and vigour of its leading lights. In less than a couple of hours a pile of timber was converted into a very serviceable ramp to afford wheelchair access to the Portacabin club room. No excuse for missing the briefing now.

My third and most rewarding flight of all was whilst flying the LS7 WA2 a week later on a Walking on Air trip to Feshiebridge, guests of the Cairngorm Gliding club at their MayFest fortnight. Each year WA1, the converted K-21 and a number of members of Walking on Air, some disabled, some able-bodied volunteers, travel north from the home base of Portmoak to fly the Cairngorms.

On Wednesday 13 May, WA2 was sitting on the ground pining for attention. The easterlies were constant, blustery and turbulent giving hazardous periods during which the tug pilot had declined to launch. Then a window opened when it was declared OK and I took a launch in full expectation of getting a thrashing as we went out over the narrow river bottom at the end of Runway 21.

My aerotow took me to the crags in Glen Einich where the tuggy suspected wave might be and, sure enough, at a height of 3,500ft he signalled me off into 7 up. My flight was again quite dream-like during my time in the wave. I am amazed how smooth the lift is.

Oxygen on early again and on this blue sky day I resorted to technology to help me locate lift. The red snail trail on SeeYou on the Ipaq ensured I stayed in rising air and I only extended my short beats bit by bit to prevent flying out of the good stuff. Eight to 10 up at times meant I shot up to 10,500ft over the loch and then, hearing fellow Walking on Air member Bruce Marshall transmit that he was in very strong lift directly over the ski area at 12,000ft, I decided to be more adventurous and moved over to join him.

Unfortunately I couldn't see him when

I got there; I guess he'd moved on. But he'd been right and the lift here took me all the way up to flight level 195 where, after talking to Scottish control to access the dedicated wave box, I had the potential for a climb up to FL 240. My target now was to achieve my Diamond height climb and for me mental arithmetic, even at ground level, is not a strong point so whilst at altitude I was thankful that oxygen allowed me a clear head.

As I climbed through FL195 and into the wave box I closely monitored my condition, noting that as soon as I took my mask off to make a transmission on the radio I quickly became breathless. Looking at the base of my nails I noted no blue colouration so concluded I was not hypoxic. Nonetheless, even the gentle turns at the end of each beat created an extra dimension of breathlessness.

I passed through 20,000ft, a height which had been my recorded high point as a mountaineer many years before when I had climbed on the West Buttress route of Mt McKinley in Alaska. My target height of FL240 was getting close now when suddenly I was surrounded in the cockpit by an infusion of sparkling crystals.

Was I hallucinating about diamonds and as a result of failing mental and visual faculties seeing them everywhere? Could this be as a result of the onset of that feared killer of high altitude climbers, HACE or High Altitude Cerebral Oedema? No, my escaping moist breath was freezing into tiny twinkling particles which filled my vision and entertained me here for a while.

I was immersed in a soporific, dream-like event and one where I felt I had to keep a tight hold of things as they unwound. Check the oxygen supply, monitor my mental condition, are my nails turning blue, is my shivering through the intense cold affecting my judgement or performance, keep a check on location, don't create an airspace violation by ascending without clearance through FL240? Check airspeed does not exceed the reduced VNE at this altitude.

At FL230 or 23,279ft amsl and after 2 hours and 12 minutes of flight I realised that my crystal companions were coalescing on the canopy and I could no longer see out of the left hand side as it was already covered in a fine white hoar frost.

No need for maths now. I knew my objective was easily in the bag and anyway the award of a Diamond height at the end of an event like this could never be the prime reason for engaging in such a wonderful, even spiritual, experience.



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INSTRUMENTS

THE ALTIMETER

44



Figure 1: Altimeter

THAT EXTERNAL SIMPLICITY SAYS A LOT FOR THE INGENUITY OF THE INSTRUMENT'S DESIGNERS... INSIDE IT'S A COMPLETELY DIFFERENT STORY

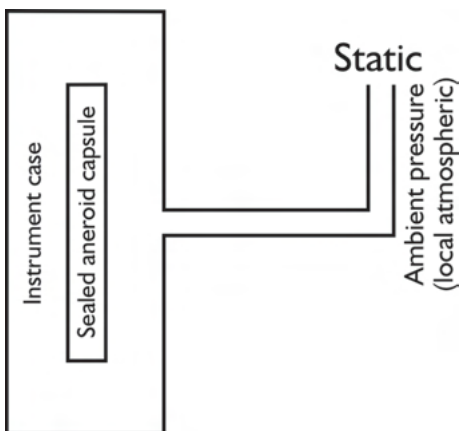


Figure 2: Altimeter. Basic set-up

In the second part of a series on how aircraft instruments work and what they are really measuring, Steve Longland focuses on the altimeter, which doesn't (as many of us think) measure height

THE altimeter (figure 1) compares the ambient/atmospheric pressure at the static against that in a sealed aneroid capsule containing a vacuum (figure 2). During a climb, static pressure decreases and the capsule expands. The opposite happens during a descent. The displays of UK altimeters are calibrated in feet, and 100ft equals a pressure change of approximately 3mb.

It would be convenient if height and altitude were the same thing, but they're not. Most of us look at the altimeter, lightly biff the panel and think 'height', which isn't what the instrument measures and it says as much on the dial – see ALT, part hidden in figure 1. Height is the fixed physical distance between, say, the foot of a mountain and its summit, as measured by theodolite. Altitude is based on the pressure difference between the same two points (figure 3). The connection between height and altitude is far from exact, so there is no guarantee that an altimeter set to zero at the foot of a mountain 3,500ft high will read exactly 3,500ft when level with the summit. Small though the difference may be,

it also varies from day to day and with the temperature.

Think of the altimeter in these terms; it indicates, as if it were a genuine height, the difference in pressure between where it is now and wherever it was when it was last zeroed. Even when you're on the ground it won't have the faintest idea where that is unless you take the trouble to, in effect, tell it! Not ideal for an instrument intended, at least in part, to stop us crunching into the landscape.

Nor is the altimeter very discriminating. For example, it treats the 'horizontal' (barometric) changes in pressure of an approaching meteorological low, say, as vertical ones (altitude), which will cause the readings to 'drift', as they will also do if you fly towards areas of lower or higher barometric pressure. Given the size of the UK, it's fairly unusual for either of these to make more than 100ft or so difference over the course of a flying day.

If the glider is trailered away from a lowland site to one up in the hills, say, the altimeter will register this – which is what it's supposed to do – but an obvious plus here would be the ability to adjust the instrument to read zero at ground level at either site, regardless of their actual heights above sea level. Or perhaps, in the course of a cross-country, there's a need to flit beneath an airway (see Flight Levels).

All this is by way of saying that the instrument has to be adjustable, any time, anywhere, and by just about any amount. The inevitable result of providing any user with a 'you-adjust-it' facility is to make things more complicated. At heart the altimeter is a barometer, and a barometer is simple. The altimeter? On the outside, one knurled knob adjusts the zero point and the related millibar

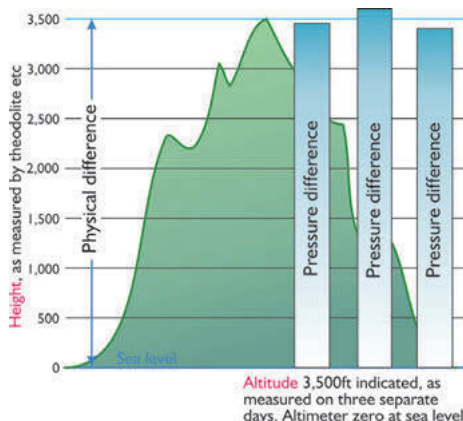


Figure 3: Height and altitude

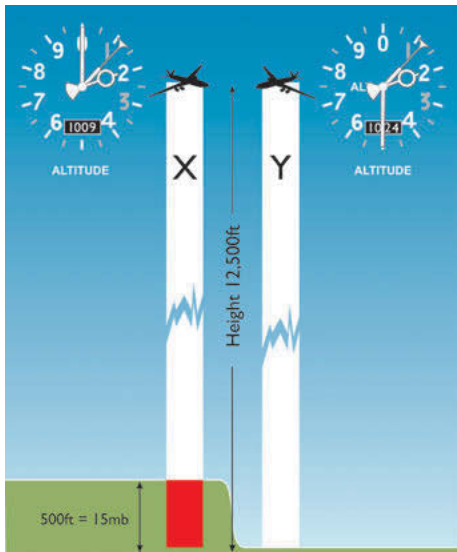


Figure 7: Altitude/height mismatch

THERE THEY STAY UNTIL THE USER STARTS TWIDDLING THE ADJUSTER AGAIN AND IDLY THWACKING THE PANEL

↷ between toothed wheels J and K, and in the gear box (figure 5), it's clever stuff. When you turn the adjustment knob, J and K rotate along with L, which alters the subscale settings.

At the same time the display needles also move round the dial and the entire internal mechanism (figure 4) rotates; anti-clockwise if you increase the subscale setting, clockwise if you decrease it. When you stop making adjustments, the display needles continue to indicate changing altitude, as they're supposed to, but J, K, the subscale and the internal mechanism, all stop moving. There they stay until the user starts twiddling the adjuster again and idly thwacking the panel.

With pressure instruments, installation is usually critical. The altimeter relies on the static pressure for correct operation and should be connected to the static line.

None of the tubing should leak, and the glass face should be uncracked and form an airtight seal with the case.

This is essential in modern gliders, but I have flown older wooden gliders where the altimeter's static was left open to the cockpit. Nothing awful seemed to happen as a result.

Altimeter related items

QNH and QFE

The 'Q codes' were created in radio's earliest days for Morse code communications, and now number about 280. Not all are related to aviation and many are no longer used. All are

brief. Prefixed by a Q – shorthand for 'query' or 'what is the....?' – the subsequent two letters indicate what the Q'er would like to know. Relevant to gliding are QFE and QNH.

QNH, or Q Nautical Height, is the pressure setting you need to dial up on the subscale for the altimeter to read zero feet at sea level (figure 6). QFE, or Q Field Elevation is the subscale setting you would dial up for the altimeter to read zero at a particular location, such as your home site. If that's at sea level, then QFE and QNH are the same. QFE is for local soaring. Spot heights on maps are ASL (above sea level), so when you fly cross-country it makes more sense to use QNH.

QNH is easy to find. Before take-off, temporarily set the altimeter to the 'height' of your site above sea level – it should be on the half million map. The subscale reading will be the QNH at your current location! Set QNH as the default after starting your task, and return to QFE for final glide.

One less than obvious reason for doing this is that for some reason people seem to trust altimeters more than their own eyes, despite the fact they've been using the latter a great deal longer than the former.

On final glide it's best not to have too great a disparity between what your eyes tell you, which – low down – is very likely to be right, and what the altimeter is saying, which probably isn't.

If you're about to land out at some other time, your chosen field could easily be hundreds of feet above or below the point from which you launched, but unless you know the local QFE (highly unlikely) you won't know by exactly how much until you've touched down, so use your eyes!

1013.25mb, QNE and Flight Levels (FL)

Have two aircraft airborne at a time and there's a risk of collision. Nil if they're on opposite sides of the world. Literal 'dead cert' if they're close and both blindly aiming for the same point in space.

Unfortunately, QFE and QNH share a snag. Aircraft X communicates with nearby aircraft Y and says, "I'm at 12,000ft. Your height?" "12,500ft," Y replies.

It's not unreasonable to assume from this exchange that even if they never look out they can't possibly collide, but they can. Had X zeroed his altimeter to an airfield 500ft higher than Y's (figure 7), they could both be at exactly the same **height** despite the differing altimeter readings.

Both QFE and QNH suffer this off-putting drawback; QNH to a far lesser extent because

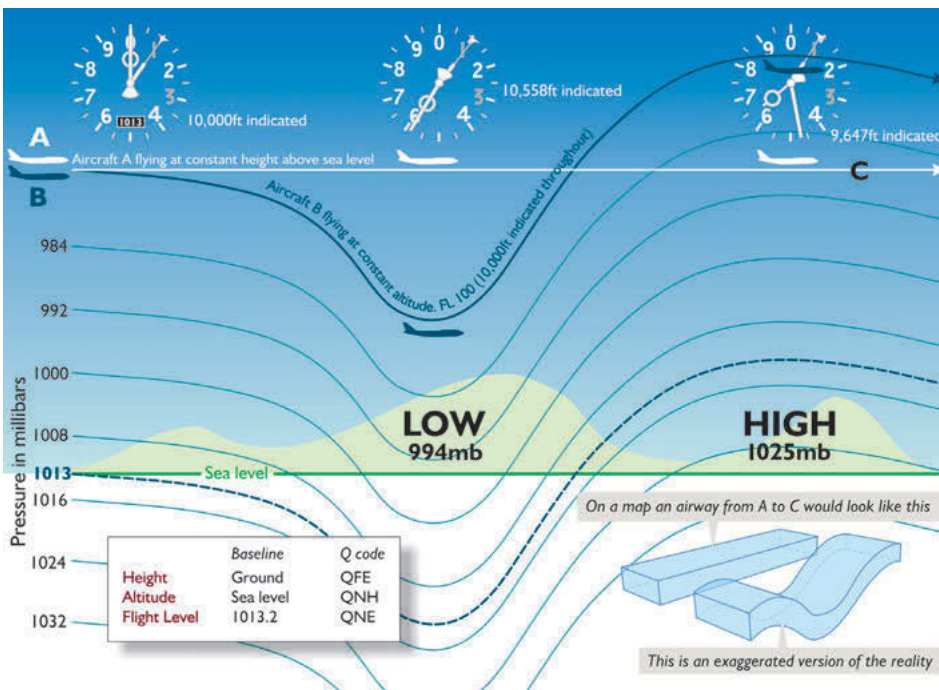


Figure 8: Flying constant height v constant altitude (ie a Flight Level)

of the relatively slow rate at which most meteorological pressure changes occur even over areas as large as the UK – another reason for using QNH on cross-country flights.

Height/altitude (or, if you like, subscale) mismatches like the foregoing aren't usually a problem for glider pilots if they're looking out, but could be when two or more of them are calling out heights as they climb in the same cloud.

QNH is fine in these cases, but not for commercial aircraft which can travel thousands of miles from areas where the barometric pressure and hence the QNH may be very different.

QNE, or Q Nautical Elevation, is a standard subscale setting of 1013.2mb, used worldwide for traffic in airways, say, or other traffic passing beneath these airways and trying to stay clear. The original QNE question was "if I set the subscale to 1013 what will my altimeter read when I touch down?"

This hints, in the most oblique way possible, at the real point of 1013. If everyone using 1013 maintains a constant indicated altitude – this includes airways defined by Flight Levels (see below) – they'll all be following the appropriate pressure contour (figure 8), and when in the same general area they'll all go up or down together by the same amount.

Now, an indicated vertical separation of, say, 500ft (X at 12,000ft and Y at 12,500ft, for example), will be real, and also be maintained when the aircraft are over the same point on the ground, wherever it happens to be.

The vertical extent of most airways is expressed as a Flight Level (figure 8). On the map the letters FL are followed by two or three numbers which you multiply by 100 to get the pressure altitude.

This seemingly multiply redundant phrase (eg 'true fact!') is used of any indicated altitude

based on an agreed pressure setting/baseline, in this case, 1013mb. Flight Levels are always based on QNE (1013), and with that set, FL100 is always 10,000ft indicated, and FL55 always an indicated 5,500ft and so on.

Gliders only need QNE when flying beneath airspace expressed as a Flight Level, but it's pointless setting it if said airspace is at FL75 and you can't climb any higher than a genuine 4,500ft ASL. It's also highly likely that when you switch from QFE or QNH to QNE, you will appear to instantly gain or lose height – sometimes quite a lot – so make the change before you get to where you need to use it.

Most low level airspace is defined by height, usually in relation to sea level, though you may see 'SFC (surface) to 5,000ft', or something similar, on a map. The latter figure is a height above sea level and you need to be on QNH!

Modern altimeters

The 'exploded' altimeter was the traditional analogue type, with a direct physical link between what's being measured and the display. Electronic altimeters use transducers (more detail on them in a later article) to convert pressure, say, into electrical output, which hardware can route and software manipulate.

Even so, these instruments often use a standard static, and still need the user to tell them where the ground is.

The results may be flagged up on an LCD panel, or something similar, but, even if the display is traditional analogue pointy hands against a dial, there's little or none of the mechanical friction which causes true analogue altimeters to stick.

Whether electronic altimeters are usefully any more accurate or trustworthy as a result is debatable.

FOR SOME REASON PEOPLE SEEM TO TRUST ALTIMETERS MORE THAN THEIR OWN EYES, DESPITE THE FACT THEY'VE BEEN USING THE LATTER A GREAT DEAL LONGER



Born 1941. First glider flight in 1968 at Mere, Staffordshire. Joined Cambridge University GC in 1970. Soloed 1970. Instructor 1972 – lots of free time and requirements then far easier. Completed Diamonds in 1988. CFI twice (lack of judgement). Stopped instructing in 2005. Currently nearly 5,000hrs and still not getting it quite right. Date of decease, pending

● In the next article in the series Steve focuses on the G meter and Turn and Slip

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NITRA FROM AN OPEN COCKPIT

48

Ed Johnston's tale of a borrowed glider and an international comp

THE Čmelák taxied round the corner, shark mouth stating its intent, giving me a whiff of kerosene as it lined up in front of the big Nimbus. At least I knew I wouldn't get the guided tour of the taller trees of Nitra town this time.

So, how did I get myself into this?

First, I accidentally won the Open class in my ASG29. Then, by a twist of the selection system, got a place to compete with Pete Harvey and Steve Jones at Nitra, but I really needed a competitive aircraft. After a simple request and with remarkable generosity, David Innes agreed to lend me his Nimbus 4, 176. All I needed now was lots of practice.

But oh dear, the joys of EASA, transition, permits and all intervened. 176 had a modification for 850kg, essential to be truly competitive. Unfortunately the mod had been extended since the original work was done, leaving it in limbo.



In Nitra, daily showers were more reliable than London buses (Tim Scott)

GETTING BEHIND A FEW HUNDRED HORSEPOWER OF GAS-TURBINE HAS A WAY OF GETTING YOUR MIND BACK ON THE JOB

Steve did the work, Colin Short sorted the paperwork and by lots of hard work, hard cash and a minor EASA miracle, I had a fully-certificated glider no less than three days before leaving for Nitra.

One thousand two hundred road miles later, it rained! I had two flights before going, two extended local soaring flights when we got there. Enough to be sure I needed a lot more.

Getting behind a few hundred horsepower of gas-turbine has a way of getting your mind back on the job. Off we went at 9kt with my tug back on the ground before I had settled into my first thermal!

After three days of competition I felt much more at home in the glider. All three were really tough, full of thunderstorms and difficult choices. I had failed to link up with Pete and Steve on any of the flights, but by the third, I was able to help them by spotting the French and German start and I felt I was starting to get somewhere with the glider, overtaking a gaggle full of middle-running gliders during a good street run. By that time Pete was in the lead, with Steve 4th and the French and Germans cramming around us. I was in 8th by getting steady, consistent results.

On the 4th day, for the first time we managed to start together and I saw first-hand the well-oiled machine of Pete and Steve working together in close company. I often fell slightly behind, but benefiting from their information, I was able to catch up and help.

Approaching the final area we had a 2kt climb, then a memorable 75km max LD glide in and out. Very slowly losing out in the long glide, I only just managed to climb away and, two thermals later, Pete and Steve could just get home while I had to divert south and climb again. A satisfying flight, especially as only Reinhard Spath of all the Germans and French got round, leaving Pete, Steve and me 1st, 2nd and 5th over all.

The next day was even more satisfying for me. The edge of a huge storm just beyond TP1 took us up at 7kt to over 7,000ft, then a mad charge under lowering cloudbases petered out at the always soggy Danube. Coming back north I preferred an isolated cumulus to the rain over the river and called the boys into my stronger climb, then just beat them back, taking 4 points from their 300 point lead over me!

More importantly, Laurent Aboulin, Sylvain Gerbaud and Holger Karrow all took a different and much better route going into the first turn. More risky, but it paid off with Laurent taking 150pts from us.

The next day we got serious with 605km over the mountains. We all started together, and I ended up ahead of Pete and Steve approaching the first big ridge. The French were a bit more aggressive and we had the great satisfaction of going over the top of them in company while they polished the hills, unable to get over the ridge.

However Laurent had the last laugh. Taking a better route after that ridge, they got to the pivotal 3rd turn ahead of us and were able to cross a huge shadow of Cb blow-off. We could not and again, Laurent won, taking 100pts from Pete and Steve. With only 12 finishers, I was promoted to 4th overall but only just: a bug wiper fell off my wing on my marginal final glide and I was just lucky to find more lift and somehow get the wiper blade back onboard.

By this time, the rest of the team were doing great, despite this big day being unkind to both teams. In the 18m, Russell was 2nd and Mike 4th after a good run of very consistent placings. The 15m team had a run of really tough tasks, often in the hills with the most difficult flying over almost no fields and no engines! Leigh was 4th overall, while Tim was 12th.

The next day was a short blast, deliberately under-set to cater for our eight hours flying the previous day. Again Laurent nibbled at Steve and Pete while I dropped to 5th. A great day for Russell and Mike coming 1st and 2nd and up to 1st and 3rd overall.

On Day 8 we got tactical. I sat with the



French, while Pete and Steve tried to steal a march. Looking so closely at the opposition, we missed the obvious weather coming in which would favour the early starters. I ended up doing the flight largely alone, splitting Pete and Steve and just 4 points behind Laurent – job done. However Holger Karrow moved clear of my 5th place by 200 points.

Then the frustrating rest day; I really needed it by then but it was probably the best day of the week, followed by our first scrubbed day!

The next day looked like it would be our last. We were now tight at the top, with Laurent 25pts behind Steve, and Pete ahead by 28 more. I was in 5th with Francois Jeremie at my heels, despite him not flying the first day.

Elsewhere Russell was in a solid 1st place, but Wolfgang Janowitsch was the man on a move in 2nd with Mike 3rd. In the 15m, Louis Boudier was free and clear in 1st with Christophe Ruch in 2nd. I think we have done too good a job training them in the UK Nationals recently! Leigh Wells was just 100pts behind a podium with Tim Scott in a solid 9th.

We decided that tactics should not distract us, but to try to get some starters out ahead. Again, weather in the west meant an early start was the best tactic, but it is just impossible to take such a gamble when the team is placed 1, 2 and 5. Laurent started 14 minutes behind us, took a better route into the first turn and caught up with Pete. Steve took a different route on the 2nd leg, finding 7kts at the end of a street way off track and got ahead. I had a nightmare, unable to make the glider work in the more turbulent conditions.

The 2nd turn was almost washed out and Steve's big advantage over Pete was eaten away in the 3rd leg. I got plain dumb lucky, conditions re-generating as I arrived late and just stayed airborne, then almost caught up

with the boys. Laurent beat Pete by 12 minutes, easily enough for the 53pts he needed.

In the 15m, Leigh and Tim had decent days, holding their 4th and 9th over all Lukasz Wójcik winning the day.

The 18m finish was equally exciting, Mike winning the day. The 18m late starters were even more heavily punished, among them Wolfgang, shot down at their northwest turn giving Mike a well-deserved 2nd overall behind the aggressive and consistent flying of Russell. Overall, it was a fantastic result; two champions, four medals and the team cup. Given how I felt at the start of the week, I was delighted with 5th.

The big Nimbus is charming to fly, but I needed more hours to get the best from her in all conditions. Nimbus 4 or ASG 29?

I would definitely have done worse overall in the ASG. On three or four occasions, I got to the next thermal only because I had the big wings' performance. Maybe there were two or three days when I would have been better off in the ASG, but probably not if I had more hours in the Nimbus going into the competition.

After three days of failing to hook up, I nearly bailed out of team flying: Pete and Steve worked so well together and rightly concentrated on their own competition. I tried once more and it worked. Although I got much more out of it than Pete and Steve got from me, I did contribute too.

Would I do it again? Well first I need to earn the opportunity! I would rather be flying my own glider in the 18m, but the experience of international competition in a great glider with an experienced team and all the back-up from captain and crew cannot be beaten.

Leigh Wells on tow in the 15m
(Tim Scott)

European champion Pete Harvey finds that getting and keeping bugwipers working is a perpetual task (Ed Johnston)



Ed Johnston has been flying since soloing with the ATC at 17, doing most of his flying from Challock, Aston Down and Dunstable. When he bought an LS6, Ed went into Nationals with a competitive glider and enjoyed many years and some success with it, and an ASW 28, before buying an ASG 29 in 2007, coming 2nd in the 18m and winning the Opens in that year

HELPING HAND

Two young pilots talk about their scholarship experiences

EARLIER this year, 23 young glider pilots were awarded gliding scholarships through The Air League Educational Trust and The Royal Aeronautical Centennial fund.

These scholarships have allowed the winners to gain experience across every facet of gliding from aerobatics to cross-country to motorgliding. One thing that has been repeated across the country is very big smiles and buckets of enthusiasm to go flying. Which, after all, is what it is all about...

Mark Kelly, 21

Location: Liverpool

Scholarship: Air League Educational Trust SLMG gliding scholarship 2009

Previous experience: 6hrs gliding, 28hrs motorglider/aeroplanes



Mark Kelly

THIS June I was lucky enough to be able to do my SLMG scholarship whilst virtually living at RAF Halton, home to RAFGSA Centre and Chiltern Gliding Club. Although at university in Liverpool, last summer I was introduced to gliding through the RAFGSA and since then have travelled down to Halton to glide with the club and train for my NPPL in their Grob109b motorgliders.

The best thing about basing myself at Halton was being able to fly almost every day. This allowed me to quickly pick up where I had left my NPPL training last summer, re-soloing and diving into the navigation exercises within the first few days.

What amazed me about navigation is the sheer number of tasks demanding your attention. Initially this was a bit of a challenge but with practise I soon learnt to increase my work rate to cope. One 'spare-time' technique I found useful was sitting down with a route, starting the stopwatch and trying to visualise the flight; monitoring the instruments, talking through FREDA checks, giving ETA's and following my position on the chart.

In the air, I practised freehand diversions at every opportunity and was always surprised how accurate the simple techniques I had learnt can be.

One of my most memorable experiences happened whilst

flying solo on a short navigation route. I was about 2,000ft just south of Milton Keynes when suddenly the engine sounded rough. The RPM dropped and was not recovering even with full throttle applied. I was alarmed to say the least!

I ran through the engine diagnostic checks; nothing happened. I was way out of home gliding range and I knew it would be down to me alone to make a safe forced landing. Fortunately I kept calm and had plenty of time to pick a landing area and think about the situation. There were plenty of good fields ahead so I carried on gliding towards Halton, continuing to pick landing areas and trying to work out the engine problem. A few minutes later, the engine picked up and I made a normal approach and landing at Halton. This was my first real/potential emergency as PIC and, looking back, I am quite glad of the experience.

Overall, perhaps the biggest milestone for me was completing a 150NM (278km) solo cross-country flight to Enstone and Lasham. Particularly so as I was flying over unfamiliar territory and I had never been to, or even seen, Lasham before. It was a scorching day at Lasham and I remember the oil overheating on the climb-out. I ended up thermalling with other gliders before departing back to Halton to allow the engine to cool.

In the end, thanks to a lot of hard work from my instructor Colin McInnes, I passed the flight tests first time and completed the NPPL after three weeks. Having set aside four

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weeks, I spent the last week conventional gliding towards my Bronze C.

Now I am back in Liverpool and, thanks to the NPPL, I will hopefully soon become a Grade 1 pilot and then a C-category instructor with the local Volunteer Gliding Squadron (who also fly the Grob109b as the Vigilant Tmk1).

This will allow me to maintain a high standard of flying all year round and spend my weekends training cadets up to that important first solo. It is an exciting opportunity to pass on what I have learnt, as well as gain instructional experience which will be very handy when I leave university and pursue a flying career.

However, I intend to return to Halton in the near future to fly friends, practise more navigation and carry on conventional gliding. The goal is to complete my Bronze C this summer and next summer my Cross-Country Endorsement.

My sincere thanks to ALET, the RAFGSA and my sponsors for making my scholarship possible.

Jonathan Phillips, 16

Location: Pocklington

Scholarship: RAeS Centennial Fund 2009

Previous experience: Years of waiting to be 16 to go solo

I WENT solo on 11 June on my 16th birthday at Wolds Gliding Club. The club organised a brilliant day for me. The local media and press attended and it made for a very special day. I was just happy that the take-off and landing went so well!

That day I also had my second solo flight. I had 56 minutes and completed my first Bronze leg. The following day, on my 4th solo flight I had 1 hour 21 mins and completed my second Bronze leg and part of

my Cross-Country Endorsement.

On Saturday 13 June CFI Tim Milner allowed me to fly our syndicate ASW19b, which is an excellent piece of kit. Really great to be let loose in a higher performance glider.

Since going solo in our own ASW19b, I quickly had a flight lasting 3 hours 45 mins, which counted for the two-hour flight on my Cross-Country Endorsement. (This was my first 5-hour attempt). By the middle of June, I had managed 16 P1 flights and 8 hours 35 mins solo.

I then went on a fortnight family holiday in France where I had a 30-minute soaring flight at Montpellier – Pic St. Loup. One of the flights could have given me my Silver height, but this would have been a marginal claim, so I decided I would attempt to do it again with a better height gain.

To further my flying experience I have entered the Two-Seater Competition at Pocklington towards the end of August where I will be flying with Steve Wilkinson.

I really can't wait to fly in a competition as I think it will give me experience on what cross-country gliding and racing is all about. It should also prepare me for the Junior Nationals that I would like to enter next year.

Just before writing this piece on Saturday, 8 August, I managed a flight of 5 hours 43 minutes, which included a 4,700ft height gain. I am submitting this flight for my Silver height and duration. I am now on my way to completing my Bronze badge and Cross-Country Endorsement and, hopefully, my Silver badge.

I REALLY CAN'T WAIT TO FLY IN A COMPETITION AS I THINK IT WILL GIVE ME EXPERIENCE ON WHAT CROSS-COUNTRY GLIDING AND RACING IS ALL ABOUT



Jonathan Phillips

■ These two reports are just an insight in to the experience and opportunity presented by scholarships. For more details on what is available, keep your eye on www.airleague.co.uk and www.aerosociety.com and www.juniorgliding.co.uk – the central hub of Junior Gliding

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TRULY A DAY TO

One hundred years to the day, Southdown GC celebrated the world's first recorded soaring flight, as Dave Clews reports

52

“IT WAS the best day of my life!” – a fitting moment and one that brought a lump to my throat as one of our youngest members, 14-year-old James, summed up the Centenary Day that Southdown Gliding Club organised to celebrate 100 years of gliding in the UK.

On a perfect summer's day on 27 June 2009, the club celebrated the world's first recorded soaring flight when a young 17-year-old Eric Gordon-England successfully soared a glider designed by José Weiss. In 1909 on exactly the same date, the rickety, tailless glider was launched from atop Amberley Mount, a 500ft hill that forms part of the South Downs range of hills in West Sussex. The glider gained 50ft in height and soared for 59 seconds – miniscule by today's standards, but a huge kick-start for the sport in those pioneering days.

The Southdown Gliding Club at Parham Airfield in West Sussex is only two miles from where it all happened 100 years ago and its 200 members decided to celebrate in style. We

invited the Vintage Glider Club to bring a few gliders and they responded by bringing along and soaring some of their most beautiful examples of 1930s sailplanes, including a Slingsby Petrel, a Minimoa, a Rhönsperber and a Kirby Kite. Local members rigged their own vintage gliders and we saw the likes of a T-21, Capstan, Ka6's, Skylarks and a Hutter grace our airfield and soaring with the VGC.

We were delighted to be honoured with the presence of Mrs Daphne Slade, the 92-year-old daughter of Eric Gordon-England, who still lives a few miles away. It was quite by chance we discovered where she lived. A club member's mother was being looked after by a nurse who happened to be Gordon-England's grand-daughter and, through her, we traced her mother (Gordon-England's daughter). She, with the help of her grand-daughter Phillipa and other members of the Gordon-England family, unveiled a special memorial plaque.

We also discovered a nice coincidence in that Phillipa lives very close to the South Harting TP on the South Downs ridge and often sees gliders soaring past her house when the ridge is working. It now seems we provide a regular fitting tribute to Gordon-England in that we regularly fly over his descendents in South Harting and keep his memory alive.

BGA Chairman Patrick Naegeli and Chief Executive Peter Stratten attended and both had flights in the Petrel. From the Vintage Glider Association, we were blessed with the presence of

Chris Wills (president), Jan Forster (chairman) who came over from the Netherlands and Graham Saw (vice-president). It was Graham who brought along the Petrel and flew it in formation with the DG505 at the start of the day's events.

Local VIPs included councillors from the local council, Joan Cloke MBE (Southdown GC's president), Susan Pagett (manager of the local Pulborough RSPB reserve) and the management of Amberley Working Museum, who have been very helpful in our research of

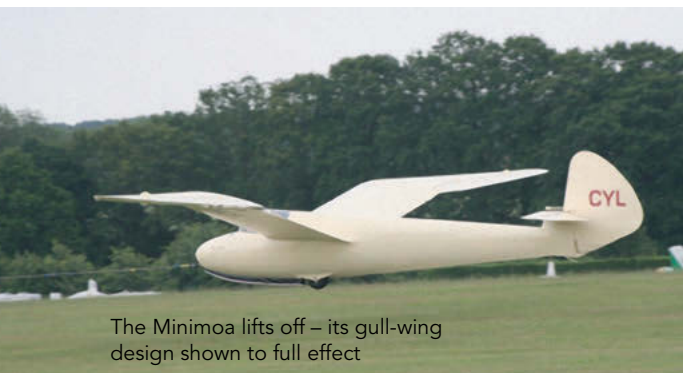
the event 100 years ago.

The day was a quintessential, English summer's day with beautiful, stately gliders soaring the skies above whilst members, friends and families watched in awe, indulging themselves with cream teas, strawberries and Pimms! We were treated to breathtaking displays by the Swift Glider Aerobatic Team featuring club member Guy Westgate and Rob Davies's P51 Mustang "Big Beautiful Doll", which dropped in for the day! Local member and display pilot, Jon Gowdy, also gave us a beautifully-crafted display in his Tiger Moth with silver streamers trailing from his struts.

The scene on the ground was beautifully set with vintage cars (Austin Sevens) and a very rare old Supercharged Austin Seven Brooklands Racer from 1924 (nicknamed 'Mrs JoJo'). This racing car, once raced at Brooklands Circuit, was displayed next to a 5/8 scale replica of the José Weiss glider nicely illustrating Gordon-England's connection with Austin Seven racing cars. We were so lucky to find an example of his car thanks to the UK's Austin Seven Owners Club.

The crowning glory of the day was an attempted first flight of the replica Weiss glider which local member Andrew Jarvis had built from rough plans. Another local member, Chris Foss, well-known for his RC model aircraft kits, had installed radio gear into the replica. The general opinion was that the replica wouldn't fly and would end up in a heap of twisted wood and fabric. The tension in the onlooking crowd was palpable as the replica was prepared for take-off. However, by way of some skilful driving of the tow-vehicle (a quad bike!) and Chris Foss's nimble controls on his transmitter, the replica eventually hopped off the ground. It flew about 50 metres at a height of about 20 feet before landing rather heavily, but with little damage sustained. It was a fitting end to the day and a huge tribute to the design skills of José Weiss.

It was a day to remember – a thought that probably went through the minds of José Weiss and Eric Gordon-England 100 years ago to the day!



The Minimoa lifts off – its gull-wing design shown to full effect

IT NOW SEEMS WE PROVIDE A REGULAR FITTING TRIBUTE TO GORDON-ENGLAND IN THAT WE REGULARLY FLY OVER HIS DESCENDENTS IN SOUTH HARTING

REMEMBER



If you are interested in seeing the Weiss Replica flight, see YouTube at the following link:
www.youtube.com/watch?v=vQbj4fZGvAU
You can also find out more about Southdown Gliding Club and its history at www.sgc1.org
Video of the Swift Glider Aerobatic team can be seen on:
www.youtube.com/watch?v=MfGYiPOfzgy

The Weiss Replica built by Andrew Jarvis of the Vintage Glider Club

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This page, clockwise from top left:
Borders discovered that a K-21 does fit into a school hall - just - during the club's young people's course (Rich Abercrombie)

On 7 August, the world's largest single-engined biplane, the Antonov 2, paid a visit to Devon & Somerset GC. On investigation, Tug Master Curly reckoned he could aerotow three gliders simultaneously with it! (Robin Street)

Two local school sixth-form parties enjoyed a wonderfully thermic flying day as part of Bowland Forest's efforts to involve young people in gliding (Russ Weaver)

ESGC's Oli Barter in his Discus. Oli took an overall 6th place at the Dunstable Regionals having come 1st on the last day (Jim Izzard)





This page, clockwise from top left:
Dunstable Regionals winners Justin Craig, left, (Blue class) and Paul Rackham (Red class) (Conny Andersson)

Oxford GC vintage glider enthusiasts Dave Weekes, Peter Brooks, Rob Jackson and Peter Boulton took the club's T-21 "Daisy" and a Skylark 4 to the VGC International Rally at Achmer in Germany, which was blessed with far better soaring weather than the UK experienced at that time. A highlight of the week for Dave and Peter Brookes was a flight in Achmer's Kranich II (Peter Boulton)



Channel GC chairman and instructors pose alongside the Steerman, which landed for a prize flight for a lucky competition winner during Dover's Bleriot Weekend (Karen Etkin)

Fenland's Skylaunch winch has been back to the manufacturer for upgrading, with improvements made to the engine and drum payout brakes being changed to a automatic system (making the winch driver's job a lot easier with no more bird's nest caused by overruns). Quieter launches are achieved with 10mm rope on the drums instead of wire - no joiners clunking through the rollers. As the rope is so much lighter, Christine Alexander has been using it to improve her skills on the broomstick, so come Halloween she should be the best winching witch in Norfolk and possibly the UK (Robert Boughen)



Our thanks to all the photographers and to our *Club News* contributors for sending these in. If you'd like to submit your previously-unpublished photographs for possible inclusion somewhere in *S&G*, send them to editor@sailplaneandgliding.co.uk

CLUB NEWS

ANGLIA (WATTISHAM) **WWW.ANGLIAGLIDINGCLUB.ORG.UK** **520739N 0005722E**

THE highlight of June was our summer equinox celebration. First take-off was at 06:20 and the last some 14 hours after – all topped off with a BBQ. The skies above Wattisham were filled with powered aircraft a few weeks later in July as the station celebrated its 70th Anniversary. After an aerobatic glider flight by our very own James Dean and Edd Weaver, we were treated to a number of other demonstrations including The Blades, a Spitfire and 10 of Wattisham's Apaches. Congratulations to Alex Jones for going solo on his 16th Birthday, and to Kevin Charlton for completing his Bronze C. We have just run a successful five-day intensive course to introduce service personnel to gliding.

Andy Smith

BANBURY (AQUILA) **WWW.BANBURYGLIDING.COM** **5204355N 00118784W**

ANDY Preston and Tim Wheeler came 16th and 7th respectively in the Bicester Regionals out of 27 entries. Andy also completed in the Shenington Regionals land-out contest. Tim is 'on loan' to Windrushers as course instructor. We welcome back Laurie Clark who, after a short break from gliding, has already started cross-country flying in the club Astir. Club chairman John Giddins still leads on the club ladder but the rest of the pack are close behind.

Rod Watson

BATH, WILTS AND NORTH DORSET (THE PARK) **WWW.BWND.CO.UK** **510742N 0021445W**

SEVERAL fights of note have been made recently, including our CFI Alastair MacGregor – the first 750km flight made from The Park. Badge claims include Silver for Chris Braithwaite, and Bronze and Cross-Country Endorsement for David Surman. Park pilots came out on top of the Interclub League. We have acquired a John Deere 'Gator' to speed up retrieving aircraft from the field. Thanks to Graham Calloway for providing us with a freshly-painted hangar floor and to Nick Bowers for rearranging our workshop facilities to create a 'clean room'. We would also like to thank Jan Smith for producing club news – she has now stepped down from this task.

Jason Sanderson

BICESTER (WINDRUSHERS) **WWW.WINDRUSHERS.ORG.UK** **515458N 0010756W**

SUNDAY 14 June! What a day. Well done all of you who did 750kms out of Bicester that day. We also had 500kms and 300kms. Bicester is

seeing a burgeoning interest in aerobatics and we were very proud to see seven pilots enter the National Aerobatic Glider Championships in June. All seven did extremely well, with Maz Makari taking Gold in the Sports class. Congratulations to Bicester pilot Pete Harvey who has won the European Open Class Championship – for the third time in a row. Our regionals were again a huge success with 57 entries. Well done to our own Sunay Shah for winning the Sports class and John Wilton for the Open class. Well done to the numerous recent first solo's, Bronze, Silver and Gold achievements.

Alan Smith

BIDFORD (BIDFORD) **WWW.BIDFORDGLIDING.CO.UK** **520803N 0015103W**

AFTER a worrying start, our Regional Competition ran very well, with five competition days. The overall winner was Phil Jones, a fitting result after the loss of his dad, Ralph earlier this year (a former owner of Bidford). Let's hope by the time this comes to press the weather has improved for us all. We have had many achievements (too many to mention all here), but they include NPPL first solo's and gain of licenses, Cross-Country Endorsements, many Silver and Bronze achievements, along with various distance badges and one 750km – well done to Dave Findon for that one!

Lynne Burkert

BLACK MOUNTAINS (TALGARTH) **WWW.BLACKMOUNTAINSGLIDING.CO.UK** **515848N 0031215W**

THE addition of a Pirat to our club fleet is hardly earth-shattering news but, with six club gliders in the hangar, there are lots of gliders for visitors to fly if their own gliders are airborne (which they usually are!) We are still awaiting the BBQ summer that was promised by the forecasters but, in its absence, there is still a lot of flying going at Talgarth on and we are well ahead of previous years in almost all respects. Recent visitors from Lasham showed the local pundits how to do it by flying the full length of the Beacons and up to Lake Bala in conditions that were less than ideal.

Robbie Robertson

BOOKER (WYCOMBE AIR PARK) **WWW.BOOKERGLIDING.CO.UK** **513642N 0004830W**

AFTER a superb start to the season, which included two 750kms (John Gatfield and Matt Cook) and a first 300km (Ben Crook), the more recent weather is encouraging us to look forward and plan for our annual Aboyne expedition. Our thanks go to Doug

Hilton for organising that weekend and to all at the Upward Bound Trust for once again so generously hosting us. Recent first solos include Raphael Au, David Hamilton and David Humphreys. The Booker Regionals were well run by CFI Mike Collett, back from the Junior Worlds in Finland, ably assisted by a team including Nils Wedi, Brian Forrest and Bob Davey, and backed up by Hillary and Shelagh in the office and with Steve Brown doing the scoring. It was won by Jon Gatfield closely followed by Dennis Campbell.

Roger Neal

BORDERS (MILFIELD) **WWW.BORDERSGLIDING.CO.UK** **553514N 0020510W**

THERE was flooding in the area in June. Thankfully the airfield drained very well, remained active and hosted another young peoples' course. Big thanks to our CFI Keith Latty, tug master George Brown and our chairman Mark Fielding – without their help it would not have been possible. July also saw Rich Abercrombie's ASW15 venturing from the paint shop into wave, after only taking 1 year, 9 months and 3 days to have its wings refurbished. It was last seen chasing the VEGA of Ian Surley around North Northumberland at 10,000ft. There have been expeditions to Edensoaring and Staffordshire GC. August sees the start of our wave weeks through September and October.

Rich Abercrombie

BOWLAND FOREST (CHIPPING) **WWW.BFGC.CO.UK** **535301N 0023714W**

THE early part of the flying season has produced some good weather. The club chairman Steve Robinson is currently working in Delhi and running the club from afar with the aid of his trusty committee (and every high-tech telecommunication aid known to mankind). Russ Weaver chalked up his Gold/Silver duration flight in his Skylark 3f. Several Bowland Foresters packed their sombreros and set off for Spain in search of thermals, which they suspected might just have the edge on those to be found in northwest Britain. Our work to involve young people in gliding continued with the visit in July of two local school sixth-form parties who enjoyed a wonderfully thermal flying day and left the club enthralled by the experience of silent flight.

Russ Weaver

BRISTOL & GLOUCESTERSHIRE (NYMPFIELD) **WWW.BGGC.CO.UK** **514251N 0021701W**

A PARTY was held to celebrate Tim Macfadyen's 10 years as CFI and the

First solo flights for (left to right) Jennifer Willis, 17, **Bicester** (Alan Smith); Jonny Hand, 18, with Gordon Burkert at **Bidford**; Ivor Bace, 16, pictured with Mike Woollard at **Bristol & Glos** (Phil Walker); **Burn's** Chris Cooper; and **Cotswold's** Deputy Chair Sarah Zanoni, seen with club instructor Mike Weston



appointment of his successor, Chris Edwards. We put on a display at Slimbridge to mark Sir Peter Scott's centenary. Alison Mulder did her first 500km on the day Sid Smith did another that he's claiming. Carol Smith, Alan Montague, Fred Ballard and Andrew Turner did 300kms, and Jeremy Mitcheson, Ali and Stuart Lees finished their Silvers. Trevor Stuart and Steve Eyles did the longest flight so far from Nympsfield – 811km – in the Nimbus 3DT. We had a record for an Interclub as well – two good soaring days in a row! Nympsfield won the rockpolishers regionals for the second year. Class A in Sid's task week was won by Alison Mulder and Class B by Ben Crook.

Bernard Smyth

BURN (BURN)
WWW.BURNGLIDINGCLUB.CO.UK
534445N 0010504W

WE CELEBRATED the 50th anniversary of the club with a dawn til dusk open day on 1 August. Unfortunately it was affected by the great British weather. At the AGM, the members agreed to modify the Articles of Association so we are in a position to apply for CASC status. John Stirk retired from the committee after more than 40 years and we welcome Terry Tordoff on to the committee. Congratulations to Bob Robertson on completing his Silver badge. Club members have made expeditions to the Alps and Spain this summer in search of new experiences.

George Goodenough

CAIRNGORM (FESHIEBRIDGE)
WWW.GLIDING.ORG
570613N 0035330W

THIS season looks like being the busiest with a large influx of new members. We welcome Alister Morrison to the post of CFI and hope he enjoys a long, happy, and safe tenure in this position. Thanks go to outgoing CFI, Bill Longstaff, for his help over recent years and stepping in when we needed him. Octoberfest will be upon us soon and we still have some spaces available for the first week (26 Sept- 2 Oct). There is no booking fee, trailer parking and camping on site is free, and aerotows to 2,000ft are only £20! Please book with Chris on chris@capercaillie.flyer.co.uk

Chris Fiorentini

CAMBRIDGE (GRANDSDEN LODGE)
WWW.GLIDE.CO.UK
521041N 0000653W

IT IS very encouraging that membership, launching and flying in 2009 are all well ahead of budget so far this year. Our treasurer has even been caught smiling! Congratulations to Richard Brickwood on completing his Ass Cat course. Congratulations also to Rob Theil

and pupil for completing a 300kms flight in a club K-21 during one of our 'open to all' cross-country weeks. Rob was closely pursued by Andy Beatty in another club K-21 until Andy became overwhelmed by the magnificence of Silverstone runway and decided to take a closer look. This weakness has led to a stream of merciless leg-pulling ever since!

Derek Coppin

CHANNEL (WALDERSHARE PARK)
WWW.CHANNELGLIDINGCLUB.COM
511020N 0011636E

THE Bleriot weekend has been the most recent highlight at Waldershare Park. Maurice provided the liaison between a group of Swedish, Danish and Norwegian vintage flyers who flew over for the 100th anniversary of Louis Bleriot's first cross-Channel flight. Highlights included the Fox, which was based at Waldershare and displayed at the Duke of York's Royal Military School and the aerotows provided by Tudor Williams in his Super Dimona. Our thanks for this rare experience at what is essentially a winch only site. Maurice also won the prize for the best land-out this year arriving within one mile of Kent GC. Paul Cronk and Mark Ruston were down from Welland and provided very welcome additional instructor capacity to support our new CFI, Graham French.

Nigel Shepherd

CHILTERN (RAF HALTON)
WWW.RAFGSA.ORG/CGC/
514733N 0004416W

WE HOSTED, together with Four Counties GC, some of our friends from the Chilean Air Force in July, when they not only delighted in the experience of 'flatland' flying, but also our ever-changeable weather! The latter was much in evidence at RAF Keevil for the Inter-Services Regional Gliding Competition. The Chilterns contingent (and everyone else) enjoyed the site, Bannerdown GC's hospitality and themselves greatly, despite the rain, with five good competition days due to Ken's outstanding (as usual) task setting. Congratulations to Lukas Port who has gone solo in UCLUGC's K-21, EchoDeltaWhisky.

Andrew Hyslop

COTSWOLD (ASTON DOWN)
WWW.COTSWOLDGLIDING.CO.UK
514228N 0020750W

WE WERE represented at Kemble Air Weekend with our DG500 as a static exhibit, and have recruited some new members. Congratulations to Patrick Graham, Alister Lomax, and Nick Nicolson on first solos. Andy Cockerill achieved 3rd place in his class at the Dunstable Regionals and was

8th in the Club Class Nationals with Doug Gardner in 17th place. Brian Birlison was 12th in the 18m Nationals and Rob Corbin flew 500km from Aston Down for Diamond distance. A splendid portacabin now provides a permanent home to our flight simulator. We have plans for expeditions to Edensoaring and Portmoak. Sadly, we report the deaths of Nigel Greenwood in a flying incident near Shenington and Harry Jakeman following illness (*obits p71*).

Frank Birlison

CRANWELL (RAF CRANWELL)
WWW.CRANWELLGC.CO.UK
530231N 0002936W

A MUCH improved flying year compared to last year's club statistics, with both Ian Mountain and Angus Watson completing their 500kms. Many other club members have completed a variety of Silver and Bronze legs or badges. Mick Lee and Peter Kingwill have added another dimension to their gliding activities by investing in a self-launching DG 400 and seem to be having a lot of fun. There is no doubt judging by the number of hours and cross-country kilometres to date that many club members have risen to the challenges set in the main by our CFI and gained much more from their experiences.

Zeb Zamo

CRUSADERS KINGSFIELD (CYPRUS)
WWW.RAFKROTIRI.CO.UK/CRUSADERS
3501N 03344E

CYPRUS is brown and dusty due to the extreme heat and we are reduced to circuit bashing at present. Some consolation is that the barge, T-21 is brought out each flying day so you get to feel the fresh air on each launch. Quite a few of our members are away for August so there is no Saturday flying until the wanderers return and we have enough workers and instructors to operate comfortably – hurry back. Derek Smith returned from Halton having successfully completed his Ass Cat course – well done and congratulations.

Jo Rigby

DARLTON (DARLTON)
WWW.DARLTONGLIDINGCLUB.CO.UK
531444N 0005132W

THE volume of flying at Darlton continues to increase, latterly exceeding 70 launches per day with some notable extended flights. A small team competed in the Trent Valley Club Wood & Glass Competition. Members are now looking forward to the two-seater competition at the Wolds and the annual visit to Borders. Darlton development continues with the steelwork on the second hangar nearly complete and the arrival of the modular clubrooms. Our summer programme of group



(Left to right) Happy RNIB members after trial flights at **Darlington** – the guide dog did not get a flight! (John Maddison); **Dartmoor's** K-13 DMX gets a new bright red look; **Devon & Somerset's** Clive Williams' first field landing, gaining his 50km cross-country (Cheryl Smith)



trial flight evenings is nearing completion. One full day was devoted to giving people from the RNIB, with sight deficiencies, an opportunity to enjoy the gliding experience.

Geoff Homan

DARTMOOR (BRENTOR)
WWW.DARTMOORGLIDING.CO.UK
503517N 0040850W

"EFFORTLESS. Well, relatively effortless": David Jesty's words belie his tremendous effort on Sunday 28 June in achieving his first (and only the club's second) 300km Gold distance and Diamond goal. On the ground, poor weather proved no obstacle to John Bolt and Dave Hooper who used July to recover and respray the fuselage of K-13 DMX. Those who remember DMX as a two-tone green and white K-13 will be surprised to see her now in bright red overall; our thanks go to John and Dave. We welcome Sandra Butterly as our first 'fixed price to solo' candidate and Sean Parramae as another expatriate from North Hill. To enable us to upgrade our two seaters we are on the lookout for a third K-13. Anybody?

Martin Cropper

DERBY & LANCS (CAMPHILL)
WWW.DLGC.ORG.UK
531818N 0014353W

WE HAVE started to run courses again and have picked up some new members. The new catering arrangements provided by Sylvia and John are proving popular. As we write, Mike Armstrong is leading the Northern Regionals after two days, and congratulations to Dave Martin for renewing his Full Cat. We came 3rd in the Pocklington leg of the Yorkshire ICL. A Pik 20 D is flying again at Camphill, and another ASW 15, and Ian Dunley is about to collect his two-seater Fauvel from Poland where it has been rebuilt, ready to take it to New Zealand. A new form of glider retrieve has occasionally been spotted, which reputedly can cut the grass too. An expedition to Edensoaring is planned for September.

Dave Salmon

DEVON AND SOMERSET (NORTH HILL)
WWW.DSGC.CO.UK
505107N 0031639W

CONGRATULATIONS to Clive Williams who has now gained his Silver and experienced his first field landing following a 50km cross-country trip to The Park. Also to James Hood who has now gained his Silver height. We are delighted to welcome John Sillett to the team of instructors after completing his basic instructor training. He has already become an invaluable member of the team with our trial lesson evenings. Our course weeks have been very successful, despite the weather!

With new and existing club members. Many club members have been enjoying trips away, including a week at Long Mynd and Nympsfield, with great soaring and cross-country tasks.

Cheryl Smith

DORSET (EYRES FIELD)
WWW.DORSETGLIDINGCLUB.CO.UK/DGC
504233N 0021310W

TASK Week, in terms of the weather and task flying, was a little disappointing but flying did take place on most days. One of the highlights of the week was Dave Poole going solo. The other highlight, and one certainly not to be missed, was the end of Task Week party, once again hosted by The Medicine Man Show aka Mark Enfield with special guests. The following weekend we had some much better soaring weather, with about 40 hours of flying over the two days. Shaun reason managed to do his five-hours towards his Silver badge, and Barry Stuckey achieved his Silver height gain. Task week doldrums were allayed by our chairman Doug Every organising, with others, to get the hangar floor cleaned, sealed and painted during task week, and for Dave Finch and him to put some finishing touches to the control vehicle that they have both spent a lot of their time refurbishing this year. Thank you! Also thanks to those who have kept our grass mowed. Thank you Ian, Jon, and others.

Colin Weyman

DUMFRIES & GALLOWAY (FALGUNZEON)
WWW.DUMFRIESGLIDING.110MB.COM
545638N 0034424W

JULY and the beginning of August have been hectic. We took one of our gliders to the Open Day at the local Aviation Museum. From this and handing out many leaflets, the first two days of our flying week have been very busy. Our clubhouse has been officially opened by our CFI Robin Johnson and instructor John McIver. This was toasted with champagne, presented to us at the BGA chairman's conference this year. Thanks to much work we are going from strength to strength. Our youngest trainee, Connor McIver, is doing very well, following in the footsteps of his father Iain and Grandpa John (our/his instructor).

Wendy McIver

EAST SUSSEX (RINGMER)
WWW.SUSSEXGLIDING.CO.UK
505423N 0000618E

CONGRATULATIONS go to Dave White who achieved his Silver height and to Oli Barter who took an overall 6th place at the Dunstable regionals having come 1st on the last day. At the time of writing, Steve Barter

and Clive Hawkes are participating in the Open Nationals and our CFI, Adrian Lyth, is floating around the Alps. Evening flying has been busy and the extra training on Tuesdays has been very useful to a number of members. We're looking forward to our annual trip to the brilliant RAFA airshow at Shoreham where Guy Westgate will once again be displaying our K-21, as well as his Swift.

Jim Izzard

ESSEX (RIDGELL)
WWW.ESSEXGLIDING.ORG
520253N 0003330E

MANY congratulations to Vince Earl, who is now a fully-qualified Ass Cat after being examined at our Ridgell site by Dave Munroe the Senior Regional Examiner. We hope that Dave enjoyed his "working day" with us. Well done to Paul Bott who has converted on to his ASW 20 and to Vee Harrington on flying her K6e for the first time. Congratulations also to Sam Fisher on his Bronze. It is with great regret that we have to report the death of our President John Fricker. John was well-known and respected in the gliding and power aviation world, writing knowledgeably for a number of aviation magazines. We will miss his advice and knowledge and our sincere sympathy goes out to all his family.

Peter Perry

ESSEX & SUFFOLK (WORMINGFORD)
WWW.ESGC.CO.UK
515630N 0004723E

FIRST solo congratulations to Steve Hedger, Peter Owen, Graham Hoile, Trevor Smith and James Beach. Will Ellis has acquitted himself admirably in the Junior Worlds including a day win. We have just won our ICL and are now looking forward to competing in the Final.

Bob Godden

FENLAND (RAF MARHAM)
WWW.FENLANDGC.CO.UK
523854N 0003302E

SPECIAL congratulations to Mike O'Brian for obtaining Gold. Others who have gained badges are Alex Saunders – Silver, Adrian Bramwell – Silver, Mike Middlewood – Silver height. Well done everyone.

Natalie Day

FOUR COUNTIES (RAF WITTERING)
WWW.FOURCOUNTIESGC.CO.UK
523645N 0002835W

OUR annual flying week was mostly successful, although hampered by poor weather and crosswinds throughout. We welcomed a number of visiting pilots from other local clubs. During the week we were

(Left to right) Dorset's Dave Poole after his solo with Gerry Cox (Pauline Poole); Vee Harrington before she flew her K6e at Ridgewell (Steve Rhenius); Mendip's Thomas Hogarth was sent solo by grandfather Barry (Gwyn Thomas); horseplay at North Wales? (Dave Hughes)



also treated to a flypast by the BBMF, and a visit by Caroline Grace and her famous Spitfire. Congratulations to Liam Jones who soloed, and to Adam Youle who re-soloed after flying with the Air Cadets. The father and son race to solo, was won by the son, Jim King, helped by the fact his father Ivor, went on holiday at just the right time. Ivor successfully soloed a few weeks after his son. Congratulations to all, particularly Jim and Adam who have both recently added Bronze legs and Silver durations to their tally of achievements. Well done all!

Pete Davey

HEREFORDSHIRE (SHOBDON)

WWW.SHOBDON.COM
521429N 0025253W

SEVERAL members have bought a Libelle to base at Jaca for part of the year. During our task week in August, we managed to fly every day but one, with cross-country flying even under the most unlikely looking skies. Congratulations to Ken Powell on his 300km for Gold distance and Diamond goal. A vintage car and aeroplane rally took place during the Task week, with 30 vintage aircraft and 600 vintage cars on the airfield, giving us plenty to admire and talk about. By the time this news is published we should be into the autumn wave season and will be circulating our regular wave and weather update to members and visitors.

Diana King

HIGHLAND (EASTERTON)

WWW.HIGHGLIDE.CO.UK
573508N 0031841W

OUR club has gained three more Full Cat Instructors: well done to Phil Penrose and Stuart Naylor and to Andy Elliott for reinstating his rating. The second and final leg of the Scottish Interclub League was successful with Easterton retaining the trophy. The western third of the runway is rough and the northern half will be re-seeded next spring to try and alleviate the problem. Please avoid landing on the western third. We are getting our planning permission changed to allow powered aircraft operations that are not gliding related. We intend to build a new hangar so we can sell space to anyone who wants to base their aircraft here. The far end of the grey hangar will be converted into a workshop.

John Thomson

LASHAM GLIDING SOCIETY (LASHAM)

WWW.LASHAMGLIDING.COM
511112N 0010155W

IN OUR competition week we ran the regionals, along with the Open Class

Nationals and Standard Class Nationals. The club expedition to Sisteron was a great success with flying on every day. The detail design for the proposed Omarama hangar is finished and will be put out to tender shortly. We hope to start the project, which will provide easy access space for up to 16 gliders, early next year. Our new Aerolog computer software is installed and undergoing trials before going live. Our new two-tank Avgas installation is now complete, allowing us to store up to 26,000ltr of fuel. With a new apron to allow easy access this is much improved over the old underground tank.

Richard Moyse

LONDON (DUNSTABLE)

WWW.LONDONGLIDINGCLUB.CO.UK
515200N 0003254W

THE season has produced some great weather. We achieved a very exciting six scoring days at the Dunstable regionals. Congratulations to winners Paul "Razor" Rackham (Red class) and Justin Craig (Blue class), and many thanks to Director Nick Tillett, our intrepid met-man and task-setter Pete Hurd, and all the team. According to Pete: "Competitors flew a total of 57,600km or about 28,000 miles. They and their crews drank around 220 gallons of beer, which means they averaged around 127 mpg." Congratulations to Bradley Hutchings, Rod Harris and Penny Irving on their first solos, and to Steve Mordecai on his cross-country endorsement. Andy Brown, Daniel Chilcot, Daniel Jamin, Roger McAree, and Adam Roberts have qualified as Ass Cat instructors, and Phil Jones has achieved his Full Cat rating.

Andrew Sampson

MENDIP (HALESLAND)

WWW.MENDIPGLIDINGCLUB.CO.UK
511544N 0024356W

WELL done to our new solo pilots Thomas Hogarth and Jack Tonkin, who went solo following both being awarded a scholarship. Our new double-decker bus has arrived on site with a massive thank you to the First Bus Company who have donated it and to Bridgestone who have donated the tyres. This vehicle will greatly improve safety on our airfield with a raised platform for launch control. And finally, we have acquired our new Tost winch and have had it 'Skylaunch' with their launching systems. We now have the capability to launch any modern glider from our ridge site. A huge thank you to Tony Smith who ensured this project became a reality.

Terry Hatton

MIDLAND (LONG MYND)

WWW.LONGMYND.COM
523108N 0025233W

COMPETITION Enterprise was held at The Mynd in July, with 32 gliders flying over 22,500km in the week. The overall winner was Justin Wills, who, on the Friday managed 837km, which is the longest flight ever made from The Mynd. Local pilot James Fisher came fourth overall and received the Cadman trophy for circumnavigating Birmingham and managing to visit six other clubs. We had a stand at Cosford Airshow where we displayed two gliders, a Duo Discus turbo and a Dart 17. As the season has progressed, our Rockpolishers team has been increasingly successful, ending up in second place overall. Alex Rowlands came first in the novice class in the Open Cirrus at Nympsfield while the club's DG505 and Julian Fack's Duo Discus have enabled various P2s to gain valuable experience in competition flying.

Steven Gunn-Russell

NORFOLK (TIBENHAM)

WWW.NORFOLKGLIDINGCLUB.COM
522724N 0010915E

IT was great to meet up with so many old club members over our 50th anniversary weekend 20/21 June. Several took the opportunity to fly with us once again whilst others reminisced and caught up with how the club has progressed over the last 50 years. Some of our members even managed to fly at 04:30 on the longest day after the Saturday night party. The following week, our stand with two gliders at the Royal Norfolk Show was again successful, attracting new members and many trial lessons. Congratulations to Tom Smith on his 750km prior to his participation in the Junior Worlds, Simon Urry on his 300km and Adrian on his cross-country diploma.

Mike Bean

NORTH WALES (LLANTYSILIO)

WWW.NWGC.ORG.UK
530239N 0031315W

AFTER a great start we have had more grey than blue, but have acquired some younger members. We are in a position to buy a replacement tractor for our antique Fordson Major that Ken Fixter has kept going for years. In three days time we have arranged to fly a whole Scout Troop of 30 over two days and we have also managed to organise for a BBC TV team to be on site to coincide with their visit, which will be good publicity for both activities and the accent will be on the good side of our youth for a change. As usual we are praying that the weather does not render the whole thing a washout.

Brian Williams



(Left to right) Keith Morton (right) with CFI John Hale on his 50-year anniversary T-21 flight at **Portsmouth Naval**; **SGU's** Paul Wiggington after his first solo with instructor Neil McAulay (Ian Easson); solo flight at **South Wales** for Sarah Reed, pictured with Ian Kennedy (Rod Weaver)



OXFORD (RAF WESTON ON THE GREEN)
WWW.OXFORD-GLIDING-CLUB.CO.UK
515249N 0011311W

GREAT news – the Ecotown which was blighting our future will not be built in the first round, and is unlikely to be ever built. Our thanks to all who helped us fight this threat. There have been a couple of notable flights – Rob Jackson doing a wooden 300km in his Skylark 4, and Claudia Büngen doing a 500km in her DG100 – congratulations to both. We were disappointed that our Interclub League date was spoiled by the weather and a Hercules. Our Friday Evening flying for visitors has produced valuable income and an amount of interest. Our thanks to the airfield teams who make this possible. And finally Daisy, our T-21, has been to Germany for a vintage rally.

Neil Swinton

PETERBOROUGH & SPALDING (CROWLAND)
WWW.PSGC.CO.UK
524233N 0000834W

CONGRATULATIONS to Crowland pilots Bill Spittal – solo, Garry Lacy, Brian Wingate and Ross Morris – Bronzes and cadet David Fear who went solo on his 16th birthday. This may be the club's first all-flying family with dad Kev, mum Sheena and sister Sam all being solo pilots. Our second hangar floor has been concreted. This has been an amazing achievement by our club members in raising the funds. A massive thanks to Glennis Crowhurst and Pete Goulding for organising the raffles and sandwiches. A huge thanks to Mick Burrigge for organising the concreting and for his negotiating skills with getting the plant equipment. By the time you read this, the club's expeditions to Millfield and Aboyne would have taken place.

Merv Bull

PORTSMOUTH NAVAL (LEE ON SOLENT)
WWW.PNGC.CO.UK
504855N 0011225W

CONGRATULATIONS to Paula Aitken on her long-awaited 300km. Fran Aitken finished in the top-third of the Open Class at the Bicester Regionals, and we have members competing at the Inter-Services at Keevil. New CFI Andy Durston has taken over, so best wishes to him and many thanks to John Hale for his past tenure. Our annual family and friends day was a huge success and, on the day, Keith Morton realised exactly 50 years of gliding at Lee, and had his 9,454th flight, in a T-21. He and Chas Perry – who hit the same landmark a few weeks before – were presented with unique "Fly Navy" plaques. Our summer Navy course for 16 students starts in mid-August.

Neil Shaw

RATTLESDEN (RATTLESDEN)
WWW.RATAIR.ORG.UK
521001N 0005216E

IT WAS with great sadness that we heard of the death of Roger Firmin on 18 June; he was one of the original founding members of the club (see obituary, p71). Congratulations go to Lynne Morley and Lorna Willcox on getting their Silver heights, to Mick Nichols on getting his Cross-Country Endorsement, and to Darren Hatcher and Andy Collings who both converted to the Junior. July 11th saw the return of the 447th Veterans, everyone enjoyed the day and some of the veterans had flights in the clubs gliders. The day rounded off with live 40's music provided by Neil and Lynne Morley, and a BBQ.

Helen Page

SCOTTISH GLIDING CENTRE (PORTMOAK)
WWW.SCOTTISHGLIDINGCENTRE.CO.UK
561121N 0031945W

MOST Monday and Tuesday evenings have been utilised for trial lessons. We are averaging 15 flights each evening, and some students have progressed onto half-day or full-week courses. The East Fortune Airshow saw Guy Westgate in his Swift performing some stunning aerobatics and this, along with the appearance of our Walking on Air K-21 at a couple of open days, has helped generate interest. The whole airfield is now available for landing as the "new grass" is well-established. As you read this, John Williams will be well on his way to South America with his Antares (in a container, on a ship) – we know he is good but not that good! Congratulations to Paul Wiggington on his first solo.

Ian Easson

SHENINGTON (EDGEHILL)
WWW.SHENINGTON-GLIDING.CO.UK
520507N 0012828W

IT HAS been a busy summer here at Shenington despite the rather disappointing weather. We hosted the Shenington Regionals in July, which was a great success thanks to the superb team-effort of the membership. During the competition, we had some great evening social events and on the no-flying days we kept our visitors occupied with activities such as a brewery tour and go-karting. Congratulations go to Cez Riley on her recent solo. We are continuing the refurbishment of the club's facilities. As I write, we are about to start the groundwork in preparation for a new club house building. Also, thanks to Andy Linfield's excellent work, we have succeeded in obtaining a grant to enable us to have our SkyLaunch winch fully refurbished.

Bob Winters

STRATFORD ON AVON (SNITTERFIELD)
WWW.STRATFORDGLIDING.CO.UK
521406N 0014310W

THE early promise of a great summer wasn't as lasting as we'd hoped, but we have continued to improve all of our stats in terms of launches, air-time and visitors. Richie Knight has flown (sorry) through his Bronze and Cross-Country Endorsement, and has taken a commanding lead on the Club Badge Ladder. Chris Burrows, our youngest member at 17, completed his Silver earlier this summer and also managed the first part of his 100km diploma. Congratulations to both. Our annual Task Week was held in July, with mixed weather and achievements. All who took part had a thoroughly enjoyable time with opportunities to experience flying, which helped them extend their capabilities. Many thanks to the coaches who enabled the week to happen and their continuing support.

Richard Maksymowicz

SOUTHDOWN (PARHAM)
WWW.SGC1.ORG
505532N 0002828W

WE HOSTED the Vintage Gliding Club Rally in June, and the weather was perfect. Saturday was the Weiss Centenary celebration where Rally Marshall Dave Clews and his band of helpers, contributed to it's success. Visitors came from far and wide for an eclectic aeronautical extravaganza. The programme ranged from aerobatic displays by Rob Davies in the P51 Mustang and Guy Westgate in the Swift, to a demonstration of the replica Weiss machine built by Andrew Jarvis. During the brief spell of exceptional conditions, Ian Ashdown flew over 2,000km in five flights, including a 750km cross-country. Congratulations to Rik Foreshew on his Silver badge, and Charles Cave and Geof Rogers for going solo. Also to Gemma Hampshire and Sara Ashdown who have been awarded bursaries from the Caroline Trust and the Royal Aero Club respectively.

Peter J Holloway/Gemma Hampshire

SOUTH WALES (USK)
WWW.USKGC.CO.UK
514306N 0025101W

THIS summer has been a highly successful season, with a number of notable achievements. Congratulations go to Rod Weaver for achieving his first 500km. Also, despite the distraction of her GCSEs, Sarah Reed has gone solo, as has Richard Bond. Thursday flying has been reasonably successful with many taking advantage of the mid-week flying training. We would like to welcome Derek Bennett on to our instructor team. The club single-seaters have been busy, as well as

(Left to right) **Surrey Hills'** Brian Smith celebrates a two-hour flight; Jay Myrdal prepares to carve at the **Vale of the White Horse** (Deb Graham-Wilson); Ian Coggin wondering where to go on his first solo at **Welland**; Tim Howell after his solo at **Sutton Bank**, with instructor Kelly Teagle



the two-seaters, during the weekend. They have been conducting a number of trial flight evenings over the summer during the week. Our Grob Acro 609 has taken yet another holiday down to the French Alps, with several club members, all thanks to James Metcalf.
George Robertson

SURREY HILLS (KENLEY)
WWW.SOUTHLONDONGLIDING.CO.UK
511820N 0000537W

WE'VE had a very busy summer and, in June, we had our highest-ever monthly launch rate at 633 launches. Recent achievements include Tom Arcsott and Ray King getting their Bronzes, Brian Smith achieving his two-hour flight and Adrian Roberts going solo. Congratulations also to Mick Ely on his Basic Instructor rating. Russell King completed a 130km out-and-return to Lasham and, when you take into account that he had to remain under the London TMA (2,000ft AGL) for most of the flight, it is no mean feat. Congratulations also to our competition pilots, with Steve Codd finishing 8th in the Bicester Regionals, and myself for finishing 11th in Competition Enterprise. Finally, with sadness I report the death of founder member Peter Wann, club treasurer for many years and an instructor. (Full obit next issue.)
Marc Corrance

VALE OF THE WHITE HORSE (SANDHILL FARM)
WWW.SWINDONGLIDING.CO.UK
513614N 0014030W

NOT a bad season so far. Congratulations go to Peter Scheiwiller for his first 300km Gold distance flight. Our famous Hangar Party and Hog Roast was a great success, with most of the members and many guests attending. Good weather allowed lots of flying to precede a delicious feast in the early evening, followed by six or seven bands playing until at least 2am. The next day was also flyable for those who didn't drink too much. Everyone had a great time and we earned a very useful sum for the club. Book early for next year! A number of new student members are the icing on the cake and we are looking forward to a great Indian summer.
Jay Myrdal

WELLAND (LYVEDEN)
WWW.WELLANDGC.CO.UK
522758N 0003430W

THE soaring season is showing results from lots of hard work by half way through our August flying week with lots of Silver Cs. Jane Cooper and Mario Staniscia's five-hours, Mario's height and with Roger Tallowin's 50km his 100km part 1. Gary Robertson and Ian Coggin have soloed. Mark Rushden is now

an Ass Cat. Dick Short has finally brought his beloved SHK out of mothballs to fly with a new coat of paint. And after a year or so the Tug is restored and operating with a popular re-introductory discount. Never has the CFI been so popular and he has actually been seen with a smile on his face. Hopefully a few more claims will be made on the National Ladder in the next and last three days.
John Strzebrakowski

WOLDS (POCKLINGTON)
WWW.WOLDS-GLIDING.ORG
535541N 0004751W

CONGRATULATIONS to Stephen Ell in completing the first 750km from our site. Numerous other club members had their best flights of the year on the same day. Eliska Vyoralova has completed her Bronze, Silver height and Cross-Country Endorsement; and Jonathan Phillips soloed on his 16th birthday. Our Open Weekend, with a Dawn to Dusk day on 20 June saw us flying 230 members of the public and over 250 flights in all. Thanks to the many members who turned out from 3.30am and worked so hard to fly everyone. Our CFI Tim Milner won the Club Class Nationals, which we hosted with five days of tasks. Thanks again to everyone who helped to make the competition such a success. Congratulations to Mike Fox, BGA National Coach, and Kate Frost on their engagement.
Avelyn Dell

WREKIN (RAF COSFORD)
WWW.WREKINGLIDINGCLUB.CO.UK
523824N 0021820W

CONGRATULATIONS to Andy Walsh on completing his Bronze C. Progress towards Silver by various pilots continues, with Dave Vales' first field landing after 43km providing a great write-up for the website. Weather conditions have been mixed with some BI flying days being rescheduled. These flights add a certain degree of fascination and seeing people of all ages with the "gliding grin" following a first flight is very rewarding. At the time of writing, August Soaring Week is hoped to provide badge opportunities, so here's hoping for some soaring weather! Nigel Readman leaves the service shortly, his OIC role being filled by Squadron Leader Rowly Fielder, so our thanks go to Nigel for his leadership during an important period for the club.
John Vincent

WYVERN (UPAVON)
WWW.WYVERNGLIDINGCLUB.CO.UK
511712N 0014700W

JUNE and July have been busy months. Two more fully-attended *ab-initio* courses have

been completed, along with a course for future test pilots training at the Empire Test Pilot School and a cross-country training week at Halton for our AGA pilots. We held another Battle Back day for wounded Service personnel, and there was a small expedition to Talgarth for some hill-flying. An exploit to a motorglider rally in the highlands and islands of Scotland was followed by two more heats of the Interclub League, the Longest Day and two cross-country Wings Weeks. The crowning personal achievement was that of Will Chappel, who completed a 750km diploma flight in June landing out less than 5km from home. As far as we know, Will's is the first 750km from either a Wyvern Club member or from Upavon. As I write, 10 members are competing in the Inter-Service Regionals at Keevil.
Andy Gibson

YORK (RUFFORTH)
WWW.YORKGLIDINGCENTRE.CO.UK
5357100N 00111332W

FROM radio-controlled model aircraft to gliding – that is the experience of Andy Aitken, who has completed his first solo. His interest in our sport began when members of the Large Model Association, of which he is secretary, held their annual meeting and display at Rufforth. Congratulations also to new solo pilot Paul Darnbrough. Efforts are continuing to attract Air Training Corps cadets from the York area, who have very limited opportunities to fly, to join our affordable gliding scheme with its special financial incentives.
Chris Brayne

YORKSHIRE (SUTTON BANK)
WWW.YGC.CO.UK
541338N 0011249W

IT'S been a busy summer at YGC. Our Open Day was a huge success, even the weather decided to co-operate. Achievements have been interesting and varied. John Ellis did 998km in America. Andrew McCann did his five-hours, slogging away in 'not ideal' conditions. Sue Aherne and David Watsham converted to the Discus. Tim Howells and John Russell both re-soloed. Nick Ledger proposed to fellow member Claire Hamlett at the top of the London Eye (she said yes!). David Ryall just missed 3rd place in his Class at Saltby's Aerobatic Competition. Lindsey MacLane took an award at Competition Enterprise.
John and Sarah Marsh

S&G's thanks as usual to Debb Evans for editing this issue's Club News – Susan Newby, editor



> CLUB FOCUS

DUMFRIES

AT A GLANCE

Membership:

Full: £150pa
Student: £75pa
Junior (up to 16): £50pa
Family member: 1/2 rate

Launch Type:

Winch: £7 private a/c
£6 club a/c

Club Fleet:

K13, Ka2, Ka7

Private Gliders:

Skylark II, Skylark III,
Lak 17a

Instructors/members:

2/27

Types of Lift:

Ridge, wave, thermal, sea
breeze front

Operates:

Saturday/Sunday and
whenever three or more
gather in the name of
gliding!

Contact:

07758 124531
www.dumfriesgliding.
110mb.com

Long and Lat:

545638N 0034424W

DUMFRIES and District Gliding Club, as presently constituted, celebrated its 50th anniversary last year, however the roots of the club go back much further than that, with the local gliding school on the post-war airfield (now housing and industrial estates) and, we believe, pre-war gliding activity before that.

Like many clubs we have had several sites including the airfield, but we have been on our present site – where we are tenants of the Forestry Commission – since 1976. Known as Falgunzeon Airfield, the site is named after the neighbouring farm but is shown on OS maps as ‘Plascow Rig’.

We have an excellent hangar and are just completing a new clubhouse, which will be able to cope with our increasing membership and include facilities for the disabled.

Our main runway runs more or less N-S and is about 1,200m long giving good winch launches. The E-W strip is shorter and not in regular use, but provides an emergency landing place for anyone struggling to get back from our west-facing ridge.

We have never been anything other than a small club, our sparsely populated rural area and low-wage economy locally see to that,

but we are presently expanding following a difficult period when we were without an instructor or CFI.

That situation is behind us now and the club is thriving once more. We represent the “grass roots” of gliding – a club where everything is done by the members and costs are kept low as a result.

Historically, we have not been particularly cross-country orientated, the soaring here is often interesting enough in itself (no boring southern thermals here!). However, with recent club expeditions to Carlisle Airport, Skelling, and Milfield, plus visits to Portmoak and Connel, we are looking to break out of our local area in the future.

We now operate both days at the weekends and whenever enough of a crew can be gathered together through the week, and have held a flying week at the beginning of August for the past two years.

We welcome visitors – particularly for the flying weeks – but, as the site is hewn from heather moorland, it pays to have some knowledge of the site before flying in. This would apply particularly to powered aircraft or high-performance gliders. Skylark/Ka8 pilots should have no problem!

John McIver

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BGA accident/incident summaries

AIRCRAFT		Registration	Damage	Date, time	Place	PILOT Age	Injury	P1 hours
Ref	Type							
56	ASW 15	G-CFML	destroyed	30/05/09, 15:35	Scottish GC	71	minor	77
The glider stalled onto the hilltop while ridge soaring. The pilot had tried to reverse direction by turning towards the hill but was too low to complete the turn.								
57	ASW 27	G-CJCM	minor	4/06/09, 17:35	Scottish GC	65	none	419
Minor damage to a wingtip mounting point after landing out in a field of long grass.								
58	ASW 19	G-FEBJ	substantial	13/06/09, 15:05	Four Counties GC	49	none	not reported
Damage to the undercarriage and nearby fuselage caused by the glider hitting an unseen ridge during a field landing. The field appeared from the air to be suitable for landing.								
59	Robin DR300	G-BUYG	minor	31/06/09, 15:30	Ulster GC	55	none	99
A mainwheel fell off on take-off. The tug diverted to land at a nearby power airfield.								
60	Discus BT	G-CJWK	substantial	26/05/09, 15:15	Bristol & Glos. GC	42	none	1000
Damage to fuselage, undercarriage and canopy after a heavy, bounced landing ended in a groundloop. The pilot reported severe turbulence when landing back at the ridgetop site in a strong, gusting wind.								
61	SF 25C Falke	G-OSUT	substantial	1/06/09, 15:10	Yorkshire GC	66	none	85 (gliding)
The aircraft landed heavily after the pilot failed to round out. It was the pilot's second approach and his first SLMG solo flight.								
62	Grob 102	G-CFSZ	destroyed	13/06/09, 17:35	Cotswold GC	64	fatal	--
Field landing accident – AAIB investigation.								
63	PW5	G-CJKE	minor	21/06/09, 11:30	Burn GC	not reported	none	not reported
Wing damage after the pilot allowed the wing to drop during the landing ground run. An intermediate height winch launch failure necessitated a turn and ended in a rushed approach onto a cross runway.								
64	Skylark 3	763 / AYH	substantial	21/06/09, 12:45	Derby & Lancs GC	68	none	800
Fin snapped off, elevator and front skid damaged. An overshoot landing ended with the wing dropping and a groundloop after crossing over the perimeter track.								
65	Kestrel 19	G-DCWD	minor	31/05/09, 14:45	Deeside GC	23	none	550
The pilot chose to groundloop the glider before running off the end of the airfield onto rough ground. The approach had started too high and too close in the light and variable wind.								
66	ASW 20	G-CHUJ	minor	21/06/09, 13:20	Cambridge GC	50	none	56
Gel coat damage to the underside of the fuselage after landing out in a ploughed field.								
67	Kestrel 19	G-DCZO	destroyed	23/06/09, 16:30	Bidford GC	24	minor	not reported
Fuselage snapped, canopy and rudder destroyed when a wingtip touched down during a field landing at the end of a competition flight. Late field selection cited as a factor, the pilot was attempting a final glide.								
68	LS4	D3443	substantial	19/06/09, 14:05	Kent GC	59	none	99
Compression cracks to the underside of the nose of the glider. While landing in a field, the glider ran into a depression in the ground.								
69	Discus	G-CGDY	none	28/06/09, 14:45	The Gliding Centre	not reported	not reported	not reported
Wheel up landing after a short flight. The pilot initially lost sight of the airfield, then encountered sink in the circuit and had to turn onto approach early but neglected to put the wheel down.								
70	Astir CS	G-DDKW	substantial	26/06/09, 13:00	Burn GC	49	none	200
Split leading edge and damage to top and bottom surface of the wingtip. The pilot left the glider near the trailer and later drove over the wingtip with his car.								
71	K6CR	G-CHBO	minor	14/06/09, 17:30	York GC	n / a	n / a	n / a
Ground handling incident while hangar packing.								
72	K21	G-CEWC	substantial	29/06/09, 19:30	London GC	53	none / none	623
Nosewheel, surrounding structure and front cockpit interior severely damaged after a heavy landing. The glider bounced on the first touchdown, the trial flight instructor then pushed the stick forward resulting in a nosewheel first landing.								
73	T21	601 / ARM	substantial	26/06/09, 17:45	Surrey Hills GC	64 / 58	none / none	211
Heavy landing after getting slow on the approach. There was insufficient height to recover airspeed and the glider touched down without being held off.								
74	Duo Discus	G-CJEM	substantial	28/06/09, 16:30	Cotswold GC	61 / 54	none / none	1583
Fuselage broken behind the wing trailing edge and damaged undercarriage after striking the lip of the airfield perimeter track on landing. The pilot allowed the glider to become low and slow on approach and despite closing the airbrakes, the glider descended into crop some 20m short of the landing area.								

BGA accident/incident summaries *continued*

AIRCRAFT		Registration	Damage	Date, time	Place	PILOT Age	Injury	P1 hours
Ref	Type							
75	K21	G-CEWC	substantial	25/04/09, 11:30	London GC	48 / 33	none / none	not reported
Substantial damage caused by a nosewheel landing after a 'difficult height' launch failure exercise. The glider bounced after the first, slightly fast landing; neither pilot realised that the second touchdown damaged the nosewheel structure.								
77	Discus	G-CHSD	minor	24/06/09, 11:45	London GC	n / a	n / a	n / a
An ASW had been gridded for approx 30 minutes before a gust of wind (it is thought) overcame any rolling resistance and allowed the ASW to roll down a slight incline into the Discus, splitting the rudder.								
78	PW6	G-CKRU	substantial	24/06/09, --	Cotswold GC	n / a	n / a	n / a
Severe damage to the rear of the fuselage and the tailplane mounting structure discovered during a DI. After inspection by a repair facility, it was concluded that the (unreported) damage had been caused by a severe impact between the tailwheel and the lip of a hard object such as a manhole cover or other edged obstruction.								
79	K8	G-CHNG	minor	4/07/09, 12:45	Bidford GC	61	none	not reported
Undershot landing. No further information.								
81	Ventus 2CXM	G-KPLG	substantial	4/07/09, 17:00	Shenington GC	55	minor	not reported
Damage to undercarriage after a heavy landing into a crop field.								
83	Sport Vega	G-DEGX	minor	5/07/09, 17:45	Upward Bound Trust	64	none	not reported
Broken main wheel fairing after a heavy landing. The pilot allowed the glider to become too slow on approach and the glider stalled in the wind gradient.								
84	Slingsby Venture T61	G-BVKK	minor	3/07/09, 16:40	Buckminster GC	77	none	55
Prop strike during an attempted go-around. While closing the spoilers, changing hands on the stick and applying full power, the pilot moved the stick forward causing the TMG to touch down in a nosedown attitude.								
85	DG300	G-CFSR	substantial	5/07/09, 17:30	Shenington GC	62	none	439
Broken undercarriage mechanism after hitting an unseen ridge soon after touching down during a field landing.								

68

IT COULD HAVE BEEN SO MUCH WORSE

CONTINUING extracts from accident or incident reports where lessons may be learnt, this account is of an accident during a trial lesson in bad weather which could have been much more serious. As before, identifying details have been changed.

Duty instructor

After lunch, flying was only possible between rain showers. After one shower I launched with a student towards another shower. I thought we had about 20-30 minutes before the shower reached the airfield. After soaring as long as I thought prudent in front of the shower I headed back to the airfield from about 5km upwind. On the way, the Puchacz passed me, being towed upwind towards the shower I had just left. Some time after landing I was informed that the police helicopter, police cars, fire brigade and ambulance were responding to reports of a glider in trees. The occupants were rescued unhurt from about 40ft up a tree, but the glider had substantial damage to the leading edges of both wings.

Puchacz instructor

This was the third trial lesson during an afternoon spent dodging heavy showers. We took off

towards what appeared to be a break in the cloud, but as we climbed the cloud closed in and light rain started. I hoped that the tug would turn towards the airfield but he kept climbing upwind, entering cloud at 2,000ft. I released and opened the airbrakes in heavy rain, which soon became torrential, reducing visibility severely. Eventually I located the main road that runs past the airfield but couldn't see the airfield. By now we were flying through a wall of water, being washed out of the sky. Getting low, I could just make out two fields but they had horses, people and power wires. The only other option was the adjacent woods so I flared onto the tops of the trees. We came to rest wedged in the tree tops from where we were rescued after about half an hour.

Tug pilot

After take-off, approaching 1,600ft, I noticed the rain showers were becoming stronger. I climbed to 1,800ft when I waved my wings to signal to the glider to release but he stayed on. I continued to climb around some showers and at 2,300ft I again signalled to the glider to release but again he stayed on, finally releasing at 2,500ft. I returned to the airfield and landed.

Chief flying instructor

The Puchacz was being flown on a trial lesson by a newly-trained BI and launched by a fairly inexperienced young tug pilot. The supervising instructor was flying another glider at the time of the accident. Why did the glider take off in such conditions and why did the tug pilot tow towards the shower? I had thought they had both received adequate training for their roles, and that they were adequately supervised. I noted from the instructor's log book that he had only the week before flown students in difficult windy conditions that he found very testing: clearly something has been going amiss with his own judgement and with the supervision. The instructor felt under pressure to get the flying done. Therefore, I have laid down weather minima for basic instructors performing trial lessons, which I hope will make it easier for all concerned to say "no" when necessary.

Summary

The CFI says it all. Since then, the BGA has tightened up requirements for trial lesson supervision and published weather minima for them.

CELEBRATING THE LIFE OF ANNE BURNS

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National Gliding Champion; awarded the Royal Aero Club Britannia Trophy; the FAI Lilienthal Medal; the Air League Founder's Medal; numerous World and British National gliding records – and they are just a few of her achievements.

A top boffin at RAE Farnborough from 1941 to 1977, her successful research work was rewarded by twice receiving the Queen's Commendation for valuable service in the air, the first in 1955 for her work and many hours as a flight test observer to help solve the riddle of the Comet 1 disasters, the second in 1963 for her high and low-level gust research and almost 1,000 hours as a flight test

observer. Her work into the jet stream, gusts and other weather phenomena took her all over the world and even Derek Piggott envied the number of different aircraft recorded in her log book.

Nothing ever seemed to upset her or disturb her placid nature – well almost nothing. I played a trick on her, which nearly cost me her friendship. As chairman of the BGA publicity committee, I was always looking for sponsors to create more newspaper column inches for our sport. I found a company who were keen to publicise their new holiday enterprise and, after some discussion, a deal was done. I would produce a girl gliding champion, they promised a Silver Cup and a large body of press photographers.

The BGA Council gave its approval and I briefed Anne to go to 'California-in-England' in Berkshire. On arrival she was warmly welcomed, shown into a small room and after five minutes asked if she was ready. Puzzled she asked "what do you mean?" "Have you undressed, so that we can go ahead with the presentation?"

I had 'forgotten' to tell Anne that it was a nudist colony. The trophy is still awarded every year for the longest handicapped flight by a woman glider pilot, dressed or not!

When the author Matthew Freudenberg was researching for his splendid biography of the fantastic Beatrice Shilling of the RAE, famous for Miss Shilling's Orifice which enabled our Spitfires and Hurricanes to fight on equal terms, he came across Anne Burns' name.

His book *Clear Air Turbulence – a life of Anne Burns* published in 2009 by Charlton Publications, Orchard House, Creech St.Michael, Taunton TA3 5PF at £14.00 is a great read. Very generous discounts are offered to gliding clubs.

My few words cannot do justice to Anne's very full life or Freudenberg's biography. Every pilot will benefit from learning about someone who was and should be a role model for anyone engaged or interested in aviation. She was a great girl, the prettiest champion I ever kissed; his is a great record of her life.

Wally Kahn

BGA accident/incident summaries *continued*

AIRCRAFT Ref	Type	Registration	Damage	Date, time	Place	PILOT Age	Injury	P1 hours
86	Ventus B	G-CFEG	substantial	22/06/09, 11:40	Scottish GU	70	none	1547
Cracked fuselage after the glider groundlooped during a winch launch. The wingtip touched the ground during the groundrun, the pilot was slow to release, the glider yawed round the wingtip as it took off.								
87	Vega	G-EECK	minor	4/07/09, 17:30	Scottish GU	65	none	not reported
Undercarriage doors broken off at the hinges after the undercarriage retracted during the ground run.								
89	PA25 Pawnee	G-CTUG	minor	4/07/09, 11:30	Borders GC	--	none	not reported
Tailwheel assembly fell off the aircraft after the leaf spring cracked at the centre bolt. The tug landed safely with no further damage.								
90	Grob 103	G-DEWR	substantial	16/06/09, 16:10	Bristol & Glos GC	58 / --	none / none	4008
Fractured fuselage and bent tailplane mounting after groundlooping when landing in long grass. During an approach into an unusual area of the airfield exercise, the P2 touched down approx. 20m short of the cut grass.								
91	ASH25	G-RAIR	substantial	2/07/09, 17:00	Lasham GS	50 / 19	minor / minor	3215
Broken undercarriage, canopies, rear fuselage and port control surfaces after the glider went through a fence during a field landing. The pilot retracted the flaps to increase roll response when turning to line up on approach but underestimated the loss of lift and landed short of his intended field.								
92	Grob Twin Acro	G-DEXA	none	20/06/09, 14:00	Trent Valley GC	21	none	250
The pilot abandoned the winch launch after noticing that the rear canopy was lifting. The canopy had seemed to be shut during a pre-launch physical check.								
95	LS8	G-CHUW	minor	5/07/09, 17:50	Cambridge GC	53	none	710
Minor gelcoat damage after a wingtip caught crop at the edge of the undershoot area on approach, causing a groundloop.								
96	Discus	G-CHOM	destroyed	9/07/09, 16:00	Cambridge GC	65	fatal	--
AAIB investigation								
97	LS4	G-CJLH	substantial	10/07/09, 12:45	London GC	66	none	
Groundloop during a wheel up landing into a crop field after being unable to return to the airfield. The continuous heavy sink straight after releasing from the aerotow turned out to have been caused by open airbrakes.								

NB: Duplicated reports removed

BGA BADGES

No. Pilot Club (place of flight) Date
750K DIPLOMA

79	Alastair MacGregor	752.9	4.6.2009
PRK-LEH-STK-RUG-PRK	Ventus 2CXT "306"		
80	Matthew Cook	763.8	14.6.2009
HEY-DIS-HER-NMT-BIC	Ventus 2B "A4"		
81	Ian Ashdown	759.2	14.6.2009
PAR-TRO-TIB-DEV	Nimbus 3 "128"		
82	William Chappel	750.7	14.6.2009
UPA-CHT-FRO-UPW-UPA	LS8-18 "M9"		
83	Jonathan Arnold	757.9	14.6.2009
KEE-GRW-WES-MAR-KEE	Discus 2C-18 "G-SAJA"		
84	Jon Gatfield	763.8	14.6.2009
NIC-DIS-HER-NMT-BIC	ASW 27B "T6"		

DIAMOND HEIGHT

3-1711	Matthew Plumridge	Lasham	8.2.2009
		(Omarama NZ)	
3-1712	Andrew McKee	Windrushers	21.9.2008
		(Minden USA)	
3-1713	Tim Parker	Shenington	21.9.2008
		(Minden USA)	
3-1714	Peter Thomson	Cairngorm	13.5.2009
		(Feshiebridge)	
3-1715	Stephen Derwin	SGU	13.5.2009
		(Feshiebridge)	

DIAMOND DISTANCE

1-1112	Matthew Plumridge	Lasham	8.2.2009
		(Omarama)	
1-1113	Roderick Weaver	South Wales	14.6.2009
		(Usk)	
1-1114	Simon Ramsay	Gliding	14.6.2009
		Centre	
		(Hus Bos)	
1-1115	Claudia Buengen	Oxford	14.6.2009
		(Bicester)	
1-1116	Robert Corbin	Cotswold	14.6.2009
		(Aston Down)	
1-1117	Mark Hawkins	Bath Wilts	14.6.2009
		(The Park)	
1-1118	Peter Jones	Lasham	14.6.2009
		(Lasham)	
1-1119	Paul Gelsthorpe	Lasham	14.6.2009
		(Lasham)	
1-1120	John Clark	Black	14.6.2009
		Mountains	
		(Bidford)	
1-1121	Martin Conboy	Lasham	14.6.2009
		(Lasham)	
1-1122	Alison Mulder	Bristol &	14.6.2009
		Glos	
		(Nympsfield)	
1-1123	Robin Parker	Trent Valley	14.6.2009
		(Kirton in Lindsey)	
1-1124	Robert Sinden	Booker	14.6.2009
		(Bicester)	

DIAMOND GOAL

2-3259	Arran Armstrong	Bannerdown	30.5.2009
		(Keevil)	
2-3260	David Higginbottom	Wolds	14.6.2009
		(Pocklington)	
2-3261	Robert Jackson	Oxford	14.6.2009
		(Weston on the Green)	
2-3262	Carol Smith	Bristol &	14.6.2009
		Glos	
		(Nympsfield)	
2-3263	Michael O'Brien	Fenland	14.6.2009
		(Marham)	
2-3264	Alan Montague	Bristol &	14.6.2009
		Glos	
		(Nympsfield)	
2-3265	Graham Smith	Southdown	14.6.2009
		(Parham)	

Christopher William Thomas 1942-2009

CHRIS THOMAS recently passed away at the age of 66 following a long illness. Chris, who was our chairman at the then Coventry GC at Husbands Bosworth from 1982 to 1986, was one of the most dynamic and positive-thinking that our club has ever had.

Joining us in 1970, he was an enthusiastic aviator and participant in all our activities from the start and, soloing soon after, took a share in a T-21. Together with another syndicate member, Lou Frank, Chris flew a legendary 300km attempt to Plymouth, landing at Northill because they were getting cold and, in any case, liked the Devon and Dorset lot following an enjoyable Competition Enterprise there!

Subsequently, Chris and partners bought one of the early BG135 gliders and Chris did his 300km Diamond leg in it.

An early instructor rating and then power flying led to him becoming a tow pilot, flying our Tiger Moths and later our Chipmunk fleet. He came into our Beagle Terrior (Terrifier) syndicate and we flew it together into vintage glider rallies and displays at Old Warden.

He was not doing enough power flying so purchased an Emeraude light wooden monoplane and, despite a landing accident soon after, set about repairing the damaged wing which had a broken main spar, although being told by the PFA's Chief Engineer that it could not be done because: "Well, you won't have enough 'G' clamps". Chris laughed, he had just gone into manufacturing his very successful 'Jet-clamp' and, being a talented and skilled engineer specialising in precision tooling manufacture, went on to produce over 50,000 clamps!

Chris launched the Coventry GC's *Glide Angle* house magazine and edited it for at least two years before passing it on to another editor.

My own abiding memory of Chris will always be hearing his voice on the radio in a competition, encouraging me to finish a marginal 300km task in which only two got round and finished and I was THREE hours later than the winner!

"Keep paddling Ron." "Where are you Chris?" "Look down on the M1." And there was Chris's tiny BG135 tubular trailer, heading home up the motorway as I floated on to drift in over the fence at Hus Bos.

The turn out to say goodbye was an indication of how folk felt about him. "Keep paddling Chris." We will see you there.

Ron Davidson, The Gliding Centre

Dave Richardson 1955-2009



DAVE RICHARDSON was a highly talented and able man, an outstanding pilot, and a great friend and mentor to countless people.

He learnt to glide at Doncaster GC, soloing at 16 and then gaining his PPL at Doncaster Aero Club. His professional involvement with gliding started as an instructor and tug pilot at Nympsfield and Dunstable. At Dunstable, he completed his 10,000th winch launch, mixing instructing, tugging and working in London Sailplanes on glider maintenance.

In 1982, Dave joined the newly-formed Booker GC as both instructor and glider maintenance engineer to support Brian Spreckley in driving the club forward. During this time, the club grew in strength, expanded its fleet and introduced a range of new activities such as overseas expeditions. It was during this period that Dave completed his Gold C in his ASW17, 40, which he shared with Brian and others.

When Brian left Booker in the late 1980s to found the European Soaring Club, Dave provided continuity, presence and wisdom as the club went through a number of management changes. He helped a series of committees avoid reinventing the mistakes of their predecessors or taking undue risks. In doing so, he brought the clarity of thought, firmness of view and grounded common sense for which he was known and respected throughout the club.

A superb handling pilot, Dave brought that same common sense, coupled with safety awareness and pragmatism, to his own and others' flying. Dave was one of those people in aviation who could be completely trusted to make the right decisions about flying. He was also an outstanding instructor and tug check pilot who conveyed the key messages to his students clearly.

Although not a keen competition pilot himself, Dave was an integral British team member as crew and engineer for pilots at a number of European and World Championships.

In 1999, Dave completed his Commercial Pilot's Licence and Instrument Rating. He went on to mix his work at Booker with a blend of interesting commercial flying..

But it is Dave the person who we will remember, and miss, the most. Intelligent, articulate, humorous, supportive, pragmatic, Dave was the man in a crisis - unflappably

handling a difficult situation with professionalism and a calm head.

In Dave's passing, a huge number of people have lost a great friend and mentor. But Dave was more than that: he was, in many ways, the soul of Booker GC; the steadfast continuity for nearly 30 years of club life. There will not be another Dave, but his memory will live on at the club and, as the club navigates its future, committees and staff should ask themselves "Is this what Dave would have done?".

Paul Brice

Nigel Greenwood, 1945-2009



NIGEL GREENWOOD was killed in a field landing accident near Edgehill in mid-June.

Nigel joined the Cotswold Gliding Club in December 1998, quickly went solo and joined the so-called 'People's Air Force' by purchasing a K-6E (his beloved 879). In 2004 he demonstrated what a good cross-country pilot he was by gaining his Diamond goal badge in 879.

Nigel was kind, considerate and unfailingly helpful. Such qualities made him an invaluable member of CGC and immensely popular. He was an operations team coordinator and helped out with evening flying activities. Cheerfully he held wings, hooked on cables, and drove the winch. We will, though, always remember his slightly pained expression when obliged to wear the authoritative yellow jacket of launch master!

Perhaps Nigel's most enduring claim to club fame was his dry wit and his penchant for frequent and distant field landings. I know I speak for everyone at CGC when I tell you we all wish we could retrieve our friend Nigel from this last soaring flight of his. We shall have to console ourselves with our many fond memories, and the sure knowledge that whilst Nigel the man is no longer with us, his spirit still soars somewhere high above us all.

Our condolences go to his widow, Eve; his father, Erik; daughter, Barbara; and his family.

Eugene Lambert

Harry Jakeman 1931-2009

HARRY JAKEMAN was an enthusiastic member of Cotswold GC for many years and, until recently, still enjoyed flying in his syndicate K-21 along with his friends in 'The Wednesday Club'.

As a teenager, Harry joined the Air

Training Corps and was lucky enough to fly in a number of wartime aircraft but his wish to be a pilot was denied by a minor medical condition.

He logged his passenger flying carefully and, by retirement, had recorded over 1,000 flights on powered aircraft.

In the 70s he and his wife moved to Frampton Mansel, just a few minutes from his gliding where he continued to enjoy flying until his illness. Our sympathies are with his family, particularly his wife, Mary.

Frank Birlison

Roger Firmin (1941 - 2009)



ROGER FIRMIN died on 18 June after a short illness. He had been a stalwart of Rattlesden for some 30 years and was one of those people who was always pleasant and happy,

liked a joke but still retained a sense of doing the right thing by others, coupled with a sense of duty. However, he did have one annoying habit and that was to take the last launch of the day in his beloved Pirat and stay up, making us wait to close the hanger and open the bar!

He and his brother Roy joined the club from motor bike scrambling and immediately made themselves useful. Roger was a trained engineer (a surface table expert) and visited many motor and racing car factories installing the very latest electronic tables for grand prix car measuring. His stories of problems at European borders in the early days were myriad.

We extend our deepest sympathy to his wife Brenda and his son and daughter. Also to his brother Roy and family.

Brian (Griff) Griffiths

Dean Carswell 1940-2009



ROBERT DEAN CARSWELL began gliding in the early 1960's with the RAF Air Training Corps. While still a law student at Glasgow University, his life was forever changed

by a glider flight. Over the next 47 years, Dean flew more than 140 types and enjoyed over 12,500 flights. In the 1980s he flew at Portmoak before being headhunted by a top US law firm and emigrating. Even then he still visited the club, kept his ratings and has been described as "an outstanding Instructor with a genuine interest in his pupils."

Fully involved in gliding, Dean was

BGA BADGES

No.	Pilot	Club (place of flight)	Date
DIAMOND GOAL continued			
2-3266	Andrew Turner	Bristol & Glos (Nympsfield)	14.6.2009
2-3267	Michael Longhurst	Mendip (Husbands Bosworth)	12.6.2009
2-3268	David Jesty	Dartmoor (Brentor)	14.6.2009
2-3269	James Francis	Norfolk (Tibhenam)	14.6.2009
2-3270	Simon Withey	Mendip (Husbands Bosworth)	12.6.2009

DIAMOND BADGE

Matthew Plumridge	742
Simon Ramsay	743
Paul Gelsthorpe	744
Robin Parker	745
Robert Sinden	746

GOLD DISTANCE

John Herman	Booker (Booker)	4.6.2009
Arran Armstrong	Bannerdown (Keevil)	30.5.2009
David Higginbottom	Wolds (Pocklington)	14.6.2009
Robert Jackson	Oxford (Weston on the Green)	14.6.2009
Carol Smith	Bristol & Glos (Nympsfield)	14.6.2009
Michael O'Brien	Fenland (Marham)	14.6.2009
Alan Montague	Bristol & Glos (Nympsfield)	14.6.2009
Andrew Turner	Bristol & Glos (Nympsfield)	14.6.2009
Michael Longhurst	Mendip (Husbands Bosworth)	12.6.2009
David Jesty	Dartmoor (Brentor)	14.6.2009
Peter Schweiller	Vale of White Horse (Sandhill Farm)	24.6.2009
James Francis	Norfolk (Tibhenam)	14.6.2009
Simon Withey	Mendip (Husbands Bosworth)	12.6.2009

GOLD HEIGHT

Matthew Plumridge	Lasham (Omarama NZ)	8.2.2009
Tim Parker	Shenington (Minden (USA))	21.9.2008
Carl Melon	Fulmar (Easterton)	24.5.2009
Frank Roles	Gliding Centre (Skelling Farm)	7.5.2009

GOLD BADGE

2489	Matt Plumridge	Lasham	8.2.2009
2490	Tim Parker	Shenington	21.9.2008
2491	John Herman	Booker	4.6.2009
2492	Arran Armstrong	Bannerdown	30.5.2009
2493	Frank Roles	Gliding Centre	7.5.2009
2494	Michael O'Brien	Fenland	14.6.2009
2495	Andrew Turner	Bristol & Glos	14.6.2009
2496	Michael Longhurst	Mendip	12.6.2009
2497	David Jesty	Dartmoor	14.6.2009
2498	Simon Withey	Mendip	12.6.2009

SILVER BADGE

11998	Stewart Campbell	Northumbria	11.4.2009
11999	Graham Wheeler	East Sussex	26.5.2009

BGA BADGES

No.	Pilot	Club (place of flight)	Date
SILVER BADGE continued			
12000	Richard Lever	Windrushers	29.3.2009
12001	David Rusbridge	Norfolk	30.5.2009
12002	David Lisk	Ulster	10.5.2009
12003	William Tandy	London	2.6.2009
12004	Timothy Fletcher	Bath & Wilts	31.5.2009
12005	David Ryall	Yorkshire	3.6.2009
12006	Alan Arthurs	Lasham	4.6.2009
12007	James Best	Windrushers	22.4.2009
12008	Alex Saunders	Fenland	6.6.2009
12009	Terence Tordoff	Burn	26.4.2009
12010	Corbin Davies	Windrushers	16.6.2009
12011	Clive Williams	Devon & Somerset	14.6.2009
12012	David Dunwoody	Lasham	4.4.2009
12013	Brian Hammon	Banbury	30.5.2009
12014	Jane Cooper	Welland	14.6.2009
12015	Robert Robertson	Burn	24.6.2009
12016	Nigel Shepherd	Kent	4.6.2009
12017	John Cooper	Upward Bound	14.6.2009

UK Cross Country Diploma

1100	Richard Hill	Kent	4.6.2009
1101	Roger Tallowin	Welland	14.6.2009
1102	Nigel Shepherd	Kent	4.6.2009
1103	Tom Hollings	York	2.5.2009
1104	Chris Jones	Lasham	24.6.2009
1105	John Cooper	Upward Bound	14.6.2009

Aerobatic Badges

Sports Known	David Gethin	Bowland Forest	12.6.2009
Standard Known	Sally Cooper	Windrushers	13.6.2009
Standard Known	Rodolphe Herve	Lasham	2.6.2009
Standard Known	Rowland Bott	Essex	13.6.2009
Standard Known	Trevor Dale	Borders	13.6.2009

OBITUARIES continued

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He received the SSA's highest award, the Eaton Trophy, in 2007 and, shortly before his death, he was nominated for the United States Soaring Hall of Fame.

My husband and I spent two years in Texas with Dean as our CFI. He was passionate about gliding, teaching and airmanship. He worked tirelessly on local and national levels to improve the sport.

Dean spent his last day on earth instructing, doing some aerobatics and having a beer with friends before a brain haemorrhage took him home. The mainstay of his flying was in the US and he did an exceptional job of flying our flag across the pond. This gentleman aviator may be gone, but his impact will be felt for generations.

Debb Hackett, Jim Skydell and Tammie Carswell



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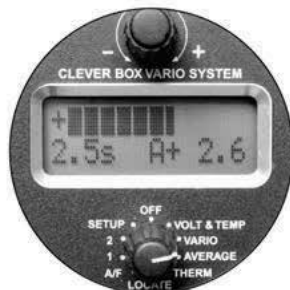
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CNAVAMKIT £57.50

Trig TT21 Modes S Transponder

The TT21 system is the smallest, lightest, Mode S General Aviation transponder. This two-part system, which includes an integral altitude encoder, can fit into the smallest of sailplane panels and yet is fully certified and compliant with all current transponder requirements.

The front panel controller can be installed in a standard 57mm instrument cut-out, or where space is really tight it can fit a compact cut-out just 45mm in height. The TT21 transponder itself is also only 45mm in height and can be installed anywhere convenient in the airframe.

- Low weight
- Minimal panel space
- Low power consumption (idle: 0.15A, active: 0.28A)
- 130 watts nominal output
- Integrated altitude encoder
- Simple installation
- Easy to use rotary knobs
- Support for ADS-B out

TRIGTT21 £1,449.00



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