

AUG / SEPT 2009

SAILPLANE & GLIDING

VOL. 60 NO. 4

**SCHLEICHER'S
ASH 31Mi - A NEW
DIMENSION**

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- HOW AND WHEN
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**INSTRUMENTS - IT
PAYS TO KNOW
HOW THEY WORK**

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MEMBER OF THE ROYAL AERO CLUB AND THE FEDERATION AERONAUTIQUE INTERNATIONALE



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COVER STORY

Looking down on the Benmore Dam from over 16,000ft (Chris Rudge)
Turn to page 34 to read about how John Marsh discovered the perfect soaring day during a visit to Omarama, New Zealand

DEADLINES

October/November 2009
Articles, Letters, Club News: 6 August
Display advertisements 21 August
Classifieds 4 September

December 2009/January 2010
Articles, Letters, Club News: 9 October
Display advertisements 23 October
Classifieds 3 November
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› We regret to report four fatal accidents involving gliders. At the end of May, a pilot died in a winch launch accident at The Mynd. On the weekend of 13/14 June, there was a fatal field landing accident near Banbury on the Saturday and a mid-air collision near Abingdon on the Sunday. The glider pilot was able to parachute to safety, but an Air Cadet and instructor both died. There was also a fatal field landing accident on 9 July, close to Cambridge GC. The accidents are being investigated by the AAIB.

› Brothers Phil and Howard Jones took first and second place in the Bidford Regionals. It is the first time both brothers have competed in the competition, taking part in tribute to their father, Ralph Jones, who passed away in March.

› The Standard Class Nationals has changed venue and will now be held at Lasham. The dates remain the same (8-16 August). If you have flown a regionals before and have a standard class glider, you may enter online by going to www.gliding.co.uk/nationalsentry

› The search continues for a new Secretary General of the FAI to succeed Max Bishop, who leaves in January 2010. The candidate brief for the post is at www.fai.org/sg_recruitment

› The first piloted aircraft using fuel cell propulsion technology took off from Hamburg airport on 7 July on its maiden flight. During the 10-minute flight, the Antares DLR-H2 aircraft was piloted by Axel Lange, head of one of the companies which adapted the motorglider to demonstrate the new technology.

› The Royal Aero Club Trust has announced the list of recipients of its Flying for Youth bursaries for 2009. Gliding features strongly once again, with 10 of the 22 awards going to young glider pilots. The full list can be seen at www.gliding.co.uk/documents/raebursaryawards2009.doc

› The 2010 International Vintage Glider Club Rally will be held at Tibenham from 31/7 - 8/8/10. Anyone wishing to attend to fly will need to join the VGC, all visitors will be welcome.

› A programme of CAA Safety Evenings has been arranged for winter 2009/2010. Events are open to everyone involved with GA and are usually free. A list of dates and locations can be found at www.caa.co.uk/safetyevenings

LICENSING CHALLENGES

SINCE the last update on pilot licensing, it is clear that the overall regulatory workload and the challenges associated with pilot licensing are presenting real challenges for EASA, writes *Chris Gibson*.

Following an evaluation of responses to NPA 2008-17, EASA is due to publish its Common Response Document (CRD) for a further short period of public comment before making its formal recommendations to the Commission.

The CRD was due to be published in July, but this has already slipped and is unlikely to be published for some months to come. NPA 2008-17 is closely linked to NPA 2008-22 'Authority & Organisation Requirements' as well as NPA 2009-02 'Operations'.

EASA has now agreed that the timescales for all three should be aligned. This will undoubtedly result in timescales moving considerably to the right and the possibility that an implementation date of April 2012 may no longer be practical.

Further, the FCL.008 working group on IMC ratings (and cloud flying for sailplanes!) will publish its separate NPA for consultation mid-way through 2010.

On the medical front, despite opposition

from AME's, the GP medical remains an integral part of the EASA FCL proposals. This does not mean that we can take our eye off the ball!

However, the growing realisation by EASA of the huge task it has at hand in managing the programme of regulatory change is providing additional opportunities for us to continue to lobby for a pragmatic and proportionate solution for UK - and European - gliding.

Indeed, there seems to be a growing prospect that sporting aviation may eventually be seen as deserving of more limited regulatory change, which I am sure we would all support.

In the meantime, the BGA is continuing to review our current pilot certification and training operations so that, when we do eventually transition to a European framework, we can ensure maximum retention of privileges for all.

Watch out for further news of developments within BGA training and instructing operations, which will ensure that we remain at the forefront of good practice and are prepared for what we plan to be the smoothest possible transition into EASA FCL.

RECEPTION BY ROYAL APPOINTMENT

BUCKINGHAM PALACE was a fitting venue for The Air League's annual reception in its centenary year. Award winners and their guests attended at the invitation of The Air League's Patron, His Royal Highness Prince Phillip, The Duke of Edinburgh.

Several hundred people were present, including many relatives and winners of the Air League Educational Trust's flying and engineering bursaries and gliding scholarships. Michael Marshall, President of The Air League, welcomed the award winners and presented them with their pilot badges and certificates.

There were 11 gliding bursary winners. Of these, Scott Pendry was chosen to receive his certificate from HRH Prince Phillip. Scott was awarded an SLMG scholarship, which he flew from Windrushers GC, Bicester.

A Founder's Medal was presented to Captain 'Sully' Sullenberger, who successfully managed to land his Airbus A320 on the River Hudson at New York when he lost engine power in both engines after suffering a major bird-strike.



SLMG scholarship winner Scott Pendry receives his certificate from HRH Prince Phillip, who also presented a Founder's Medal to Captain Sullenberger, pictured below



Phil Sturley



■ **CONGRATULATIONS** to the British team for a fantastic performance at the European Gliding Championships (flapped classes) at Nitra in Slovakia, which earned them the team trophy. Pete Harvey has won the Open Class title for the third time in a row, with Steve Jones third and Ed Johnston fifth (picture above right). Russell Cheetham is the new 18m Class

champion with Mike Young taking silver (picture above left). Leigh Wells was 4th and Tim Scott 9th in the 15m Class. The European Championships for the unflapped classes start in Lithuania on 27 July, as does the Women's World Championships in Hungary where Gill Spreckley will be defending her world title.

DATES

NATIONALS, REGIONALS AND OTHERS

European Champ (unflapped)	Lithuania	25/7-8/8/09
Women's World Champ	Hungary	25/7-8/8/09
18-Metre Nationals	Hus Bos	25/7-2/8/09
Inter-Services	Keewil	1-9/8/09
Inter-University Task Week	Pocklington	1-9/8/09
Standard Class Nationals	Lasham	8-16/8/09
Open Class Nationals	Lasham	8-16/8/09
15-Metre Nationals	Aston Down	22-30/8/09
Junior Championships	Dunstable	22-30/8/09
Saltby Open (aerobatic)	Saltby	11-14/9/09
Power vs Glider (aerobatic)	Wickenby	2-4/10/09
Two-seater gliders European Cup - The Aero-club du Poitou invites UK pilots to join them at the Poitiers-Biard airfield for the two-seater European Cup from 2-15 August. For more details email acp8.vav@wanadoo.fr		

DUNSTABLE REGIONALS

Dunstable 25/7-2/8/09

NORTHERN REGIONALS

Sutton Bank 1-9/8/09

LASHAM REGIONALS

Lasham 8-16/8/09

MIDLAND REGIONALS

Hus Bos 8-16/8/09

GRANSDEN REGIONALS

Gransden 22-30/8/09

- **BGA Junior Strategy (junior gliding mini-conference) - 10 October at Husbands Bosworth**
- **BGA Chairmen's Conference and Treasurers' Forum - 14 November at Woodside, Kenilworth**

GLIDING INSIGHT FOR CAA CHIEFS

CAPTAIN Bob Jones, the Head of CAA Flight Operations Division, visited Lasham in late June as a guest of the BGA.

Hosted by Gordon MacDonald and Pete Stratten, Bob, who also flies helicopters professionally, took the opportunity to try his hand at winch launching and a cross-country flight with Gordon in Bernie Morris's beautiful Duo XLT. He also experienced some gliding training in an SLMG and spent a useful few hours discussing many gliding related issues.

Bob said: "Apart from the flying, which was enormous fun, it was good to see how a safe and smooth gliding operation works as well as discuss various issues. I am now very much more aware of your sector of the aviation community."

■ Mark Swann, the Head of the CAA's Directorate of Airspace Policy and a former military pilot, visited the London GC at Dunstable during July to experience gliding. The aim of the BGA-invited visit was to reinforce the excellent level of understanding between the CAA and the BGA regarding airspace issues, and to provide further insight into how gliding safely interacts with the wider aviation community.

So, as well as having fun flying a glider in tricky soaring conditions and flying a tug aircraft, Mark and his deputy also spent time with Carr Withall, the BGA Airspace Committee chairman, and others discussing important and topical issues affecting gliding and gliding clubs.

GROUP REVIEWS OPS PROGRESS

DURING its July conference call, the BGA Operations Group, comprising chairmen of the airspace, technical, flight operations, licensing, instructing and safety sub-committees and working groups, reviewed progress in a number of key areas.

These included current accident investigations, a published draft AIC, mode S, access to airspace above FL100 and in TMZ's, the Norwich airspace consultation and Oxford airport.

The Operations Group holds three conference calls and one meeting per year. The aim of the group is to further improve the effectiveness of operations support activity across the BGA organisation.

PART 21 AND EASA GLIDERS

OWNERS, operators and inspectors are reminded that once a glider has been transitioned into Part 21 and therefore holds an EASA CofA, the manufacturer's design or the glider's declared transitioned modification state cannot be materially changed or added to - including through maintenance and repair activity - without formal EASA modification action by way of a manufacturer's maintenance instruction, TN (technical note) or SB

(service bulletin), or an EASA-approved modification.

The BGA is developing guidance material to assist owners, operators and inspectors with the maintenance of instrument panel installations etc, which will also include guidance regarding modification action where required.

As soon as that information is available, it will be published and made accessible to all.

MAKE TIME TO BIMBLE

"THIS is wonderful. Why doesn't everyone do this?" asks Mike Fox (*The Fun Starts Here*, June/July, p30), who goes on to describe his delightful and satisfying bumble which, it must be said like it or not, the majority of UK glider pilots don't routinely emulate. In the same issue we are given the annual statistics showing again no real trend in headcount growth. These two pieces are linked.

On the one hand natural wastage continues apace, partly due to an ageing pilot population. This is wastage that commonsense suggests is going to get worse. On the other hand we lose pilots through disenchantment, perhaps because not enough of them routinely enjoy Mike's bumble.

This situation has perplexed us all for so many years. There have been policies to reverse the position, and there are new initiatives in the pipeline, but with what clear numerical objects? The crux of the matter is that we should be aiming to increase our numbers by at least a net 10 per cent year on year.

And if you figure on 10 per cent of today's 8,000 supposed active participants 'retiring' every year for whatever reason, that means we are looking to recruit 1,600 real newcomers to our recreation – every year. It's a tall order. That would mean in three years time our numbers would only be back at the 10,000 level of 15 years ago in 1994. And it would take more than seven years to double our numbers to 16,000.

So these targets (and I know many loathe targets) seem ambitious, and yet are essential. If we do not declare an objective in these terms and measure and report our progress, we will not succeed. And if we do not admit

those strategies are not working and adapt them, and quickly, we have no chance of succeeding in a recreational marketplace of better offerings.

The first thing is to make Mike's bumble commonplace amongst the existing glider pilot population. And the second thing is to recruit significant numbers of newcomers by delivering the image and something like Mike's bumble to them at the earliest opportunity.

Leaving the first aside for a moment and focusing on the second. The image is of beautiful modern high-tech sailplanes that can be flown by more or less anyone around at least the kind of bumble that Mike described – routinely. The reality at many of gliding venues is so very different. The brochures and the publicity show the superships and portray the exploits. The reality is (I have heard it said and dare I say have seen it too) that a first impression of the average gliding club is "a bunch of elderly vagrants pushing a load of scrap around in a field".

You cannot show adult potential newcomers pictures of high-performance glass and then stick them in a tatty or ancient two-seater for their trial lesson. That's not to say we should be conducting trial lessons in the highest performance two-seaters, but the equipment and, importantly, also the facilities have to deliver the image projected if we are to attract newcomers in the numbers needed, and keep them.

Mike's LS4 is by no means new, but it is suitable as a club machine as far as image and performance are concerned. For most early solo pilots, the reality is that the club first solo glider is a K-8.

Roger Hurley, Hereford

Must gliding be a well-kept secret?

ONCE again, we see a statement of fact accepted as inevitable ("In this time when membership of the movement is contracting, ..." - *A Chairman's Perspective*, April/May, p12). Following my experience last weekend when I flew my light aircraft into a busy GA airfield, I have to ask if anyone should be surprised.

During a conversation with the two young aspiring commercial pilots on the reception desk, I soon established that neither had flown in a glider, and suggested that they could do worse than consider gliding as their preferred choice of leisure aviation. I told them if I had to choose between flying power or gliding, the latter would be my choice, without any hesitation. "But surely it's boring" says one of them. "You're just, well, gliding."

I'm sorry to say that I had to leave in a hurry, and had no time to put the lads right on that score, so I suppose I'll have to go back one day soon. However, it illustrates the problem. Gliding has long been, and still is, a well-kept secret.

Go into any good newsagents and you will find a shelf full of aviation magazines covering every branch from paragliding through microlighting to GA and commercial aviation. But not a single magazine on gliding (with the exception of one GA mag that runs occasional pieces). *S&G* (and *VGC News*, for that matter) is full of stirring stories of adventures in gliders of all types – from hot racing to mind-boggling distances and including ridge/mountain/wave/sea-breeze/coldfronts in gliders costing from almost nothing to mega-money – but we keep them to ourselves.

We won't get any message across to the wider aviation world – let alone the wider public – until these stories take their place in GA mags as part of the wider offering to their readers. Both *S&G* and *VGC News* are specialist magazines, and are unlikely to ever do the job. Is there no-one in the world of journalism placed to take these adventure stories to a wider public? Is it a copyright issue? Are GA editors just not interested, or is it that they never get to see them?

Whatever the reason, until I can go into my local bookshop and find exciting gliding tales on the shelf, I suspect we will continue to see

MICROLIGHTS AND THE UK

I was pleased to see from the Chairman's article in the June/July issue (*Opinion*, p8) that the BGA are at last showing an interest in microlight aircraft. I was disappointed to see that the feature on Aero 2009 in the same magazine made no mention of the many microlight gliders and motorgliders on display there nor, in particular, of the Apis self-launching electric motorglider. Still I suppose there was little point really as the UK is almost the only country in the EU (or for that matter in the rest of the world) where you cannot fly this motorglider.

Pat Piggott, Lutterworth, Leics

Pete Stratten replies: *Pat raises a good point. Motorgliders like the Apis are categorised as microlights and, as Annex 2 aircraft, they are regulated under National rules. Before operating a microlight in the UK, the CAA must be satisfied that the aircraft was built to British Civil Airworthiness Requirements (BCAR) Section S or JAR-VLA. There are plans for the BGA and British Microlight Aircraft Association to meet to discuss how we can mutually support the needs of those who aspire to owning microlight self-launching gliders and will be operating them in a soaring environment.*

other aviators, in their ignorance, view gliding as “boring, boring”.

And who can blame them?

Keith Nurcombe, Rugby, Warks

Pete Stratten replies: Roger is right that growth is a BGA aim. This is the single-most enduring challenge of all major gliding nations – not just the UK. We have not yet discovered the right mix of ways to achieve growth and history is littered with many examples of good attempts but limited success.

Objectives are important, but if set arbitrarily will probably result in failure. It's clear that efforts at club and national level will need to be renewed to define a new, considered and appropriate set of aims and goals. Getting more new people into our sport, as well as maintaining the motivation of existing participants who might be tempted to move away, are significant challenges that can only be addressed with an informed, well thought through, joined-up and sustained effort across the entire organisation.

Work is currently under way that will result in detailed discussion and consultation with club chairmen and others later this year as thoughts turn to action. In the meantime, look at the Development News on p10 for some

ideas on how clubs and individuals might help the sport to attract new people, as well as keep our existing members.

The BGA is absolutely committed to increasing participation, improving available support to clubs and ensuring the sport can thrive. As a number of work strands develop, we will be looking for even more people to help. Please look out for requests for volunteer support within S&G and the BGA newsletter.

Keith rightly notes that our powered flying friends can benefit from greater awareness of the fun we have in our sport, including of course in K-8s and K-13s.

This year, three widely-circulated general aviation publications have separately run excellent gliding articles following work by BGA clubs, as well as the BGA communications officer and other individuals.

A few clubs have shrewdly identified a potential market among powered pilots who want to try something new. In addition, among a rash of other S&G developments, we're looking at how we can appeal to and reach a wider readership, including those who have yet to see the light regarding our wonderful sport. If you're a knowledgeable writer with time to spare, Susan Newby, our editor, will be pleased to hear from you. (Contact details p3.)



THE CAMERA NEVER LIES?

JIM COOKE's picture (*Gliding Gallery*, P29, June/July) of a Primary silhouetted against the moon is an excellent spoof. Well done Jim for demonstrating your expertise with Photoshop.

The moon in the picture is about one day past full (terminator – the divide between day and night on the surface – shows this). Thus, unless the glider was flying in pitch darkness (unlikely), the “photo” would have to have been taken shortly after sunset, or in the morning, within half an hour or so after sunrise. But then there are problems with either of these scenarios.

Unless the Primary was diving at some 45 degrees (scenario 1) or climbing at some 45 degrees (2), then those orientations of moon and glider are just not possible. Moreover, the relative sizes of moon (approx 1/2 degree diameter as seen from Earth) and glider imply that the glider was photographed from a distance of over three kilometres – some camera to produce that definition!

I could go on. But thanks Jim for keeping me entertained – astronomical data, paper, pencil, and calculator – for the best part of an hour.

Jack Harrison, Cambridge

RECORD-BREAKING AEROTOW

WITH reference to the Longest Tow letter from Lance Cole (June/July, p6), I started gliding in the early 1970s from Cranfield. This was as an associate of the Cranfield Institute of Technology Gliding Club. My link was via Texas Instruments who had a production and marketing operation in Bedford.

Texas Instruments as part of their commitment to ‘CIT’, purchased a K6E new from Schleichers in Germany. I was told that CIT collected it from the factory and aerotowed it back to Cranfield. This (if it is true) was supposed to have been accepted by the *Guinness Book of Records* as the then longest recorded A/T.

Michael Oggelsby, Bletchley, Bucks

Howard Torode replies: I can confirm pretty well all that is said above, apart from the formal Guinness Book Of Record linkage. The Texas Instruments (TI) GC was a subsidiary of the College of Aeronautics GC later CITGC. TI's contribution was the availability to the club of a new Ka6E – BGA 1489 Comp no 130 – which was towed to Cranfield from Poppenhausen in Germany by a crew of about three people. This method was chosen as we did not have the

readies to buy a trailer immediately. I was very new at Cranfield at the time, which I believe was September 1968, and I can remember the gliders first landing at Cranfield one weekday afternoon, although I did not realise the significance of it.

After TI and indeed CITGC folded in the late 1980's, Ka6E BGA 1489 lived for many years at Lasham before being sold on to a Japanese owner. I recall seeing a photo of it against Mount Fuji in an S&G of about five years back.

■ LANCE COLE's interesting letter brought this to mind. Between 23 June and 21 July, 1943, a Dakota towed a Waco CG-4 glider across the Atlantic full of cargo from Montreal to Goose Bay, Greenland, and Iceland to Prestwick in Scotland. It proved impractical as the Dakota could carry more weight on its own, so it only happened once. I have not worked out the distances involved. My longest tow was only from Wattisham to Bicester in a T21. Also during the war, a Dakota was converted to a glider by removing the engines and fairing over the nacelles. It was during trials towed by a DC6 at 290 mph.

Mike Wood, YGC

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 6 August

FOCUS IS ON AIMS AND OBJECTIVES

BGA Chairman **Patrick Naegeli** revisits the need to explore new ideas and says the timing is now right for the BGA to consider and confirm what specific goals it should be looking to achieve over the next three to five years



F

OR SOMETHING as enduringly successful as *Sailplane and Gliding*, it is often difficult to imagine how it might be made better. I was, as a consequence, very impressed by the new format that was introduced with the last issue. Our editor, Susan Newby, has clearly used her first year in her post wisely. She has identified those aspects of *S&G* that could be usefully preserved whilst, at the same time, making a number of changes that have significantly refreshed the magazine.

I know that Susan and the rest of the publication and communications team are working on several further ideas aimed at extending the accessibility and appeal of *S&G*. In the meantime, congratulations to the entire *S&G* team for their work so far.

Coincidentally, my last column also touched upon the need to explore new ideas and potential opportunities against the backdrop of fundamental success. My intention was to highlight the similarities between aspects of gliding, hang gliding and paragliding, and microlighting. The suggestion of a three-way meeting to see if there were development areas where we might co-operate more closely has been warmly received by both the BMAA and BHPA and we will be getting together in the near future.

The results of this meeting will provide input into the BGA's Performance and Development initiative. The work, which started earlier this year, is presently concerned with identifying specific aims and objectives for UK gliding. These goals are going to cover a range of key metrics at individual, club and national level. The intention is to discuss them with club chairmen over this coming winter's round of meetings and also at next year's AGM. As individual objectives are validated and finalised they can then be used to inform and guide the priorities of BGA subcommittees.

The last time a specific set of comprehensive goals was set out for UK gliding was within the BGA's last strategic plan. We have held off from preparing a new plan for a number of reasons – not least of all because the potential outcome and impact of various

regulatory developments were still not clear. With the likely end-state of certain regulatory matters becoming at least a little more predictable, the time is now right for the BGA to consider and confirm what specific goals it should be looking to achieve over the next three to five years.

I did say in a recent column that I was going to make sure that I did not spend too much time on the subject of regulation. My resolution was largely based on the dawning realisation that there is rarely ever much to report that is positive; and, as a consequence, it is all too easy to reflect on the slow and often frustrating progress being made on one subject or another. Once in a while a report, in all its gory detail is necessary so that everyone can remain broadly abreast of developments. More frequent than this, however, and reading such reports can often become as tedious and deflating as they are to write.

One item associated with regulation, however, caught my eye recently. Specifically, it was a resolution by the European Parliament in response to a communication by the European Commission, snappily entitled "Agenda for Sustainable Future in General and Business Aviation". What made this particular paper worth reading was that it appeared to be a clear move by the European Parliament to "remind" the Commission of what is critically important in developing aviation policy and regulation.

The Parliament was at pains to point out that:

- **EU aviation policy should not be focused on serving the needs of the commercial air-transport community at the expense of general and business aviation**
- **Rules must be proportionate**
- **There is no such thing as a "one size fits all" solution given the very wide range of different circumstances to be found within the aviation community**
- **Regulatory proposals should be accompanied by the requisite evidence-based impact assessments**
- **The Commission needs to make sure that it properly understands the circumstances of each element of the aviation community.**

These steers by the Parliament closely echo arguments that the BGA has made time and time again. I hope that the mere fact that the Parliament has felt moved to voice its opinion in the way that it has will add weight to our own arguments in the future.

In closing, I would just like to reflect on recent events that have reminded me that the sport we all enjoy so much does have its risks that need to be managed carefully and constantly.

Unfortunately, two very serious accidents, both involving loss of life, occurred over the weekend of 13-14 June. The field landing accident on the Saturday, and the collision between a glider and an Air Cadets Grob Tutor on the Sunday, were both tragedies. Just two weeks earlier there was a fatal winch launch accident at the Mynd. I know that our thoughts and sympathies are with the families and friends of the people involved in these accidents.

Stay safe, have fun.

Patrick Naegeli
Chairman, British Gliding Association
June 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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Alison Randle
BGA Development Officer
alison@gliding.co.uk

Six top tips for positive action

- **Memberships – maintain drive for new ones**
- **Launches – maximise availability**
- **Hours – maximise fleet serviceability**
- **Trial lessons – maintain sales drive**
- **Debtors – control credit closely**
- **Cash flow – forecast to cover winter commitments and a rainy day**



At your convenience – Buckminster GC now has a portaloos located at each end of the airfield (Les Merritt)

SO WHAT IF IT IS A VENERABLE K-13 RATHER THAN ONE OF THOSE FLASH YOUNG DG1000s? IT CAN STILL GLEAM ON THE OUTSIDE AND BE TIDY IN THE COCKPIT WITH A CLEAN CANOPY

Feeling the crunch, or is it business as usual?

DOESN'T time fly? It's already about a year since the economy entered its final glide to economic meltdown with promises of 'you ain't seen nothin' yet...' and some economic pundits are now beginning to say that the signs are that we have reached the corner that will lead us back out of recession.

So how is life at our clubs? Tough. But when will we be out of the woods? Like being established in a good climb out on cross-country, relaxing to munch on a sandwich only to find that you're not centred anymore, when will gliding clubs be able to relax and say that they have coped with, and survived, this recession?

At the Chairmen's Conference and Treasurers' Forum, 'recession' was a hot topic with sharing of practical solutions being discussed in both programmes. The consensus of opinion was that the current and specific economic challenges were of little difference to the 'normal' challenges

that clubs face – chiefly membership recruitment and retention; and keeping flying activity levels high enough to cover fixed costs and club developments such as fleet improvements. Of greater concern was the possibility of receiving a third wet summer on the trot.

In addition to looking after their existing members, nurturing them and making sure they stay active as flying members, Keith Mansell

suggested that clubs focus positive action on six areas (see top left).

During their discussions, the treasurers suggested monitoring activity using some key performance indicators such as: membership numbers, flights to date, trial lessons sales, and cash in bank.

I know of at least one club that regularly puts activity graphs up on the wall, using the required activity for break-even vs activity to date. This makes it very public information and encourages club members to feel responsible and that they can make a difference. This way club flying

activity belongs to everyone, not just the committee or the treasurer. By the way, using the pilot-availability measure, early indications so far this summer season are encouraging; no joy, they've been flying!

So what else can club members (ie you) do to help? Fly more. Talk to visitors at the launch point, make them feel welcome; perhaps even sit them in your hot ship. Put a club poster up at work, college or your local pub. Or organise a group to come along for a flying evening.

Clubs – how is your club image? Does your marketing material set reasonable expectations? It used to be said that clubs should 'deliver what you sell' but sometimes this simply creates a mismatch between hot ship images and club fleet reality. So how about 'selling what you can deliver'? So what if it is a venerable K-13 rather than one of those flash young DG1000s? It can still gleam on the outside and be tidy in the cockpit with a clean canopy through which to view the gorgeous surroundings.

Is your clubhouse a hand-me-down temporary building? No matter. More important is the welcome to anyone walking through the door. Is it clean and tidy with cheery people, plenty of interesting things to look at and does it offer a clean mug (and teaspoon) to drink a nice cup of tea from on a summer's afternoon? How about a piece of home-made cake? There are lots of permanent buildings that can't offer this (I'm thinking motorway service areas – modern but soulless). To many people who expect easy access to hot and cold running water, flushing toilets and the latest in hand-drying technology, the remote launch point can be a bit of a culture shock, especially for those with young children. A source tells me that Buckminster GC now has (and uses) two portaloos – one for each end of the airfield.

So, surviving these unusual economic times seems to be business as usual for gliding. And if we all continue to work together to support our clubs in any way we can, the gift of good soaring should be ours for years to come.



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Young members of The Air League took advantage of flights in a number of light aircraft and had the opportunity to experience a flight in a Rapide. Experienced aviators offered advice for those wishing to pursue a career in civil or military aviation (Susan Newby)



Spectacular setting for Air League flying day

SUNDAY 14 June saw The Air League hold its young members' flying day at IWM Duxford, writes glider and motorglider pilot *Scott Pendry*. This event focuses on what is available to young people interested in a career in aviation.

Building on the success of the previous few years, this year's flying day included an even greater line-up of events, most notably the attendance of a number of light aircraft offering flights to young members and the opportunity to fly in the Swire Charitable Trust's de Havilland Dragon Rapide.

Ninety-eight young people associated with The Air League took to the skies, including a couple of their parents. In addition the Air Cadets flew 12 of their own young pilots and the Scouts a further 10.

Alongside the various Cherokees, Robins and Jodels offering free flights, the Air Cadet Organisation were also out in force with two Vigilants offering a taste of flying in a motorglider to those young members aged under 20.

A rigged Viking - the ACO's trusty conventional glider - was also on site, which provided a great addition to The Air League's stand area.

The Scouts played an important part in the proceedings at Duxford. Neil Broughton brought G-BODU along and their encouragement and activity made up an important part of the day.

Like last year, there were lots of events happening on the ground as well. In addition to the Air Cadet Organisation, the RAF was in attendance providing advice on careers in military aviation.

For those wanting to pursue a career in civil aviation, or to just enjoy aviation as a hobby, there were a number of experienced civil aviators on hand to provide advice.

Indeed, in keeping with previous years the event was a very relaxed affair with everyone having a good chat about their various flying experiences, whatever flying stage they were at!

The Imperial War Museum's collection of static exhibits was quite spectacular, providing an inspiring backdrop to the day's events.

■ Later this season the traditional Air League flying day at is due to take place at Bicester with career advice, gliding and power flying available. Watch for email updates through the Junior Gliding network.

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> DEREK PIGGOTT

Continuing his series of interviews with the gliding greats, Platypus talks to Derek Piggott about a lifetime of aviation

14

BRITAIN'S best-known teacher of gliding, Derek Piggott first flew in an Avro 504, the basic power-trainer of the day, at age five – just about the time that Lindbergh crossed the Atlantic. (Pause for sharp intake of breath as I realise those 82 years cover most of aeronautical history.) Nobody I know in aviation can exceed him in his inexhaustible enthusiasm for every form of flight.

PLATYPUS: *What times have you enjoyed most in a lifetime of aviation?*

DEREK: I hugely enjoyed flying replica planes in *Those Magnificent Men in their Flying Machines*. Some of the copies of aircraft circa 1910 were practically impossible to fly – as no doubt the originals were! I re-rigged mine to get the right amount of controllability and stability. The other professional pilots just struggled along with these potentially lethal

machines as best they could, without making any effort to tweak them so as to improve their handling.

In *The Blue Max*, a film made in 1965, set in France circa 1917, I flew a Fokker Triplane 17 times through the narrow side-arch of a railway bridge in Ireland with only four feet to spare on either side. I had lined up two poles in the far distance and kept them exactly in line, and of course flew in dead calm weather.

PLATYPUS: *I doubt we could make real-life action films like that these days without being knee-deep in lawyers and Health and Safety officials!*

DEREK: Another thing I always enjoy is flying any new type. I have flown 170 different glider types and about 130 power.

Training with motorgliders

PLATYPUS: *A big problem in teaching gliding is the slow rate at which launches can be achieved at any one site with wire launches or aerotows. People are much less patient and long-suffering these days than 50 years ago, so this must lead to trainee drop-outs and declining membership. I know training with motorgliders is a special enthusiasm of yours.*

DEREK: Yes, using conventional training gliders, an instructor can only do two or maybe three launches an hour, chiefly because of congestion and queuing at the launch-point.

PLATYPUS: *And doubling the number of two-seaters and instructors (if you can find them) does not double the number of flights achieved?*

DEREK: No, the launchpoint congestion just gets worse. The motorglider obviates that problem: you can get six or more flights an hour and concentrate on the critical issue of landing. For beginners, keep things as simple as possible.

Teaching landings: keep it simple!

DEREK: Teaching landings is the primary aim. Circuits and approaches are for later. The experienced pilot has no difficulty in doing two tasks at once, flaring with his right hand on the stick and adjusting the dive brake with the left hand – but it is too much for the beginner. The beginner should just learn how to flare, so that

the glider touches down with minimum speed and does not balloon. The instructor at this stage deploys the brake, not the pupil.

PLATYPUS: *Yes, in music-training you practise the right hand and the left separately. Only when each is near-perfect do you use the two hands together.*

DEREK: By the way, I don't like the expression "pattern" because it suggests a set way of flying the aircraft around the approach, from which it is wrong to deviate.

PLATYPUS: *I first encountered the expression while getting my power-licence at Minden. But it's commonly used in gliding on both sides of the Atlantic. Talking about teaching landing technique, I don't remember "aiming-points" being mentioned in the 1950s.*

DEREK: "Aiming-point" means that you pick a point on the ground which you would expect to hit if you continued the glide straight on down without any rounding-out. You adjust with dive-brake to keep the glide-path in line with the aiming-point. However, don't teach aiming-point technique too early. Again, keep it simple, one thing at a time. Teach landings first – rounding-out, holding off.

By the way, a method that has been in vogue for some years is "synchronised patter" in which every action by the instructor or trainee is accompanied by a commentary describing the action. I would sooner separate the words and the actions: the pupil must understand the instruction before any demonstration. They must learn to exercise judgment and make decisions. For example:

Instructor: "What's happening now?"

Pupil: "The speed is dropping off"

Instructor: "OK, so what are you going to do about it?"

Teach trainees how to recognise problems – and solve them

DEREK: We should not just teach people how to do the right thing. We must give them experience of anticipating a potential danger and make corrections. If this is not done there is a risk that pupils will, when solo, face perils that they have not met in their dual training. For example, pupils need to



In the 2003 Club Class Nationals, Derek completed a 505km task in seven hours 14 minutes in the 12.7 metre Me7 (flightbox.net)

experience ballooning during a landing, and learn to cope with it – instead of their attempts to correct making it worse till they break the aircraft. Similarly, towards the end of a course for instructors, who are accustomed to making a turn on to finals at 200-300ft, I would do a really low last turn – wing-tip 10-15ft off the ground.

Derek's books

PLATYPUS: Which of your many books are you proudest of?

DEREK: *Beginning Gliding* is my favourite, then *Gliding*. *Beginning Gliding* contains all that I believe about safe landing technique, which we have just been discussing. *Gliding* has been through eight editions since the first one in 1958.

PLATYPUS: That 1958 edition was the first "How-To" book on gliding I ever read – along with Philip Wills's *On being a Bird for inspiration!*

The Lost Arts

PLATYPUS: From time to time I whinge in this column about "The Lost Art of..." The art of navigation, for example, is stone dead.

DEREK: Yes, people don't know how to map-read or use a compass or understand compass errors.

PLATYPUS: Field-landing is a lost art too – 50 years ago almost every cross-country ended in some farmer's field. Now we go for many seasons without landing in a field.

DEREK: That is where motorised training-gliders are especially useful. With a Motorfalke and an experienced cross-country instructor you can, in the space of 30 minutes, get several successive opportunities to practise field-selection and a circuit and final approach into the field you have chosen – and get constructive criticism of what you did wrong.

PLATYPUS: Yes, that's probably more field-selection practice than you would do in a modern glider in several years of cross-country soaring.

DEREK: Another thing we don't do these days is look after gliders on the ground to secure them against gusts and wind-shifts. Modern gliders have higher wing-loadings so are less likely to blow over, but sudden changes in the wind can endanger them.

An important lost art is side-slipping. In a field-landing you might need to use the maximum safe rate of descent that you can achieve with both full brake and sideslip.

PLATYPUS: Yes, and a slipping-turn which I was first taught in the *Kite One* in 1958, with its mediocre spoilers, gives you a really good view of the landing-spot as you do the last turn.

DEREK: In powered aircraft with big engines blocking one's view a steep sideslip was an essential skill, for that reason. However in some gliders a big sideslip can cause the rudder to lock over, and recovery eats up a lot of height – the Janus C for example.

PLATYPUS: Help! I had a Janus C for years based at Minden; but the airports – and the fields and dry-lakes – there are so vast I was never tempted to try out the lost art of the really steep emergency descent with sideslip.

Why accidents happen

PLATYPUS: Despite better training of instructors these days, why do serious accidents still happen?

DEREK: Many accidents happen because of lack of supervision. Someone does something potentially dangerous on the site, and no one in authority does anything about it. The pilot should at least be taken aside and talked to. Many instructors are reluctant to do this. I knew a flying instructor in the old days who would terrify the life out of the trainee pilots in his charge – but the safety record of these pilots was good.

PLATYPUS: Machiavelli said "It is better for a ruler to be feared than to be loved" but most of us want to be loved.

DEREK: Yes, I was gentle with my pupils but their safety record was only average!

Heroes of past and future

PLATYPUS: Which people in gliding do you admire most?

DEREK: Many, but two come to mind immediately: first Nick Goodhart – certainly the most intelligent. His analysis of thermalling and thermal structure – separate bubbles rather than a continuous stream of lift – was ahead of its time. Then there was Frank Irving – I always went to him if I had any technical problem in aviation.

I also admire many of our young pilots. In the 1950s and early-1960s there were very few pilots of the calibre of Philip Wills or Nick Goodhart. The trouble was it was not easy for them in those days to pass much knowledge on to the rest of us.

PLATYPUS: Now you have superb two-seaters in which top pilots can fly with future stars, and software such as *SeeYou* for post-flight logger analysis.

DEREK: The young pilots today have better, quicker minds and very high computer-literacy, essential in competition flying these days.

PLATYPUS: Any regrets?

DEREK: I wish I had done more cross-country soaring in 1955-65. That was an exciting time!

THE PIGGOTT FILE

- > Born December 27, 1922
- > Joined RAF 1942; trained in Canada; commissioned 1943
- > Converted to troop-carrying gliders (Hotspur, Hadrian, Horsa) 1944; posted to India and Burma
- > Supply dropping over Assam and Burma in DC3s 1945
- > Staff instructor, RAF Central Flying School 1948-51
- > Member of victorious British Wakefield team (rubber models) Akron, Ohio 1948
- > Chief Instructor, ATC Instructors' School 1951-53, during which time he set two-seat altitude record of 17,000ft with ATC cadet
- > Queen's Commendation for training innovations, 1953
- > British single-seat record of 25,000ft in thunderstorm 1953
- > Joined Lasham, 1953 and became Chief Flying Instructor (with a break as film stunt pilot 1963-4) until 1989
- > UK National aerobatic glider champion, 1961
- > First authenticated man-powered take-off 1961
- > Stunt flyer in nine films including *The Blue Max*, *Darling Lili*, *Those Magnificent Men in Their Flying Machines*, *Villa Rides*, *The Red Baron*
- > Twelve books and monographs including: *Gliding, 1958*; *Beginning Gliding, 1975*; *Delta Papa: A Life of Flying, 1977*; *Understanding Gliding, 1977*
- > Honours include: MBE 1987; Royal Aero Club Gold Medal, 2007 and Honorary Companion; FAI Lilienthal Medal 2008
- > Inventions include: Piggott-Hook, prevents air brakes opening on launch

I KNEW A FLYING INSTRUCTOR IN THE OLD DAYS WHO WOULD TERRIFY THE LIFE OUT OF THE TRAINEE PILOTS IN HIS CHARGE – BUT THE SAFETY RECORD OF THESE PILOTS WAS GOOD

SCHLEICHER'S ASH 31Mi

A NEW DI



Jochen Ewald discovers that, although it comes with 21m span, the ASH 31Mi can fit into a 'standard' trailer, while its performance appears to be not far below that of the big Open Class superships

SELF-LAUNCHING gliders with retractable engines are the ideal solution for independence-loving glider pilots. FAI 18m-class gliders have proved to be perfectly suitable for being equipped with a self-launcher engine: the additional weight of the drive does not lead to too high 'unballasted' wingloadings, and they are still easy to handle and affordable. Schleicher's 18m ASH 26E was introduced in 1993 and 252 have been sold. Its successor, the ASH 31Mi, with either 18 or 21m span, boosts the performance range of this class significantly.

The 'concept of success' for the new model appears quite simple: The ASH 31Mi was designed using the ASH 26 fuselage and its inner wing moulds, which got an 1.9m long 'conversion section' to fit to the outer wing sections of the ASG 29. With this connection located at 7m half-span, the new inner wing now gives the choice of 18 or 21m span,



MENSION

and, with a weight of 85kg, it can be still rigged by two people, or alone using rigging aids.

To achieve a good control harmony with the larger wing, the rudder depth was increased by 5cm. Like the ASG 26, the 31Mi's wings are assembled with a tongue-fork spar connection with two main bolts and have automatic Hänle-type control connections. They contain flexible water ballast tanks for up to 150-litre ballast or, optionally, a 15-litre fuel tank in each wing, which reduces the possible water ballast volume accordingly.


The outer wings are connected using the the ASG 29 system – after inserting their spar tongue into the inner wing, they are secured by a horizontal bolt pushed in with a special tool at the leading edge. The outer ailerons interconnect automatically to the inner ones.

Of course, the structure of the fuselage and the inner wing had to be adapted to the higher forces caused by the enlarged span and the increased AUW of 700kg and the latest crashworthiness requirements.

Last, but not least, the engine chosen to power the new glider is the more powerful Austro Engines (formerly Mid West) IAE 50R-

AA rotary engine with 56hp and electronic fuel injection and dual ignition. This drive is now Schleicher's 'standard drive' and has already proved its reliability in the ASH 25Mi and ASK 21Mi.

This way of designing with as much 'already available stuff' as possible saved Schleicher a lot of mould-building and enabled them to present the new ASH 31Mi even before their new open class two-seater, the ASH 30Mi, which is expected to fly late 2009. I was invited to fly the ASH 31Mi with the 21m wings at their Huhnrain factory airfield at Poppenhausen, below the famous Wasserkuppe.

After checking, refuelling (very easy with the built-in fuel pump, which sucks the fuel in from a jerrycan via a snap-in connected hose in the rear of the engine box) and checking the content of the small oil tank behind the engine (the engine produces the required fuel-oil mixture automatically) I enter the comfortable cockpit. With 66cm width, adjustable pedals, backrest top and bottom and headrest, it is easy to make this seat comfortable for nearly any body size – it fits even very tall pilots. 

(Above) Schleicher's ASH 31Mi, successor to the ASH 26, is available with either 18m or 21m span (Manfred Münch)

(Far left) In the ASH 31Mi, Schleicher's 'standard self-launcher drive' delivers more than 4m/s climb rate (Jochen Ewald)

ALTHOUGH NOT AS CRISP AS AN 18M GLIDER, IT FEELS HANDY, COMFORTABLE WITH VERY HARMONIC CONTROLS AND GIVES THE PILOT A GOOD INDICATION OF HOW TO CENTRE THE THERMALS



Throttle (left), propeller stopper (right) and starter button (underneath the propeller stopper) are placed in the socket of the instrument panel



Refuelling is easy with the built-in fuel pump



The winglets fit to both outer wings, the small wingtip wheels will be larger in serial production

✂ The fuselage side of the canopy frame shows no sharp corners, and with the instrument panel connected to the canopy it is really easy to enter and exit in an emergency. For this, I found the small steps in the floor between pedals and knee support very helpful. The cockpit interior offers the well-known Schleicher standard – comfortable, with everything placed where you expect it to be, and everybody who has flown modern Schleicher gliders will immediately feel at home.

With the electronic dual ignition and fuel injection, starting the rotary engine is easy. After activating the engine main switch and checking the fuel cock (clearly visible at the left console), I switch the drive extraction switch to 'out' and see the propeller coming out in the small mirror in the instrument panel. As soon as the green LED signals complete extraction I set the throttle to 'idle', open the propeller brake by swinging the lever right besides the throttle up, switch the ignition on and press the starter button, which was hidden underneath the propeller stopper lever until it was swung up.

After a short warming-up run and ignition check, I taxi on to the runway. This prototype is not equipped with a steerable tailwheel (which will be available optionally in serial production). Nevertheless, with the small wingtip wheels (which will be a bit larger in serial production) it is possible to steer its direction by opening the throttle a bit with the wheelbrake pulled and the stick forwards, which lifts the tailwheel off and lets the ASH swing into the required position.

Lined up, with the flaps in 'thermal' (+5) position and the stick fully back, I can open the throttle fully without the glider showing a tendency to nod onto its belly.

The aileron is effective right from the beginning, and the acceleration impressive. With the stick eased forwards a bit, the tailwheel soon lifts off, and at about 85km/h I lift the ASH 31 Mi off the ground and let it accelerate to the best climbing speed, which is between 95 and 100km/h.

The engine now revs with 7,300rpm, is running nearly vibration free and produces an agreeable sound. Cockpit visibility and ventilation are excellent, and the undercarriage retracts easily with its lever at the right console showing the locked positions at both ends clearly.

After 3min 50sec I reach 1,000m above the (400m MSL) airfield, an excellent 4.3m/s climb rate! This engine can also be used without any problems for horizontal flight. With the throttle reduced to the max permanent rpm of 7,100, the ASH 31Mi cruises at 150km/h, although the 16 litres of fuel in the fuselage tank then offers only a range of 230km. Using the sawtooth-flight, its range increases to 500km.

Approaching the stall when climbing full throttle lets the stick feel mushy at 80km/h IAS, and at 77km/h the stick is fully back with the glider still under full control. The drive installation gives a well-balanced performance: changing the throttle setting from idle to full with the trim previously set to 85km/h, speed stabilises at 95km/h.

After a short cooling-down phase, I switch off the engine at 85km/h. Soon the propeller stands still. Now I activate the propeller stopper and accelerate a bit to rotate the propeller blade towards the rubber stopper. With the propeller in its vertical position, I press the retraction switch down until retraction stops and a beeper reminds me to let the engine cool down for about two minutes. In this slightly extended position, the drive no longer causes significant drag. As soon as the engine temperature starts decreasing, I can complete the retraction by pressing the switch again. Finally, I switch the engine main switch off to save energy during soaring.

Soaring is fun with this 21m glider: although not as crisp as an 18m glider, it feels handy, comfortable with very harmonic controls and gives the pilot a good indication of how to centre the thermals to optimum effect. Only the higher rudder pedal forces remind me that this glider carries 'a bit more wing outside'.

I find the best control harmony at about 110km/h. As with all larger gliders, the aileron input has to be reduced a bit after the rolling movement starts, to keep the string in the centre. With the flaps set to 5 at 105km/h and full control deflection, I measure a 45-45° rollrate of only 4.3 seconds, and at the flap position 6 (which I think is barely needed and might only show advantage in well-centred, narrow smooth thermals) 5.3 seconds.

With the flaps set to the landing position L, the rollrate remains the same as in 6, because with the inner flaps going down in this position, the outer ailerons come up again – a system well loved by the pilots of Schleicher's flapped gliders. Flown at 90km/h

with 30° bank or 95km/h at 45°, the ASH 31Mi thermals efficient and comfortable, only a light amount of opposite aileron support is required.

The stall is gentle: With the flaps at 5, the controls start feeling mushy below 80km/h IAS, with the stick further back buffeting starts and the nose goes up until at 78km/h staggering starts, which can still be controlled by careful rudder use. Pulling the stick further back results in a wingdrop, which stops immediately when opposite rudder is applied and the stick eased forwards.

I found the same behaviour with the flaps set to 6 at 3km/h lower speed, and another 3km/h slower with the flaps at L. Opening the two-bladed Schempp-Hirth airbrakes results in a stall speed increase of 6km/h.

Also the influence of the flap setting on the trimmed speed is fine. Trimmed to 85km/h at flap 6, the ASH 31Mi accelerates to 95/120/135/150/ 160km/h in the flap positions 5/3/4/2/1 and slows down to 80 km/h when L is selected. In this configuration speed increases to 95 km/h when the airbrakes are opened – no need to change the trim setting during the approach.

The aerodynamic forces on the elevator are low, so it works well just to unlock the spring trim by pulling the lever in front of the stick to set it correctly. It is only at higher speeds that the knob on the right console needs to be pushed a bit forwards.

When I flew the ASH 31Mi prototype, its VNE was still limited to 180km/h because the flutter testing had not yet been done. At this higher speed, the ASH is very stable and comfortable, the suspension of the slim 21m wing smoothens the gusts you pass through excellently and the cockpit noise level is very low. Starting the engine again in flight by using the same procedure as described on the ground is easy and fast. After only 20 seconds it was running again, and the time I measured for stopping and retracting it until it reached its 'cooling position' was 25 seconds.

Before landing, I also check the sideslip. Although with the flaps set to 6, the ASH 31Mi wants 'to suck itself' into a very high sideslip angle and the rudder is 'blown towards its stop' so that it requires some opposite force, it behaves in an easy and 'classic' fashion when sideslipped with the flaps in landing position. A light moment with the airbrakes open, a bit higher noseheavy moment during sideslipping, can easily be compensated for with the elevator.

The sensible basic approach speed, with

the flaps at L and full brakes, is 100km/h (plus half windspeed). The typical Schleicher combination of the ailerons going up again when the flaps are set to landing position results in excellent control during the approach and whole ground run, even under gusty crosswind conditions and, together with the efficient airbrakes, permits very steep approaches. The approach speed mentioned here should be kept until close to the ground – during holding off speed decreases fast and the ASH 31Mi touches down softly in two-point attitude on its tailwheel and the well-suspended main wheel.

The hydraulic disc wheelbrake is operated by the last inch of the airbrake lever's way so, to protect the tyre, the airbrakes should not be fully opened during touchdown. On the ground, the wheelbrake is easy to control, and even when braking a bit harder I found no significant tendency of the nose to nod down and scratch its belly.

With the ASH 31Mi, Schleicher has not only created a well performing successor to the ASH 26, but also a new idea to make motorgliding even more attractive without increasing its costs into the range of the >25m 'superships'. The 'typical customers' of the 18m self-launchers are private pilots and clubs looking for an independent to operate high-performance glider which they can handle easily (with rigging aids, even without help).

Although the ASH 31Mi comes with 21m span, it fits into a 'standard' trailer, the weight of its inner wing is 'still acceptable', and its performance appears to be not far below that of the big Open Class superships. At the same time, with the 18m outer wings, it is competitive in the FAI 18m class, although the 'pure competition pilot' will prefer the ASG 29(E) due to its wider wingloading range and slimmer fuselage. But this glider cannot offer self-launching and the easy increase of its performance by rigging the 'long wings' while not competing.

The ASH 31Mi is a glider that gives you a lot of fun, combining the advantages of the 18m and the open class with the self-launching abilities of a strong and smooth-running, reliable engine.

And, built with the well-known high craftsmanship standard of the Schleicher factory, it also promises to be an aircraft that keeps its value high after years of use.

A GLIDER THAT GIVES YOU A LOT OF FUN, COMBINING THE ADVANTAGES OF THE 18M AND THE OPEN CLASS WITH THE SELF-LAUNCHING ABILITIES OF A RELIABLE ENGINE



The engine control instrument is placed central in the bottom of the instrument panel, the engine main switch left

TECHNICAL DATA

Span: 21m (68ft 11in)
18m (59ft)
Wing area: 13,2sq m (142sq ft)
11,9m (128sq ft)
Fuselage length: 7,07m (23ft 2.5in)
Empty weight: 430kg (948lb)
420kg (926lb)
Max weight: 700kg (1543lb)
630kg (1389lb)
Max wingloading 53kg/qm
(10,8lb/sqm) 53kg/qm
(10,8lb/sqm)
Max waterballast: 160l 120l
Min sink: (540kg)
0,47m/s(92.5ft/min)
0,55m/s(108ft/min)
Best glide ratio: 56 >50

Engine: Austro Engines IAE
50R-AA 294ccm rotary
Max. power: 56hp/41kW
Fuel (fuselage): 16l
Fuel (wing, optional): 2 x 15l
Climb rate: 4m/s (800 ft/min)
Propeller: AS two blade
Range: (sawtooth, 16l-tank)
500km
Range (horizontal cruise)
230km

THE SHAPE OF T

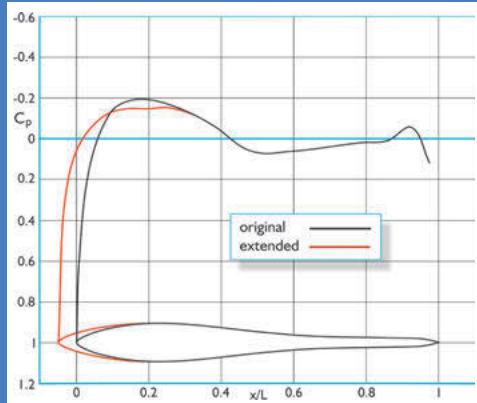
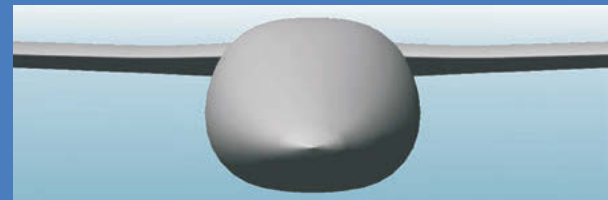
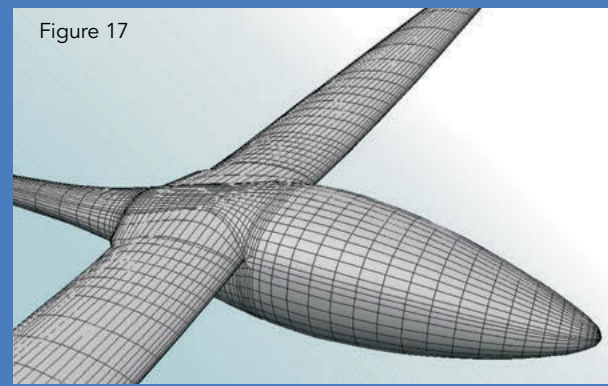
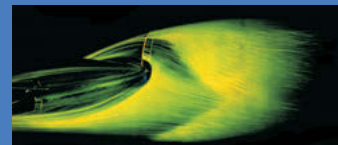
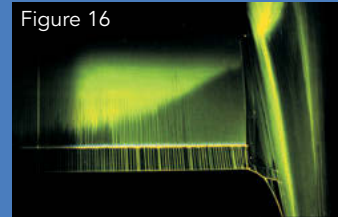
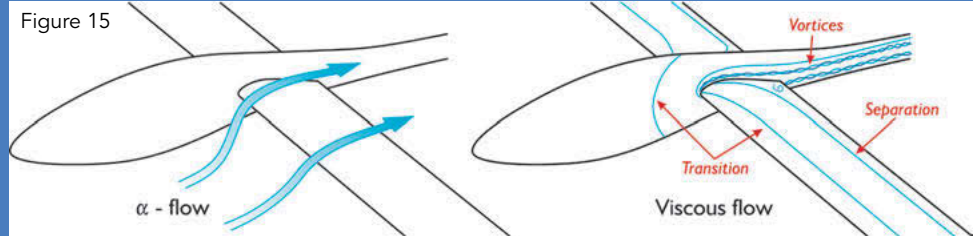
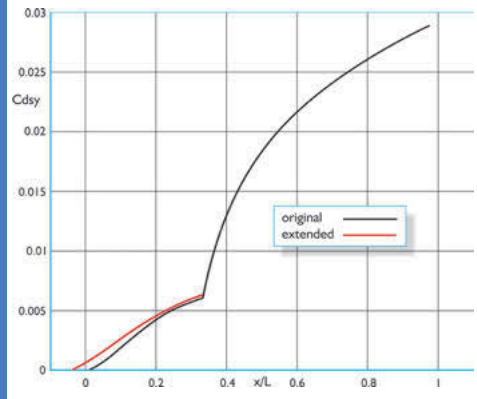


Figure 14a and (below) Figure 14b



Loek Boermans is associate professor in low-speed aerodynamics at the faculty of Aerospace Engineering at TU Delft University, The Netherlands. He has held the position of President of OSTIV since 1998 and has recently been elected a Fellow of the Royal Aeronautical Society (FRAeS). This series of articles is based on a Royal Aeronautical Society lecture

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

FUSELAGE drag depends mainly on fuselage thickness, contraction behind the cockpit, and streamline shaping. Fuselage frontal area should be minimal. Contraction behind the cockpit – and the corresponding pressure gradient – is limited because of flow separation when the boundary layer on the fuselage is completely turbulent, for instance when flying in rain. Streamline shaping by fitting the fuselage shape to the streamlines produced by the wing minimises cross-flow effects.

For an undisturbed boundary layer development, continuity of curvature in flow direction is required. This is guaranteed

by deriving the top, bottom, and line of largest width from airfoil shapes, and using Hügelschäffer curves (deformed ellipses) for the fuselage cross-sections.

A remarkable finding is that the cockpit length can be increased by 0.3m without any drag increase, as illustrated by the accumulative development of the drag coefficient on a rotationally symmetrical body in the figures 14a and 14b.

Transition occurs at 33 per cent of the original fuselage length, and the total drag is found at the tail.

This result offers the possibility for improved crashworthiness measures: a longer

THINGS TO COME

PART TWO

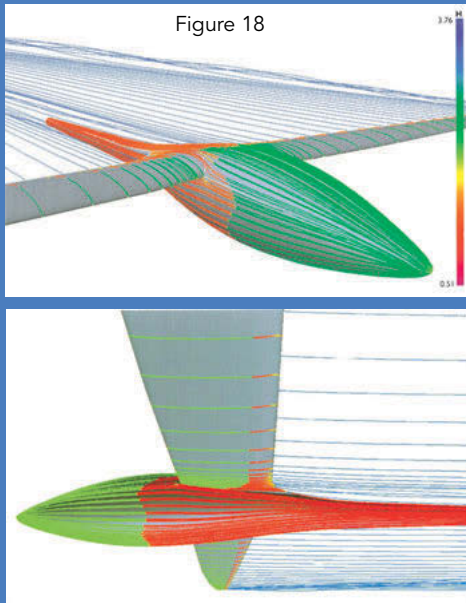


Figure 18

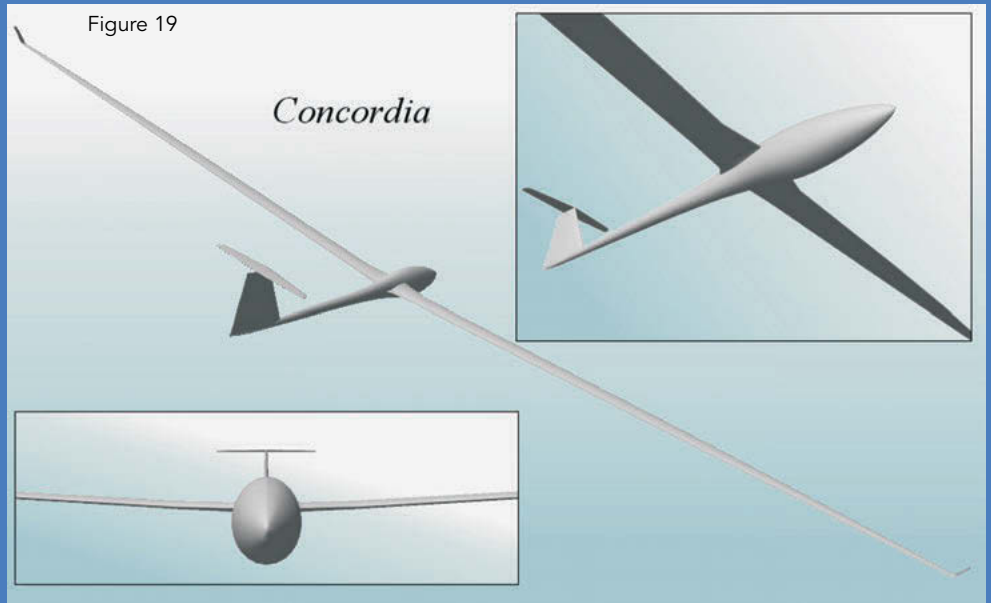


Figure 19

Concordia

Figure 14a Pressure distribution on a fuselage with cockpit extension

Figure 14b Development of the drag of a fuselage with cockpit extension

Figure 15 Alpha-flow effect (left) and viscous flow effects (right) on a wing-fuselage combination

Figure 16 Oil flow patterns on the wing upper surface (upper picture), wing lower surface (middle picture) and fuselage of a

high-performance sailplane wind tunnel model

Figure 17 Wing-fuselage combination of the Stemme S2/S6/S8/S9 family

Figure 18 Streamline pattern and transition on the wing-fuselage combination of the Stemme family

Figure 19 Three views of the single-seat open class sailplane Concordia

crumpling nose cone and the pilot's feet out of this zone. These features have been implemented in the design of the fuselage of the Antares.

Wing-fuselage interference

The aerodynamics of a wing-fuselage combination is complicated. As sketched in figure 15, main flow effects are, at an increasing angle of attack, an additional increase of the angle of attack in the wing root region due to cross-flow of the fuselage. This is named alpha-flow and results in viscous flow effects as the forward shift of the transition position on the wing and, if the laminar airfoil is not modified, separated flow at the rear of the wing root. At a decreasing angle of attack, an additional decrease of the angle of attack occurs in the wing root region causing transition on the lower surface of the wing to move forward. Another viscous flow problem is the separation of the turbulent boundary layer on the fuselage in front of the

wing root due to the steep adverse pressure gradient towards the stagnation pressure on the wing root leading edge, and the resulting vortical flow system on the fuselage around the wing root.

Figure 16 shows flow patterns, visualised by fluorescent oil in UV light, on the wing and fuselage of a high-performance sailplane wind tunnel model. The change of friction at transition and zero friction at separation are depicted in the oil flow. The curved transition lines on the wing due to the alpha-flow effect and the separated flow in the wing-root upper surface area are clearly visible. Zigzag tape, intended to trip the laminar boundary layer, is located in the turbulent boundary layer now and produces small vortices as indicated by the oil traces. Transition on the fuselage and the separation line at some distance around the wing root are clearly visible as well.

In addition to these friction and pressure drag producing viscous flow effects, ➤

A PROPERLY DESIGNED LEADING EDGE FAIRING AT THE WING ROOT AVOIDS THE USUAL SEPARATED VORTICAL FLOW SYSTEM AROUND THE WING-FUSELAGE JUNCTION AND CAUSES THE APPROACHING TURBULENT BOUNDARY LAYER ON THE FUSELAGE TO RELAMINARIZE ON THE FAIRING

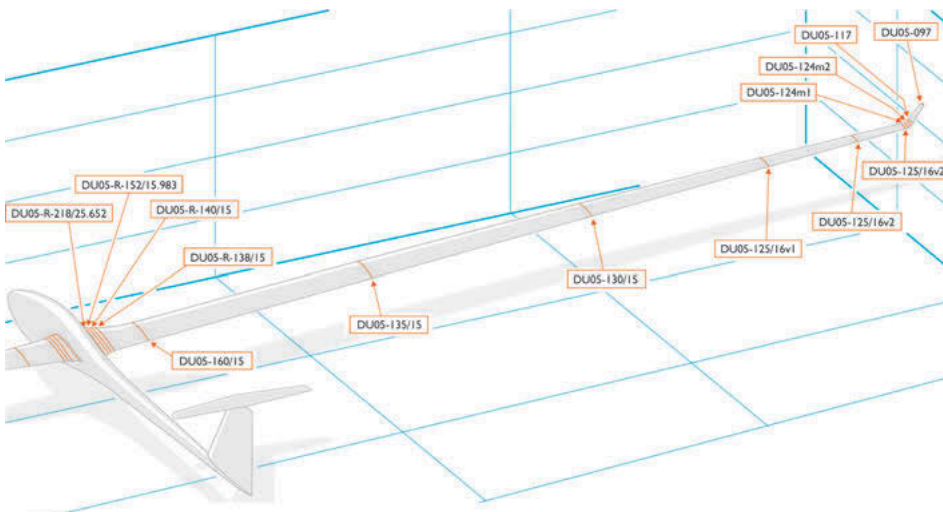


Figure 20

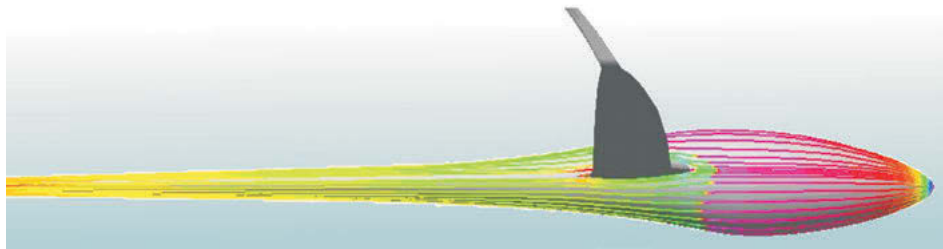


Figure 21

Figure 20 Position of the 14 airfoils applied in the wing of the Concordia

Figure 21 The fuselage of the Concordia has been fitted to the streamlines produced by the wing at $CL = 0.3$

Figure 22 Wing-fuselage junction of the Concordia

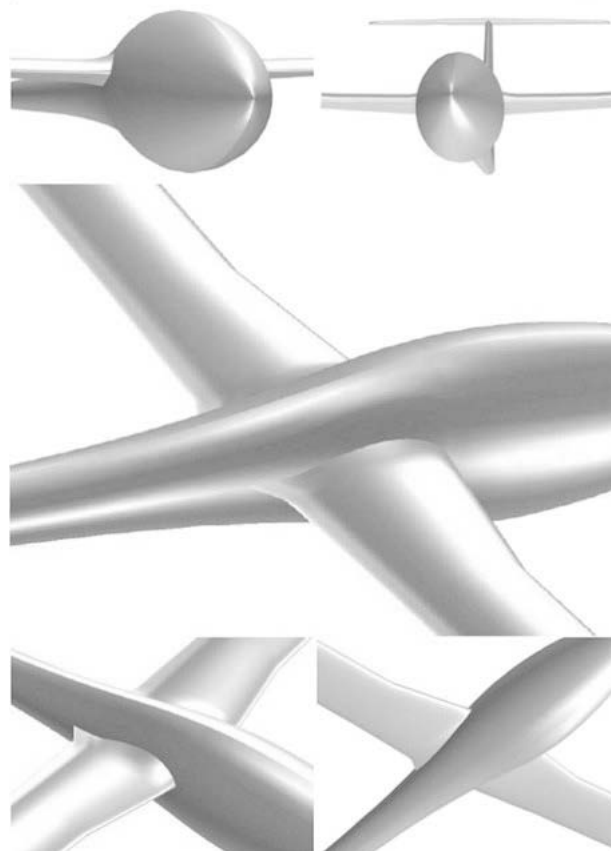


Figure 22

THE AIRFOILS IN THE REGION UP TO 1M SPAN ARE MODIFIED IN ORDER TO KEEP THE BOUNDARY LAYER LAMINAR AS LONG AS POSSIBLE IN CHORD DIRECTION AND AS CLOSE AS POSSIBLE TO THE FUSELAGE

the circulation distribution of the wing-fuselage combination produces more induced drag than the wing only.

The following examples illustrate how these problems have been tackled.

The Stemme S2/S6/S8/S9 family of gliders, soaring motorgliders (engine behind the cockpit and propeller retractable in the nose cone) and touring motorgliders (fixed propeller) has the same side-by-side two-place cockpit configuration and fuselage junction, figure 17. Two wings have been designed, one with 18m and one with 20m span, which have identical inner parts up to 9m span. Both wings have winglets, but they have been omitted in the present case focused on wing-fuselage flow problems.

Flow problems due to the large fuselage contraction below the wing could be overcome due to the favourable effects of the shoulder wing location on the pressure distribution. From 2.5m span inwards the laminar airfoil of the wing has been modified and twist has been applied by rotating the airfoils around the hinge line of the flap, which has to remain straight.

In this way the boundary layer on upper and lower surface could be kept laminar as long as possible in chord direction and as close as possible to the fuselage, and the loss of lift due to the presence of the fuselage could be compensated.

Next to the fuselage the airfoil is suitable for turbulent flow, and the chord is extended to lower the pressure gradient and postpone separation. Figure 18 shows streamline patterns coloured corresponding to the boundary layer shape factor; the sudden change in colour from green to red marks transition.

The touring motorglider S6 made its maiden flight in November 2006 and was EASA certified in 2008.

The Concordia is a new single-seat Open Class sailplane with 28m wing span designed for a maximum take-off weight of 850kg, Figure 19. The relatively small wing area (high aspect ratio of 57.3) and water tanks in the wing, fuselage and tail enable the wing loading to be varied from 40kg/m² to 62kg/m², thus improving cross-country performance from weak to strong thermal conditions. Figure 20 shows the 14 airfoils applied in the junction, wing and winglet, taking into account respectively the turbulent flow in the junction, the required circulation on the whole fuselage-wing-winglets combination, and the local Reynolds numbers; all focused on low drag.

In order to reduce construction work on the fuselage, the front part as far as the end of the wing-junction, including the wing attachment pins, has been taken from the ASW-27. The position of these pins and the requirement to fit the fuselage perfectly to the streamlines produced by the wing at the high-speed lift coefficient of 0.3 (figure 21) necessitated an increase of the wing chord towards the fuselage and twist between the fuselage and 1m span position. The twist is applied again by rotating the wing around the hinge line of the flap. In order to realise the proper lift distribution for minimum induced drag, the flap is twisted as well and reaches up to the fuselage. Similar to the Stemme design, the airfoils in the region up to 1m span are modified in order to keep the boundary layer laminar as long as possible in chord direction and as close as possible to the fuselage, both at high-speed and low-speed flap deflections, and a trailing edge fairing is applied at the wing root to lower the pressure gradient. Figure 22 gives an impression of the complicated wing-fuselage junction.

Performance calculations indicate a best glide ratio of 72 at wing loading 40kg/m^2 and 75 at wing loading 62kg/m^2 , which correspond with a glide angle of only 0.8 degrees and 0.76 degrees respectively. At the high wing loading the sink rate is only about 1m/s at a flight speed of 200km/hr.

The challenging structural design of the Concordia was done by Gerhard Waibel, well-known designer of the ASW gliders, and the Concordia is being built by Dick Butler, Tullahoma, USA. The fuselage and tailplanes are completed and the wing is currently being built in accurately machine-milled moulds.

● The Mü-31 is a sailplane prototype of the FAI 15-metre Class, developed by students of the Akaflieg München, aiming at an improved wing-fuselage design, figure 23. To reduce costs and time, the cockpit, outer wings and tailplanes of the ASW-27 are used, whereas the centre section of the wing and the fuselage contain the new approach of wing-fuselage design.

The main goal of this new geometry is the realisation of a high-wing configuration that has several benefits. Compared to conventional mid-wing configurations less boundary layer material coming from the fuselage flows over the upper surface of the wing-fuselage combination. Therefore it is expected that separation will be postponed, allowing for better low flight speed capabilities.

Another feature is the contraction of the fuselage below the wing, leading to a reduced wetted surface of the tailcone. While in mid-wing configurations the horseshoe-vortices at the wing root affect the flow over the tailcone, with the present pylon-like wing configuration the vortices leaving the pylon do not touch the fuselage.

At first, an extensive theoretical and experimental investigation was performed of three similar high-wing-fuselage configurations where the wing had respectively a straight centre section, a twisted centre section (to compensate for the loss in lift due to the fuselage), and a twisted centre section plus airfoil modification towards the fuselage (suited for turbulent flow). This study revealed the strong effect of respectively the twist on induced drag, the airfoil modification on profile drag, and the contraction of the pylon on flow separation.

Based on these findings a new fully-integrated high-wing-fuselage combination has been designed, which has an induced drag almost equal to the induced drag of the wing only, laminar flow on the wing as long as possible in chord direction and towards the fuselage, and no boundary layer separation on the pylon.

Wind tunnel tests with a carefully milled model (figure 24) substantiated the intended improvements.

The structural design of the Mü-31 is completed and the moulds for the wing centre section and fuselage have been milled.

● A new theoretical method for the design of a leading edge fairing has been developed and experimentally verified. Such a fairing avoids flow separation on the fuselage in front of the wing root and the subsequent separated vortical flow system around the wing root.

In addition, it causes the approaching turbulent boundary layer on the fuselage to relaminarize rapidly on the fairing. This method has been applied for the first time at the design of the fairing at the tailboom – vertical tailplane junction of the Antares. A fairing at the wing-root-junction of the Antares has been recently designed and will be tested in flight, figure 25.

Note that the streamlines on the fuselage continue over the fairing, indicating that separation doesn't occur. However, the code is not able to calculate relaminarization.



Figure 23 The FAI 15-metre class sailplane Mü-31



Figure 24 Wind tunnel model of the Mü-31 wing-fuselage combination

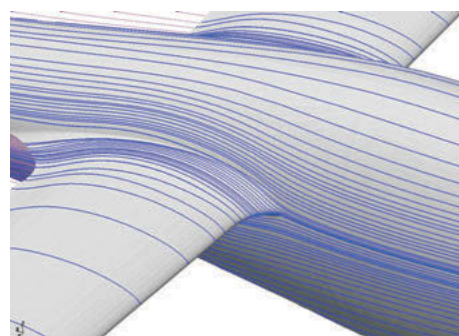


Figure 25 Streamlines on the wing root leading edge fairing design of the Antares

● The next article in the series looks at aerodynamic developments on boundary layer control by suction and the development of tailplane airfoils



(Above) The Club Class returns to Nitra Airport during the 2009 Pribina Cup in Slovakia – how many gliders can you spot? (photo by fifteen)
(Below) The sun hitting the lower mountains produced massive up-drafts, so on the mountains pilots were never far from a good thermal (Chris Luton)

EPIC GAGGLES IN CUP CHALLENGE



Devin Giddings takes time out from crewing for two UK pilots competing in the Pribina Cup to report back from the world's biggest gliding competition

WITH 150 sailplanes taking part, the Pribina Cup is the biggest gliding competition in the world. The event is an annual eight-day competition held over Easter (10-19 April, 2009). Now in its ninth year, the IGC-rated event has become a regular fixture in the calendar of European competition pilots, although has gone largely ignored here in the UK. This year, however, the Pribina Cup was particularly notable as the warm-up competition for the 15m, 18m and Open Class European Championships was due to take place at the same site in July. With this in mind, British Team member Russell Cheetham and Chris Luton of The Gliding Centre (Husbands Bosworth) decided to check out the terrain.

The trip to Slovakia was by car, towing the gliders. We opted for the hardcore option and completed the journey in an evening and a day. The first evening was spent driving down to Calais where we stayed the night. The real slog came the next day when, after an early start, we drove across France, Belgium, German, Austria and finally arrived in Slovakia not long before midnight.

A bit of advice gained through experience: the speed limit on the German autobahns when you have a trailer is only 80kph (50mph), the same as the slowest lorries. This is rigorously enforced, with hefty

punitive fines for speeding. It is possible to go faster if one buys 100kph restriction plates for the trailer, which increase the limit. Unfortunately, this requires visiting a German vehicle licensing office and sorting out the paperwork, which is not practical if you are just driving through. Furthermore, having such a restriction actually reduces your speed limit while in France.

The competition was hosted at Nitra Airport, a large grassy field just to the east outside the agricultural town of the same name. Nitra is in the middle of the western Slovak Republic, about an hour's drive away from the capital, Bratislava. Its positioning gives it an enviable selection of terrain to challenge and excite a glider pilot.

To the south is Hungary and the Danube flood plain, while going north the ground becomes hilly, leading to mountainous northern Slovakia and south Czech Republic. Not only did this provide for exciting and varied flying, but spectacular scenery, with pilots sometimes having to fly into Czech and Hungarian airspace.

The 150 gliders that make up the handicapped competition were split into three classes of about 50 aircraft each – so 15m gliders could fly in the Open Class. The 15m class was bundled together with the increasingly popular 20m two-seat gliders and similarly the 18m and Open Class gliders competed in a single group. Club Class gliders, which made up the final category, had a group to themselves.

To accommodate so many aircraft, each morning two grids were set up, making use of the large space the airfield had to offer. One side of the grid was used for the water-carrying classes while on the other side was the Club Class, followed by the self-launchers. Tugs would then circuit to the left or the right, depending on the grid they were serving, and would land on the open space between the grids.

Two tug fleets were used for the two grids. The club class were launched by WT9 Dynamic, made locally in the Aerospool factory at the nearby Prievidza airfield. Despite looking like a typical light aircraft, the Dynamic is actually classed as an ultralight. With an empty mass of about 250kg, the bulk of which comprises the 100hp Rotax engine, the Dynamic was a impressive piece of kit and proved more than capable as a tow plane.

Pilots of the heavier gliders were in for a treat with Z-37 Čmelák (pronounced Smelek), a Czech agricultural aircraft with immense

power. With an angular and boxy aesthetic design, these flying tractors are even more ugly than the Pawnee. Not a familiar sight in the UK, the Čmelák has gained a reputation as being the best tow plane in the world. A large part of this is likely to be due to the infamous internet video where it was shown launching nine Blaník's on a single tow. The power certainly impressed the pilots, who described a launch behind one as being like a cross between an aerotow and a winch. Able to tow a glider up to 2,000ft in a couple of minutes, it ensured that the grid was launched without much delay.

Despite there being so many contestants the event was very relaxed and informal. Conventions common for UK competitions, such as calling start times and finishes, were dispensed with. This came as something of a surprise to people used to using the radio to keep tabs on the competition. Instead pilots just had to make sure they handed their logger trace in shortly after they landed for analysis via the flight analysis tool SeeYou. Scoring was done quickly, with results uploaded to the website as they were processed. No doubt having the author of the software in attendance helped!

The weather, for the most part, was incredible with numerous reports of thermals averaging over 10 knots – particularly in the mountains. With a maximum permitted altitude of 8,000ft over most of the flying area (FL95 in some areas to the north), and harsh penalties for exceeding this, care had to be taken.

The time-window with soarable conditions was quite short; it was joked that the thermals were turned on at 11.00 and off again at 17.00. This put some pressure to get going as soon as possible after the start gate was opened and avoided a lot of the jostling for position at the starts: start late and you might not get round before the day ended!

Generally the weather was better at the beginning of the week, with conditions deteriorating as the competition drew to an end. Only one day, the second to last, was scrubbed when a front that had been moving across Europe reached us with a dramatic storm. Impressive as it is, seven racing days is not atypical for the Pribina Cup. The organisers say that 6.5 days is the average over the years the event has been running.

According to the pilots the real



British Team member Russell Cheetham took a very respectable fifth place (photo by fifteen)



Two grids were set up to accommodate the 150 gliders taking part
Below: Chris Luton
(photos by: elfo.sk)



THE WEATHER, FOR THE MOST PART, WAS INCREDIBLE WITH NUMEROUS REPORTS OF THERMALS AVERAGING OVER 10 KNOTS – PARTICULARLY IN THE MOUNTAINS

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☞ flying took place in the mountains, with strong streets running the length of mountain ranges; the sun hitting the lower mountains produced massive up-drafts, which meant on the mountains one was never far from a good thermal. Crossing the flat valleys between the mountains was interesting, as there was very little lift in the valleys (though lots of landable fields), so gaggles of pilots would climb on the mountains (near to 8,000ft) then proceed slowly across the valleys (sometimes up to 40km) at around 70kts in order to reach as high up as possible on the next range of mountains.

With the long 70kt runs in groups, certainly in the 15m, one was able to get a good gauge of the performance of the competing aircraft; DG1000s, Duos, Ventus 2As, ASW 27s, even LS8s, all appeared quite similar in performance: the noticeable one out was the Diana 2, which would gain 2,000ft over other gliders on a steady 20km run. Some put it down to the excellent Polish pilots, others were more sceptical about the handicaps system!

Gridding was not ordered at all except that 15m/20m would always go ahead of the 18m/Open Class. This I would consider as my only complaint about the competition, for two reasons: firstly, the still quite short soaring window meant that the 15m/20m class would always be assigned the longest task, much to the chagrin of the open pilots. Although most of the tasks were over 400km, nothing was set over 500km. This was a pity seeing that people had already been doing 500km tasks in the UK a few weeks earlier.

The point was raised with competition director Vlad and in future competitions the launch order may well be alternated. The second problem from the lack of launch order was that, because of the short day, no one wanted to be at the front of the 15m grid

or the back of the 18m grid. This led to some shenanigans that could have been avoided by assigning a launch order.

Entry into the competition used a somewhat eclectic selection procedure, factoring in national team membership, whether you had flown in the Pribina competition before, and IGC rating. As might be expected, most of the pilots were from Central and Eastern Europe, with Germany, Poland and the Czech Republic having the largest contingents.

There was a wide range of abilities, but many top pilots were in attendance. This was particularly noticeable in the 15m/20m class, where Poland took 1st, 2nd and 4th place. Sebastian Kawa, ranked second in the world, dominated in his Diana 2, coming in first on every day but two.

Things were a bit closer in the 18m/Open Class with Wolfgang Janowitsch of Austria, who came first on three days, taking first place and Poland's Karol Staryszak, who won on another three, taking second.

GB's Russell, who won the first day day-winner's shirt, came in a very respectable 5th place. In the Club Class things were less clear-cut. However, German pilots dominated the top half of the table.

Given its size, it may come as a surprise to learn that the entry fee to Pribina is only 99 euro. Aerotows were also remarkably good value, costing between 30 and 40 euro during the competition, depending on the size of the glider, but only 17 euro on the training days.

It is a good bet that a trip to Nitra will give excellent flying opportunities and I would heartily recommend competing at the Pribina Cup to anyone who has the opportunity in the future.

ACCORDING TO THE PILOTS THE REAL FLYING TOOK PLACE IN THE MOUNTAINS, WITH STRONG STREETS RUNNING THE LENGTH OF MOUNTAIN RANGES

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With long 70kt runs in groups, one was able to get a good gauge of the performance of competing aircraft (Chris Luton)



Devin Giddings is a Silver C pilot and a Sailplane Crew Union member

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This issue Gliding Gallery features the stunning photographs of Steve Lynn, taken during a 650km flight earlier this year with Ed Downham, who describes the day

WITH THE SUPERB VISIBILITY, IT LOOKED LIKE WE WERE IN SOUTH AFRICA RATHER THAN NORTHAMPTONSHIRE!



26 April, 652km LEZ-YOR-BED-BOT-DUN, with Steve Lynn

A SIGNIFICANT southerly wind, which normally isn't a good sign in the UK; also a tight depression with an eye like a hurricane just off the Welsh coast. The airmass looked good though: unstable with dewpoints falling and a "slot" between cloud to the west and a feature over the North Sea. We decided on a N-S yo-yo to make use of any energy lines and to stay in the centre of the country.

We launched at 10:30 into a sky with rather ragged but large cu. The thermals weren't particularly strong, given the depth of convection, but the runs were good and the base slowly rose to 3,500-4,000ft ASL passing Saltby.

We called Doncaster and got a transit through the zone, which was just as well as it had become a bit spreadout, leaving less in the way of route choices. We were a little frustrated running into York (TP1) as the lift was somewhat broken and harder to find but were relieved to catch a good climb to 4,500ft just short of the TP.

On the way back south, the spreadout had become quite extensive so we ended up west of track, which was fortunate as there was a

737 using the airspace further east.

Once through a soggy patch around Melton Mowbray, conditions became excellent with bases over 6,000ft and 5kt climbs: with the superb visibility, it looked like we were in South Africa rather than Northamptonshire! (Apart from 10K less on the altimeter...) We rounded Bedford (TP2) then had another good run to Bottesford (TP3), slowing down to glide in and out of the turn in the same duff air we'd experienced around Melton. We put a decent margin on a 4kt glide and finished at 16:45 for an average of 107kph.

The thermals had been good but when they weren't strong they were a little broken and more difficult to relate to the clouds than usual. I think we could have possibly started 30 minutes earlier and gone on for another hour, so there was potential for a 750km with the right task.

Given the actual weather, an extra 50km further north would have done the trick rather than moving the third TP but it'd have been a hard call at the start of the day. Steve and I swapped over on the controls every half an hour and that helped us stay fresh (and have time for photography!) A cracking day for April, or indeed any time of year.



Opposite page, clockwise from top left:
Ed contemplates the first cu of the day

EB28 ready for launch in front of the bowl
at Dunstable

LGC clubhouse from the rear of 13

This page, clockwise from above:
Self-launch into a promising sky

A bit of a scrape up to final glide

Rutland Waters southbound

Looking north at the River Ouse near Goole
on the way to the first TP

Running home in the company of Nick Hoare
in 42

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



ACCURATE BASIC HANDLING

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

BEGINNING to learn to fly can be a little daunting to start with. If you drive, think back to how things were when trying to master clutch control and the whole parallel parking thing! Flying is a similar process. Although things might seem impossible at first, with the right instruction and plenty of practise, handling the glider will begin to come naturally. That is not to say, however, that handling the glider accurately and displaying good airmanship doesn't continue to challenge even the most experienced pilot.

This short article will not go into the basics of how the controls work, etc. The text assumes that you have received some training, so that you know the basic terms used. There are plenty of books and manuals full of instruction, quite apart from listening to what your instructor tells you. What I would like to bring you are the little extra bits of information that are not in the books.

Lookout

Statistically, there are three main ways to kill yourself in a glider. They are stalling and spinning into the ground, getting it wrong on the winch launch, and crashing into another aircraft in midair. The two former accidents can be trained for at any time if the pilot wishes to improve and stay safe, but the latter really must be introduced at the start of your training. It is almost impossible to retrain a pilot to look out later in their career. Please ask that your instructor picks you up if you are not looking out enough at the start of your training, and especially before you turn. It will save your life!

Rolling into and out of turns

If you do not use enough rudder to roll into the turn, this may lead to the speed increasing in the turn thus: As your instructor will tell you, if you don't use enough rudder, adverse yaw will be present as you roll into the turn. This will not only swing the nose



in the opposite direction to the roll, but also 'up' with respect to the horizon as the bank angle increases. If you see this, you may ease the stick forwards to compensate and regain the desired attitude. You then centralise the ailerons to stop rolling, the adverse yaw disappears, and the nose yaws down as the speed increases.

The opposite occurs if you over rudder (skid) your turns. In this case, the nose will look lower than it should for a given speed. You may then raise the nose with the elevator back to the correct attitude to compensate. This leads to a very slow, over ruddered turn. This can be dangerous – talk to your instructor!

If your speed control while rolling into and out of turns is all over the place, keep an eye on the string and check that you are coordinating rudder and aileron correctly. This MAY be your problem.

Straight and level flight

Don't let anyone tell you that flying straight and level towards a fixed object is easy. It's hard. It relies on you being able to know if the wings are level by looking ahead. It is tempting to use the movement of the nose along the horizon as a guide as to whether the wings are level. This can lead to problems, especially if you don't coordinate even small aileron inputs with rudder.

For example, if you see the nose moving along the horizon say to the left, you will correct with right aileron. If you don't use enough rudder, the nose will initially swing FURTHER left (due to adverse yaw), so you apply more right aileron. After a couple of seconds, the nose stops moving along the horizon, and you centralise the ailerons. The adverse yaw disappears, but the right wing is now down a bit, and the nose starts to move to the right along the horizon. You correct with a bit of left aileron but not enough rudder, and the cycle continues. Your instructor may tell you that you are over controlling. While that may be the case, often the root cause is again lack of proper coordination of controls.

You may be concentrating quite hard; perhaps you are nervous. This may lead to you pressing with both feet on the rudder pedals. If you find that the rudder is heavy or difficult to move, TRY to relax (easier said than done!), you may find the rudder getting lighter! You may also feel that you are pressing on the left or right rudder ...and you are.... but it is MOVEMENT we are after, not simply PRESSURE. You need to feel

movement in your ankles and feet.

If you can't tell, or you are not sure that the wings are level by looking over the nose, you can check OCCASIONALLY by looking from wingtip to wingtip. You should be looking out at least that far around anyhow!

Speed control

When your instructor asks you to fly around at a normal speed (depending on the aircraft), it's important to fly with primary reference to the ATTITUDE as opposed to the ASI. Once you really get used to a particular glider, you will find that you can fly at a given speed with only a very occasional glance at the ASI. This is good, as it allows us to look out more for other aircraft and gliders and select nice juicy clouds!

If you fly more than one training type, the normal attitude may look quite different. Don't be surprised if you tend to fly K-21s rather fast if you are used to flying K-13s, due to trying to lower the nose so that the view looks the same as the K-13.

You will need to check the ASI much more on the approach and on a winch launch, but we will deal with those phases of flight in other articles.

Trimming

The trimmer is your friend. Having taught you the trimmer, the instructor may have uttered the words 'from now on, always fly the glider in trim', but he or she may not mention the trimmer much more other than before the approach to land. It is to some extent a personal matter as to where and when to use the trim. I like to fly with the aircraft in trim almost all the time, so that I don't need to concentrate on speed control all the time. This reduces workload and gives you more time to concentrate on other aspects of accurate flying. I think this is particularly true when thermalling – but some pilots like to thermal with some back pressure on the stick. Each to their own.

Use of controls

There are very few 'natural' pilots around. I am not one of them! I have to work very hard and practise a lot to maintain a standard of flying that does not embarrass when I'm coaching! At all times and in all phases of flight, smooth and progressive movements of controls needs to be the order of the day. If you 'jab' at the controls or are ham fisted

and slam the controls around, you will find it very difficult to coordinate all three controls accurately.

If you are progressive, you will be able to monitor if you are using appropriate amounts of rudder with aileron, and maintaining the correct back pressure (if any) to maintain the attitude.

At my club, we have for years used the motorglider to teach effects of the controls and basic turning, before transitioning to pure glider to start looking at the other exercises. High aerotows can be used to achieve the same.

Time in the air and practice at flying straight and level and turning are the key to mastering flying the glider before moving on to anything more complicated like launching or landing.

Remember that you will learn quickly sometimes and at others find it difficult to make any progress. This is normal. Relax, enjoy the view, and perhaps ask the instructor to demonstrate again. Above all, enjoy your flying training. You are embarking on a great adventure.



(Facing page) A good climb rate and good lookout!

(Above) Motorgliders give time to relax while practising (Mike Fox)



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

S&G editor Susan Newby starts lessons at Gransden Lodge

'NEWBIE' FILES

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FINALLY, after 12 months as Editor of S&G, I manage to get in my first 'official' flying lessons.

Having had some brief, but expert, guidance from Pete Stratten in a motorglider, I was looking forward to my first lesson at Gransden Lodge, home of Cambridge GC.

My instructor Robert Theil greeted me with: "Where have you been then?" – a reference to the fact I had been trying to schedule my first lesson since the early part of this year. Juggling my job as editor and looking after two kids, I realise that this is perhaps why there are not more women in the sport.

I was to fly in one of the club's K-21s,



All out for a first lesson in one of Cambridge's K-21s

which duly underwent its daily inspection. After a chat about the areas to be covered on my day's flying, and a safety briefing, it was time to jump in the cockpit.

I had chosen to start with an aerotow and was delighted to discover that my tuggie was Robert Bryce-Smith, son of one of my S&G predecessors.

Having released, Robert (Theil) found us a thermal and then handed over control to me. I tried my best to recall the advice from Mike Fox's new series of articles for beginners and impress Robert with my lookout regime. I was also reminded of Roger Emm's advice to me during my visit to Nene Valley GC: "Keep those shoulders down, Susan!".

All too soon we were on circuit, for a smooth landing by Robert. Next followed a couple of winch launches. The first was a short flight, but on the second winch launch we eventually managed to connect with a thermal.

It teased us for quite a while initially. The vario would beep, but as soon as we turned into the thermal it seemed to disappear.

As the lesson progressed I was trying to coordinate my stick and rudder control – not

always successfully I admit. For some reason, I struggled to get my feet in a good position on the rudder pedals. Robert suggests we try the Puchacz on my next visit.

After about 30 minutes of thermalling, I find that I am beginning to feel a bit queasy. Not wishing to decorate the inside of the cockpit, I relay my concerns to Robert and we fly level for a short while before landing.

All in all, a successful first day of flying lessons. Next time my goal is to improve on rudder control and get some practise on trimming the glider.

Session Two

The sky was not looking great for my scheduled second session of instruction. Not feeling very hopeful, I arrived at the club to find it deserted apart from Andy Beatty.

As we waited for Robert (stuck in traffic), frequent glances out of the window did nothing to inspire confidence that I would be doing any flying that day. However, Robert's arrival brought with it a change in the weather and he decided it would be flyable.

I planned to stick with the K-21 again, but a faulty vario meant we took the Puchacz after all.

With just a handful of us there, it was down to me to tow the glider to launchpoint at the far end of the airfield. More new experiences – a brief drive of the golf buggy and then one of the club's 4x4s. OK, so what do I do with two gear sticks? And where is the handbrake?!

Girly moment over, it was an interesting drive, trying not to get too distracted at the sight of hares racing in front of me rather than keeping an eye on Robert and the glider in the mirror, while maintaining a suitable speed for towing.

Four winch launches today. I had the airfield to myself, so I was very grateful to the guys for cheerfully turning out to instruct, man launchpoint and drive the winch, just for my lessons. Thanks!

My lessons continue to focus on improving rudder control and coordinating rudder and aileron control. Hmm. I don't think I am a 'natural' pilot, but hopefully it will all fall into place before too long. I really wish I had read Mike Fox's second article in his series for beginners before today! It seems to have been written with me in mind. "Over controlling... lack of coordination of controls..."

Mastering the trimmer was a little easier. I seemed to be doing the right thing, as there were no screams of panic from Robert whenever he asked me to raise both hands in the air to prove that the glider was in trim.

The fourth and final flight of the day gave me my first real soaring experience, as Robert pointed out promising cumulus and cloud streets to aim for. I have also now flown a circuit.

Next time I will be introduced to stalling and concentrating on more coordinated turns. But for now I have to concentrate on getting this issue out!

MY LESSONS CONTINUE TO FOCUS ON IMPROVING RUDDER CONTROL AND COORDINATING RUDDER AND AILERON CONTROL. Hmm. I DON'T THINK I AM A 'NATURAL' PILOT, BUT HOPEFULLY IT WILL ALL FALL INTO PLACE BEFORE TOO LONG



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LAND OF THE LONG WHITE

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A spectacular lenticular photographed over Mt Benmore
(All photographs by Chris Rudge)

**NO NAMBY-
PAMBY TURNS
HERE, BECAUSE
ALL YOU WILL
GET IS ONE OR
TWO QUICK 10
TO 15KT GUSTS
BEFORE YOU ARE
TOSSED TO ONE
SIDE LIKE A LEAF
IN A STORM**



Joined by another Duo at 15,000ft above the Hunter range

John Marsh discovers the perfect landscape of the land of the Aotearoa – the spectacular lenticular that sits

TAKE a beautiful sunny day, add stunning landscape, sprinkle in a generous amount of 10kt thermals, top it with a thick layer of mountain wave and you have a perfect soaring day. But this isn't just any soaring day, this is a Southern Soaring day.

Thousands of miles from the cold wet UK is the land of the Aotearoa. Better known as New Zealand, the Maori name Aotearoa translates as the land of the long white cloud. This long white cloud is the huge lenticular that sits over the Southern Alps and under this spectacular atmospheric phenomenon is the town of Omarama – the home of Southern Soaring, New Zealand's oldest gliding business.

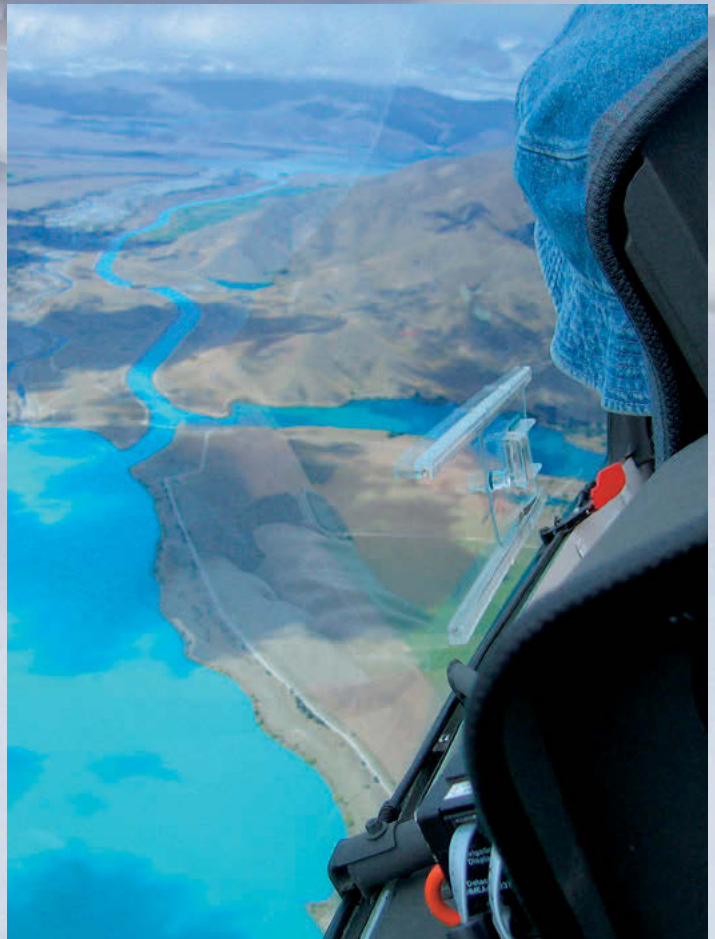
This was my second visit to Omarama. Three years ago I was lucky enough to fly with Glide Omarama, but this year I opted to fly with Southern Soaring. Both companies operate from the same airfield and use the same modern building as a base. Each company has their own strengths. You perhaps can expect more adventurous flights with Glide Omarama, whereas Southern Soaring is biased more towards one-to-one mountain and wave flying techniques (even so, most of my flights approached the 300km mark).

As an average club pilot, I needed help and guidance on how to fly in the mountains safely and indeed tuition on all aspects of this very challenging and rewarding flying. All Southern Soaring mountain soaring courses come under the direct guidance of their CFI. In other words, you

WHITE CLOUD



John Marsh approaching Mt Cook and the Tasman glacier



Lake Ruataniwha (Maori for two monsters). The colour of the water is due to the "glacial flour" that sits in suspension in the water

soaring day in the stunning area, Maori for long white cloud ts over the Southern Alps

will be coached by "the Boss", Chris Rudge. Chris has been flying from Omarama for more than 20 years. He was the first New Zealand pilot to log 1,000 hours each in gliders, balloons and aeroplanes and he also holds four New Zealand aviation records. When not gliding, Chris is busy writing books on all aspects of flying and also deals in WWII aviation memorabilia.

So, to say Chris is totally dedicated to aviation would not be an understatement. But most important, he is an outstanding instructor, carefully explaining with the aid of PowerPoint presentations the art of mountain soaring.

Each morning you will be with Chris in the briefing room one to one, so there is no need to be afraid of asking what might seem a silly question. If you are not sure, then ask and Chris will explain the "whys", "what-ifs" and "wherefores".

Enough of the theory! Is mountain flying all it is cracked up to be? Oh yes! It is impossible to be a glider pilot and not be impressed by the sheer scale of the flying that is available here, be it in distance or height gains. Southern Soaring capitalise on this by having single-seat gliders for hire. These include an LS4, Ventus and a very well-equipped ASW 28 (complete with an LX8000).

My course (which lasted five days) culminated in a flight with Chris, who got me to do all the planning from take-off to landing. How did it go? I had been in the air for only 45 minutes and was already drenched ☁

WHAT YOU NEED TO FLY IN NEW ZEALAND

- To fly solo or as Pilot-in-Command (P.I.C) you will need to be a member of a Gliding New Zealand Affiliate (can cost as much as 450 NZ dollars)
- A current medical declaration
- Your up-to-date log book
- Your UK club membership details
- You will be expected to make at least one check flight to a pre-determined standard if you have not flown in the mountains before
- None of the above apply if you are doing a dual mountain flying course

in sweat. My arms and legs ached as I wrestled with the Duo Discus where just a few hundred feet below jagged shaped cliffs seemingly reached up to grab me.

Some days before, Chris had shown me how to fly in tune with the mountains. Carefully co-ordinated turns at the correct attitude were the secret, but I found it very difficult to relax. The views, lift and sink are truly awesome.

Using mountain thermals, we had climbed to 7,500ft. Now it was time for the wave rotor thermals forward of the Omarama Saddle. What is required here is an angle of bank of around 60 degrees.

No namby-pamby turns here, reminiscent of a fully-laden oil tanker, because all you will get is one or two quick 10 to 15kt gusts before you are tossed to one side like a leaf in a storm. Roll the wings level, push into

through the wave segments.

As we flew further west, the wave was quite broken and undefined. The mountains and valleys were not producing long lines of strong wave, so each part of the lower wave was worked pretty much like thermals in the UK. Often we did an "S" turn but sometimes it was possible to fly a complete 360 degrees and gain 500ft in a single turn. It's time for another radio call back to base.

Operations Normal calls are generally made every 30 minutes for safety reasons. Another way of improving safety is to use a Spot. This device (which was being used by Bill Paton, who we were staying with) is a very compact locator beacon linked to satellite that transmits your position every five minutes. The information can then be downloaded to a PC so that those on the ground can closely monitor your track.

Higher up, the wave becomes more defined. Looking north, I could see my next turn point – Mt Cook, although it was still nearly 100km away. Flying north, in wave generated by the Hunter Range, we had climbed to 15,000ft and, joined by another Duo, we headed for New Zealand's highest mountain. Our arrival height would be 2,000ft above the summit.

Looking down, I could see a single-seater rock-polishing the western face. Turning over Mt Cook for the second time in a week was spectacular. What was even more special was the lift. On the return trip, we climbed to 20,000ft at 1,000ft per minute – an unforgettable experience!

From this height, the 100km final glide home was easy peasy. In fact to get down it was a question of hanging everything out – wheel, full brakes and a final spiral descent so that we could join the Omarama circuit. Although landing on the airfield wasn't difficult, coping with gusty conditions and a strong wind gradient can be challenging at a mountain soaring site if you are not used to it.

I logged more than 22 hours flying and had become more and more confident with my decision-making, which was all down to the expert coaching from Chris. I must also say a big, big thank you to ALL the Southern Soaring team who made my wife and I part of their family. The invitation to the BBQ at the staff house was much appreciated, as was the beer!

TO GET THE BEST OUT OF YOUR TRIP:

- Book well in advance (a small deposit may be required)
- Carefully read and study any pre-course notes and maps which might be emailed to you
- Explain just what your objectives are. Remember that these are very much one-to-one courses, so yours will be tailored to suit YOUR requirements
- Try and get a few days rest before you fly, as the long flight from the UK can be very tiring
- Accommodation is readily available and not expensive. But once again book early
- Although Omarama can be hot in summer, take some warm clothing and lightweight hiking boots as it can get bitterly cold if you fly in the wave at 20,000ft!
- All flights are logged and downloaded through SeeYou to a disk, so badge claims are very easy

Further information at:
www.soaring.co.nz
www.glideomarama.com



John Marsh (pictured above with wife Sarah) started gliding in 1963 while in the RAF at Cranwell, but never went solo. He took up the sport again in 2001 when he joined the YGC. Since then he has logged over 700 hrs and achieved an Assistant Instructor Rating



The striking blue water of Lake Wanaka

wind again and repeat the exercise. Not your average UK thermals here, but strong narrow turbulent gusts of rising air. Using these thermals is hard work, but no pain, no gain. Within 15 minutes we were at 12,500ft, the Mountain High oxygen system now feeding us both with that life-saving oxygen (oxygen is normally used from 9,000ft as climb rates can be 15kt up!).

Constantly pushing into wind towards the Lindis Ridge, we climbed at every opportunity to maintain height. Wisps of cloud below marked lines of lift and it was important to maintain your ground position by looking at what is below and to each side, so you can draw an imaginary line across the ground. You can then track your glider

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FLYING ON THIN AIR

38

Just how much do we really know about oxygen and gliders? Aki Inaba investigates

SO YOU'RE finally in wave. It's glorious. The early part of the afternoon was spent in tight, dizzying thermals desperately trying to connect with the laminar lift at higher level. The only reminder of those bumpy thermals is the now cooling perspiration between you and the parachute.

The vario hums a consistent pitch as the altimeter visibly winds its way up – 9,000ft, 10,000ft, 11,000ft. Unknowingly the landscape changes. People and cars become nothing more than slowly moving pixels below. Even the mountains lose their

monumentality and become mere bumps in an expansive uneven topography.

The thin air at such heights has a convenient effect on the joys of flight – at least initially. Mild hypoxia, or a low oxygen level in the blood, produces among other things a certain euphoria. The landscape is somehow more serene and aircraft flies itself with perfect coordination and efficiency. But as hypoxia worsens, decision-making abilities are significantly impaired placing the pilot at serious harm. The physical ability to move the controls fades along with his hearing and vision. Eventually the pilot may become unconscious and die, often well before the aircraft is out of control. It goes without saying that oxygen, if we are to keep ourselves alive at these heights, is paramount.

In recent years, expeditions to the continent and further afield, where exceptional wave conditions develop, have almost become a regular event in many glider pilots' annual calendars. Names of superb microclimates such as Jaca and Cerdanya can often be overheard in the clubhouse alongside the more traditional expeditions within the UK.

With such an influx, more pilots are having to consider the types of onboard oxygen systems, as well as how and when these systems are used. Meanwhile, the field of aviation respiratory medicine remains an ever-increasingly complicated one with countless chapters of books and academic articles dedicated to the subject. While the BGA has published elaborate guidelines for the maintenance of the many types of oxygen systems available, something of a caveat emptor attitude pervades when it comes to which type of oxygen system should be adopted for a particular type of flight. So it is high time to put together a short review of what we know about the most commonly-used oxygen systems but – more importantly – pose questions where there is considerable gap in our knowledge.

Perhaps the most commonly-used devices are nasal cannulas, which deliver oxygen through two small prongs that sit in each nostril. There are basically two types of cannulas: ones that deliver oxygen continuously and ones that deliver small squirts of oxygen coordinated with each inspiratory breath. The latter type, of course, saves on the amount of oxygen and

TO BE ON THE SAFE SIDE, DOES THIS MEAN GLIDER PILOTS SHOULD KEEP THEIR OXYGEN ON DURING LANDING WHEN MENTAL CAPACITY SHOULD BE MOST HEIGHTENED?



Lasham's Richard Abbott experienced a magnificent wave day, climbing to 19,000ft during a trip to Aboyne. "I was so pleased I took some pictures of myself in the cockpit and then duly sent them around to family and friends," said Richard. "My brother David sent this back, which rather took the wind out of my sails!"

consequently the size of oxygen cylinder sitting in the fuselage – not to mention the costs of refilling such a tank. If we go by the American Federation of Aviation Authorities' regulations, these cannulas can be used to a height of 18,000ft.

If pilots want to go any higher, a tight-fitting mask such as a Sierra mask is necessary, which have been used up to the mid-thirty thousand feet. With both the cannulas and the masks, rates of oxygen flow must be adjusted according to altitude though in some systems this is done automatically. Any higher altitudes almost certainly requires the use of a pressure suit, such as the one Steve Fossett wore in his world record attempts in the Perlan Project over Argentina.

Some degree of hypoxia remains inevitable when these devices are taken to their upper limits. Yet the hypoxia is thought to be within acceptably safe margins. But many more questions about oxygen and gliding have to be answered and I have compiled a number of these below:

Mechanical failure

However reliable oxygen systems have become, the possibility of mechanical failure cannot be ignored. Imagine an oxygen mask that suddenly stops working. An emergency descent from, say, 25,000ft with full airbrakes and sideslip to a safe altitude not requiring oxygen would, even at 15 knots down, take about 10 minutes, which may simply be too long. Scuba divers train for equipment failure by having a buddy, so should glider pilots also have redundancy in their oxygen supply by carrying an extra tank of oxygen? If pilots were to carry an extra tank, should a completely independent system including separate delivery mechanism be installed?

Symptom recognition

Most of us learn the symptoms of hypoxia, particularly if we've prepared for the Bronze Badge exam. But how many of us would recognise the

symptoms – which can often be vague – if we experienced them for the first time?

Just as many in military settings undergo training in hypobaric chambers to simulate the effects of hypoxia on complex task handling, should glider pilots intending to fly high also have similar training if hypoxia is to be taken seriously?

Pulse oxymeters

Recently there has been something of a glut of pulse oxymeters hitting the market. These monitors can determine the percentage of blood with oxygen by analysing the absorption of rays emitted from an LED.

Most recent devices are easy to use by simply placing a small clip on a finger. While a seemingly straightforward numerical readout may seem reassuring to a pilot seeking confirmation of oxygen saturation, there has been convincing evidence to suggest that oxygen saturation does not correlate well with actual delivery of oxygen to the brain during hyperventilation, which is often experienced by pilots when the surrounding air becomes thinner. Should we simply rely on symptom recognition or is there still a role for pulse oxymeters?

When to stop using oxygen

It seems intuitive enough that oxygen can be turned down once we descend back through the height at which we began using oxygen in the first place. However, there's been suggestion that stopping oxygen at a height that has a slightly low atmospheric oxygen concentration, actually is associated with a disproportionate drop in oxygen levels in the blood.

To be on the safe side, does this mean glider pilots should keep their oxygen on during landing when mental capacity should be most heightened?

Hopefully over the next few years we can begin to answer some of these questions.

■ The following are a number of sources which provide more discussion on oxygen systems in gliding:

> A talk given at the 1995 Soaring Society of America convention by Dr Steele Lipe: www.patricialipe.com/talk.htm

> Further discussion can be found on the DG Flugzeugbau website: www.dg-flugzeugbau.de/sauerstoff-e.html

> Finally, Professor Ernsting's textbook remains the bible of aviation medicine:

David J Rainford, David P Gradwell, *Ernsting's Aviation Medicine*.

The author would like to thank Professor John Ernsting and Dr Peter Saundby for their invaluable contribution to this article.



Aki Inaba, glider pilot and junior doctor in Belfast, is completing his PPL at the Ulster Flying Club



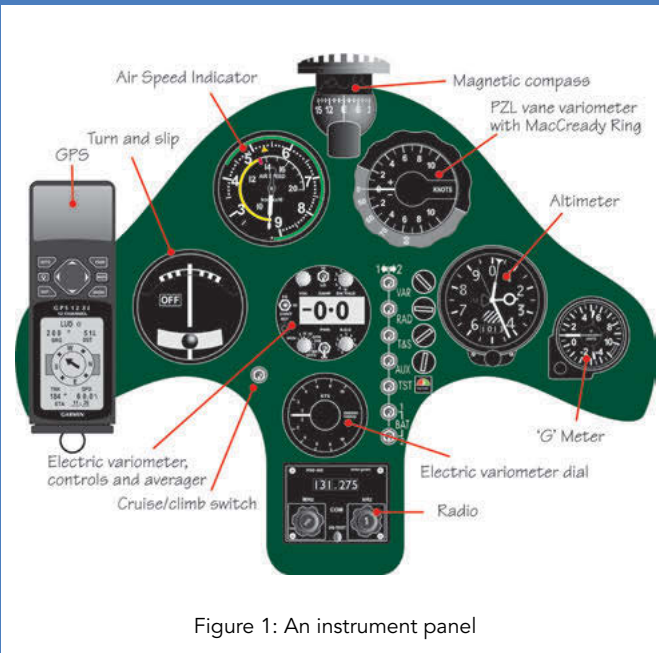


Figure 1: An instrument panel

Steve Longland explains why it pays to know how aircraft instruments work and what they are really measuring. In the first of a series of articles, Steve looks at the ASI which, despite its name, doesn't measure airspeed as such

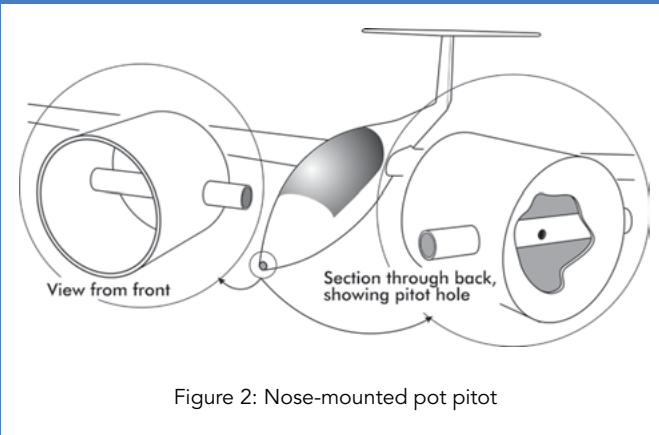


Figure 2: Nose-mounted pot pitot

MANY of the standard and more traditional panel instruments (figure 1) are cleverly designed and made like watches. Despite that, I was surprised to find that one instrument's key component – no doubt strong, thoroughly approved of by several regulatory organisms (sic) and costing a fortune per millimetre – was a piece of string.

The basic design of most aviation-related pressure instruments harks back to the early years of the last century, but we wouldn't still be using them if they lied a lot. Providing they're undamaged they never lie, but, that said, neither are they in the slightest bit interested in how what they're measuring got to be the way it is, so they may not always be telling you quite what you think, or want. If only for self-protection, it pays to know how they work and what they're really measuring. Take the ASI, for example. Despite its name, it doesn't measure airspeed as such.

Pitot and static

Most pressure instruments work by comparing the pressure difference between two suitably chosen points. Others measure the flow that results from a pressure difference. The majority – including electronic versions that use transducers – get the information they need by plugging into the outside world via a pitot and/or static ports.

The basic pitot is a tube with one end closed and the other, open end, pointing directly into the relative airflow.

The air thrust into this cul de sac by the aircraft's forward movement creates a dynamic pressure there (also known as ram air pressure), which varies with the airflow's mass and velocity – in other words, with its momentum (mass times velocity squared, or mv^2). If you're not sure what dynamic pressure is, it's what you feel when the wind blows against you.

A glider's pitot is usually a small pot (pot pitot) (figure 2) recessed into the fuselage nose, or an extended tube from the fin's leading

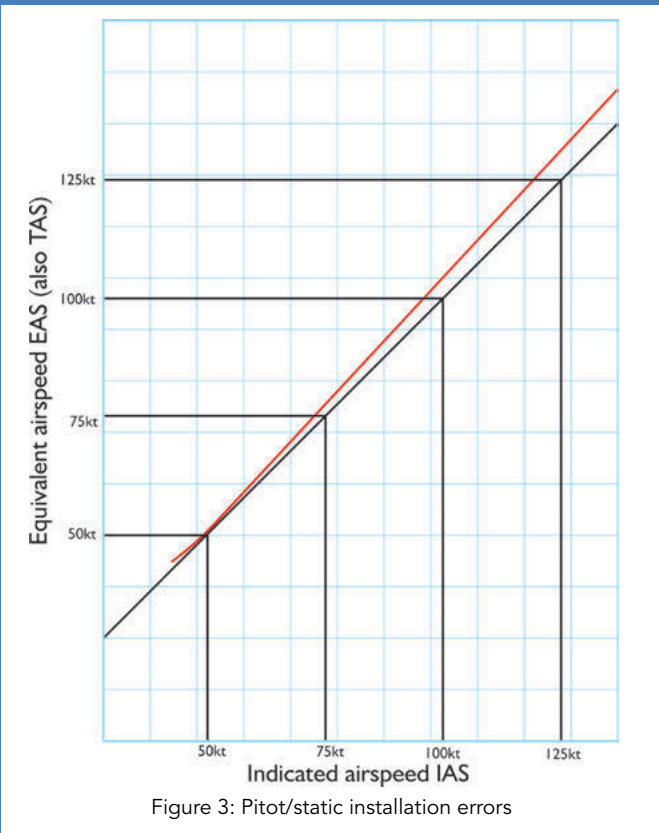


Figure 3: Pitot/static installation errors

INSTI

edge. The pitot line to any instrument runs through the back of the pitot pot, and has a small hole located on its 'downwind' side. This arrangement helps prevent it being blocked by water, dust, or bugs and such-like.

By contrast, the chief function of the static is to sample the local atmospheric/ambient pressure (figure 3). The static is usually two or more small diameter ports (holes!) opening flush and at right angles to the fuselage surface.

They need to be located where the local pressure stays as close to the ambient as possible whatever the glider's speed. Such places seem hard to find as most pitot/static installations have errors – usually small – which vary with speed. A glider's flight manual usually has a graph plotting the errors (figure 3). It's worth a look.

The graph in the figure is from the handbook of a well-known glider type, and shows the ASI (red line) progressively under-reading as the glider accelerates. Regardless of any other effects – and there are a few! – if the IAS (indicated airspeed) of this glider is at VNE (125kt, for argument's sake), it's actually going about 5kt faster, which isn't good news.

Though glider static ports are normally located on the rear fuselage, on an K-13, for example, they are flush-mounted on the forward fuselage (figure 4). The pitot and static of powered aircraft may be vertically 'stacked' on the lower front surface of the wing – eg Pawnee – as a single L-shaped unit.

Yaw and high AoAs look exactly the same to pitot and static, and affect both. If the airflow starts to blow increasingly across rather than directly into a pot pitot, for example, the internal dynamic pressure can drop very suddenly and the ASI needle will swing backwards, turning an initial IAS of 50kt into, say, 80kt. Needless to say, the glider isn't actually going at this 'new' speed.

The static line is split into symmetrically paired static ports – sometimes more than one pair – on each side of the fuselage (figure 4), on the assumption that a yaw-

induced pressure increase on one side will be cancelled out by an equivalent decrease on the other; usually the case until large amounts of yaw are involved, at which point left and right static pressures stop being equal and opposite, and the pressure in the main static line is no longer at the ambient. An attached instrument – whilst not lying exactly – will now misread; the degree dependent on how it uses the static and how sensitive it is to pressure changes there.

The effect of a blocked port on an instrument will depend on how it uses the port. Many variometers 'breathe' through the static, and will jam if it blocks because air can't now flow into or out of the capacity. Electronic equivalents won't be able to sense pressure changes. An ASI may continue to work, but be off the planet.

The Air Speed Indicator (ASI)

The ASI is the panel's major instrument. Rather than measuring airspeed, ie the speed of the air molecules in relation to the glider – which is what most of us would think of as airspeed – it is a differential pressure instrument that compares the pitot/dynamic pressure against the static/ambient pressure (figure 5). The size of that difference is what you see on the dial as, literally, an IAS. The basic principle is admirably simple, but it has some snags, which we'll look at later. First, the ASI's mechanism.

The line from the static to the ASI opens directly into the instrument's case (B, figure 6), which is sealed at the front by the glass face. The baseplate on which an aneroid capsule sits – normally where the dashed red line is in the figure – has a gap all the way round between it and the instrument case. The line from the pitot (A) goes straight into the aneroid capsule, and any increase in the dynamic pressure (speed) causes the capsule to expand. The actuator plate on top of the capsule (C) then rises, rotating the 'drive' shaft (D), which in turn swings the geared lever arm anti-clockwise on its pivot (E). Even with large changes in speed/dynamic ↗

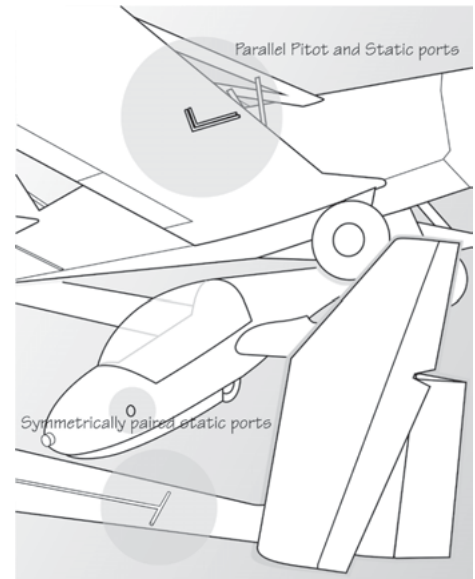


Figure 4: Static ports

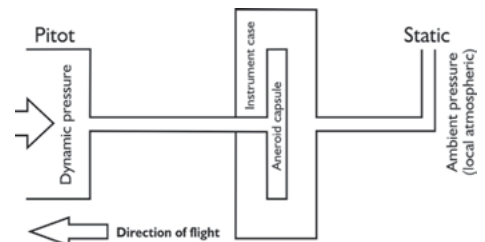


Figure 5: Basic pitot/static set-up for ASI

THE ASI NEEDLE WILL SWING BACKWARDS, TURNING AN INITIAL IAS OF 50KTS INTO, SAY, 80KTS. NEEDLESS TO SAY, THE GLIDER ISN'T ACTUALLY GOING AT THIS 'NEW' SPEED

IT PAYS TO KNOW HOW THEY WORK

WHATEVER THE ASI SAYS, YOU DON'T WANT THE TAS TO BE GREATER THAN VNE BECAUSE THAT'S WHEN VITAL THINGS LIKE THE CONTROL SURFACES CAN SUDDENLY AND LITERALLY BUZZ OFF

↪ pressure, the capsule only expands by tiny amounts which the gearing mechanism has to magnify by a large factor if you're to have a sensibly presented and usable display on the dial. The return spring at (F) keeps the drive shaft spur (D) pressed against the actuator plate; without this the ASI needle wouldn't return when the speed/dynamic pressure fell.

Because the ASI is extremely sensitive to tiny changes in dynamic and/or static pressure, it is vital that connected tubes don't leak, and that the static line is connected to the static ports and not left open to the cockpit. Opening or closing the clear vision panel can cause the cockpit pressure to change.

In older gliders the same thing happened if you opened or closed the ventilator. An ASI whose static is open to the cockpit, or whose glass face is cracked or broken – which amounts to the same thing – will treat every change in static pressure as a change in speed.

The instrument's face is usually marked with coloured arcs (figure 7). Green indicates the normal operating speed range, from minimum sink (approximately) up to max

rough air – near enough identical to max manoeuvring speed these days. Yellow is the 'don't whack the stick about or pull lots of G' range, up to VNE, indicated by the red mark. If you own or fly a flapped glider there may be other coloured arcs indicating the operating speed ranges for various flap deflections. Refer to the glider's handbook for more detail.

If it's there, a yellow triangle should indicate the minimum approach speed with full brake in no wind and at maximum AUW. This is the slowest possible speed at which you can touch down without damaging the glider, and counts as a barely controlled crash. There's no float, and if you have slightly less airspeed there's no roundout either. Should the glider's handbook appear – through quaint translation – to suggest that every approach should be made at the 'yellow triangle' speed, ignore it – particularly if there's any appreciable wind – unless you want to break something.

Indicated and true airspeeds (IAS and TAS)

As for the snags mentioned earlier, one is potentially serious. The ASI works on the assumption that the bigger the difference between the pitot and static pressures, the faster you're going. Right? Well, sort of. Because the pitot side of the ASI measures the air's momentum the instrument can't tell the difference between a small number of air molecules going very fast and a large number of them going a lot slower – a 'thin' airflow versus a 'fat' one, if you like – and if the difference between their respective static and dynamic pressures is the same, then the IAS will be the same.

The ICAO Standard Atmosphere (see figure 8) tables the mean (average) pressure and temperature changes with height. It serves as a universal tape measure for instrument manufacturers, calibrators, aircraft designers and so on.

By instrument design and common consent the TAS (the true airspeed, which is the actual speed of the air molecules in relation to the aircraft) and the IAS are only ever exactly the same at an air temperature of 15°C and a pressure of 1013.25mb, the latter being both the mean sea level pressure and the altimeter sub-scale setting for flight levels. At any other pressure/temperature the TAS and the IAS will differ. In reality then, the ASI will almost never indicate the TAS. So what's the problem?

As you go higher the air's density decreases, so you must fly faster if the wing

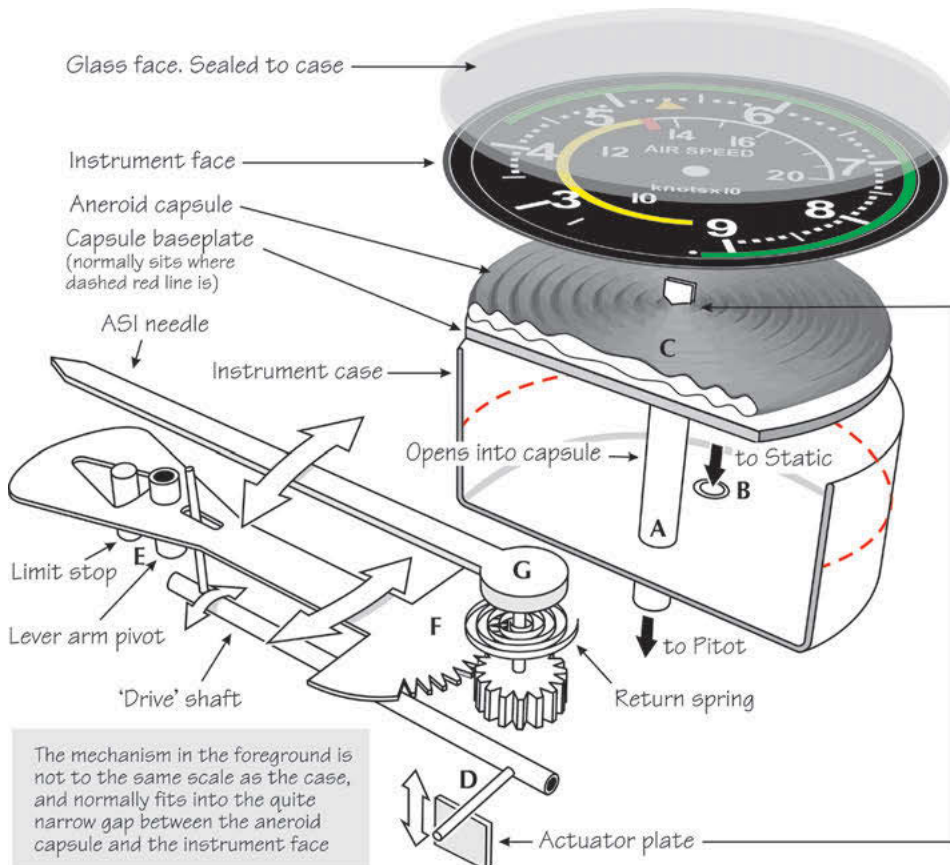


Figure 6: ASI mechanism

is to provide a consistent amount of lift at a constant AoA. What happens – not that the ASI, the attitude, or even the glider's handling give the slightest hint of this – is that for a given IAS the glider not only sinks faster the higher you go, but it also moves forward faster in relation to the air molecules.

Whatever the ASI says, you don't want the TAS to be greater than VNE because that's when vital things like the control surfaces can suddenly and literally buzz off. Because the onset of flutter is more closely related to the speed of the airflow (TAS) than to the IAS, the mismatch between the two gets more significant the higher you go.

At 36,000ft, for example, the TAS is double the IAS. TAS = IAS + 2 per cent per 1,000ft is a useful rule of thumb for calculation, or you can use the inset 'correction factors' graph in figure 8. Pick an IAS (eg 65kt, green circle) on the baseline, and follow the slope of the 2 per cent/1000ft line up to your operating altitude (eg 18,000ft, blue circle).

The TAS is the figure on the speed axis directly below – in this case 98kt (red circle). Two per cent provides a small fudge factor for all those things that neither know nor care about official standards (ie the entire universe), but in this particular case, the day-to-day changes in atmospheric pressure with height and temperature, and, in part – if your glider has this problem – the 'unfavourable' pitot/static installation error mentioned earlier.

Since most UK gliders operate below 5,000ft and at TAS way below VNE, the above might seem academic. Unfortunately, while the differences obviously matter during high-speed high-altitude wave flights, they have related and subtler effects elsewhere. For example, at any given angle of bank and IAS, the radius of a turn will increase as the atmospheric pressure decreases. So, if you turn onto a rock face at 1,000ft ASL, from, say, a few hundred yards away, and squeak round with half a wingspan to spare, manoeuvring at exactly the same IAS, bank angle and distance from a similar face at 5,000ft ASL will smack you right into it.

Likewise, the tiny field you just got into at sea level will prove far too small if it's high up in the Alps! It's also worth knowing that the distance you travel over the ground is dependent on the wind component and the TAS, not the IAS.

Despite not measuring airspeed, the ASI doesn't lie about mass flow (mv^2), which is critically important to flight, because, broadly speaking, it's what keeps the wing

working and you airborne and in control. As a result, if your glider's unaccelerated stalling speed is 38kt IAS, then it will always be 38kt IAS whatever the air's density/temperature.

Consequently, if you can do a safe full brake approach at 53kts IAS in no wind at your home site, then you can do the same in identical conditions at a site at any altitude. What the TAS and inevitably your ground speed happen to be at the time is something else, but even if everything looks faster – and it may look a lot faster – do not be suckered into reducing the indicated airspeed because you'll probably crash as a result.



Figure 7: ASI, non-flapped glider



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 altimeter and G meter

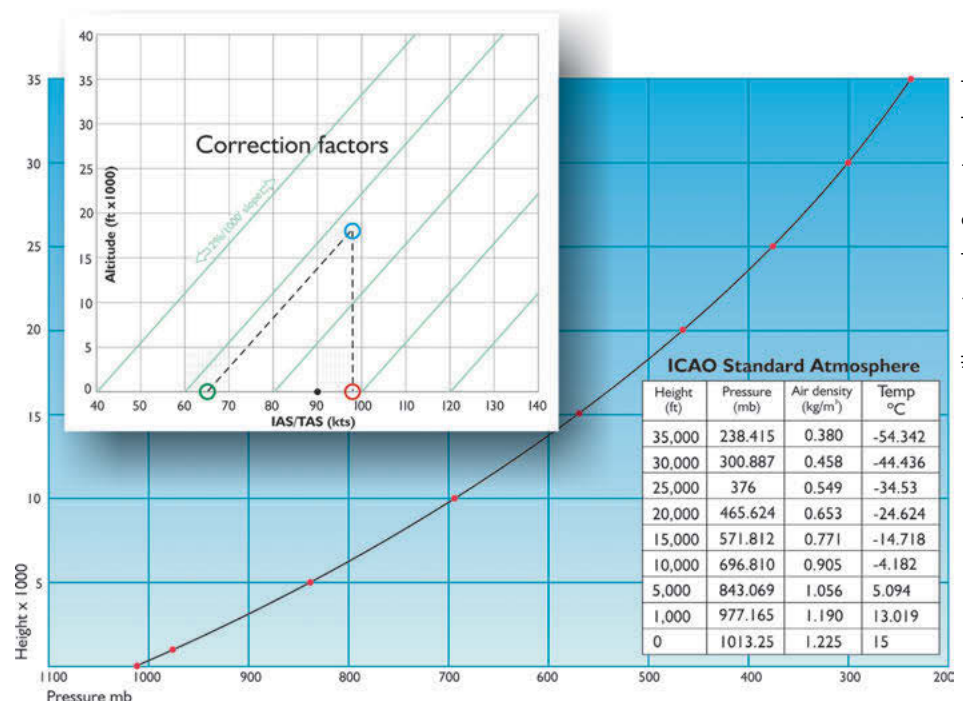


Figure 8: ICAO Standard Atmosphere and IAS/TAS corrections

PART M – HOW TO STAY AIRWORTHY

44 With the majority of gliders now transitioned to EASA certification, Pete Stratten explains what glider owners need to know to comply with Part M

ALMOST all owners and operators of gliders in the UK will now be aware of changes to certification and maintenance brought about by EASA requirements, including Part M. As has been reported on a number of occasions, all EASA gliders must be nationally registered and transitioned from BGA Certificate of Airworthiness (CofA) to never-expiring EASA CofA with annually renewable Airworthiness Review Certificate (ARC).

The transition process, ie the inspection and administration function using the system developed by the BGA and CAA in 2007 that transitions a BGA certified glider to an EASA certified glider, was due to end on 1 May, 2009.

At the time of writing, the vast majority of gliders have been transitioned to EASA certification or have had transition applications submitted before 1 May and are in receipt of a current BGA CofA.

The CAA has agreed with the BGA that, to minimise disruption to owners and clubs, the transition process will continue to operate for remaining gliders until 30 September 2009. Please note, however, that any glider transition submitted after 1 May will not result in the

issue of a further BGA CofA to keep the glider flying pending receipt of the EASA CofA and ARC. If in this case the glider does not hold a current BGA CofA, the glider cannot be flown until the EASA CofA and ARC have been issued. If you need to identify whether a glider has completed the transition process, check an EASA CofA exists by simply typing the glider registration into the G-INFO online search facility (details top right) and take a look at the CofA and ARC information.

All EASA glider owners need to have an EASA CofA and ARC by end of September 2009 at the absolute latest.

Gliders in long-term storage or extended restoration projects that do not meet the September 2009 deadline will still be able to transition. However the process may be significantly revised, may involve CAA involvement and therefore may cost significantly more. This process has yet to be developed and agreed with the CAA.

Part M requirements

Thanks primarily to lobbying by air sports bodies including the BGA, Part M requirements have recently been eased slightly by EASA. Additionally, work by the BGA has brought most UK tug aircraft into the 'ELA 1' category, thus reducing club maintenance bills.

The Part M compliant BGA maintenance exposition that applies to all gliders within the BGA airworthiness organisation identifies that 'the owner or lessee is responsible for continuing airworthiness and ensuring that his/her aircraft is maintained in an airworthy condition, that any operational and emergency equipment fitted is correctly installed and serviceable, the airworthiness certificate remains valid and the maintenance of the aircraft is performed in accordance with the approved maintenance programme. The owner shall ensure no flight is undertaken unless these conditions are met'.

The following guidance may help glider owners to understand what this important statement means in detail.

Owner responsibility

It is very important that owners (including clubs) note that they are legally responsible for ensuring that their aircraft are flown in an airworthy condition. The BGA airworthiness organisation supports that responsibility by supplying a purpose-designed approved airworthiness system, including the all-important BGA inspector system, generic as well as specific maintenance guidance and quality assurance. The BGA has recently trained and obtained CAA approval for a significant number of its inspectors spread across the entire UK who, when asked



Post CofA polished shine at North Hill (Robert Lee)

WITHOUT A CURRENT ANNUAL INSPECTION RECORDED IN THE AIRCRAFT LOG BOOK, THE GLIDER CANNOT FLY, EVEN WITH A VALID ARC

by owners, may carry out airworthiness reviews and issue ARCs on behalf of the BGA airworthiness organisation.

Maintenance programme

All maintenance on an EASA glider should be carried out in accordance with a maintenance programme – in this case the BGA Glider Maintenance Schedule (GMS). A GMS has been sent to owners of EASA gliders within the BGA airworthiness organisation. A replacement can be downloaded from the BGA website (details right). Powered aircraft use a different maintenance programme.

Maintenance – staying organised and airworthy

Before it flies, a post-transition EASA glider must have a current ARC as well as a current annual inspection recorded in the log book. Clearly it is important to be organised as the last thing any pilot needs is to discover on the day that an annual maintenance is due or an ARC has expired.

Owners, including syndicates, should identify an 'airworthiness manager'. This person (usually the owner or one of the owners) should ensure that all maintenance requirements are carried out in a timely manner and those which the owners are not authorised or competent to do are passed to a BGA inspector.

Pilot/owner maintenance

Many owners like to maintain their own aircraft. EASA maintenance rules allow it within defined limits. However, there is a change to custom and practice. There is a wide range of tasks that a pilot/owner may carry out and certify and this includes some of the routine maintenance tasks during the annual check (but *not* the annual itself). For details please see BGA AMP leaflet 2-1 (available on the BGA website). Pilot/owners should record their maintenance activity in the glider log book – just as inspectors have been doing for years – and write their name (where no relevant licence is held) or licence number as the authority when signing for the work. If the task is outside the scope of the AMP leaflet 2-1 task list, a pilot/owner may still be able to do it, but a BGA inspector must certify the job. Clearly in this case there is a need to obtain guidance and the prior agreement of the inspector.

Annual maintenance

The annual inspection is a particularly significant maintenance requirement and

is exactly what it says it is – normally there is no extension available beyond 12 months validity. Without a current annual inspection recorded in the aircraft log book, the glider cannot fly, even with a valid ARC. Both must be current. See the BGA GMS for details of anticipation and variations to the maintenance programme.

Daily maintenance

Finally, the GMS includes a schedule for carrying out daily maintenance (more commonly known as a daily inspection). The daily maintenance should also include any specific items identified in the glider flight manual and on completion should be recorded and signed for in the daily maintenance log (usually the BGA DI booklet) by the pilot who carried it out.

Clubs, as owners of gliders, are advised to ensure that pilots carrying out daily maintenance on club gliders are BGA Bronze endorsement qualified, or for powered aeroplanes PPL qualified, and are listed as pilots approved on behalf of the club and its members to carry out daily maintenance on whichever aircraft types are required.

USEFUL WEB LINKS

BGA Airworthiness:
www.gliding.co.uk/bgainfo/technical/news.htm

BGA GMS:
www.gliding.co.uk/bgainfo/technical/gms.htm

BGA AMP Manual:
www.gliding.co.uk/bgainfo/technical/ampmanual.htm

CAA G-INFO:
www.caa.co.uk/application.aspx?catid=60&pagetype=65&appid=1 or type G-INFO into a search engine



Pete Stratten is the BGA Chief Executive and CAMO Accountable Manager. He flies at Bicester and is an active BGA inspector

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Caroline Trust Cadets of the Year 2008 (l-r) Sam Woodgate, Alex Szymanski, Roger Cottee and Aiden Hughes (Alto)



Teamwork and enthusiasm resulted in four young pilots sharing the Caroline Trust Cadet of the Year title. The Trust's Dave Martin explains why it was impossible to choose between a group that's been a great benefit to its club

OUR CADET of the year award was introduced to encourage young pilots who received a grant in the previous 12 months to tell us what they have done, so that we can consider making another grant to help and encourage them to make further progress in the sport. This year we had nine applicants for the award, including four young men from Rattlesden Gliding Club. Reading the applications left the trustees with a dilemma, the four from Rattlesden were the best and all of equal standing! How could we separate them?

The decision was simple: ask the club CFI. I spoke to Sarah Lee and she consulted her fellow instructors and together they faced the same dilemma, so she promptly passed the buck back. So how did we separate them? Something Sarah said struck a serious chord.

These four young men have been a great benefit to the club. More than one went to the club because of the friendliness shown by Rattlesden GC and a lack of support from other clubs shown by young pilots. The four have formed a small group who get things going, instil teamwork and enthusiasm in the rest of the club and, through their endeavours, make the club a better place for everyone.

Surely that is what much of gliding is about, TEAMWORK and ENTHUSIASM. Three of them regularly cycle 25 miles each way to the club in order to fly.

On hearing this, the trustees agreed unanimously to make the award jointly to the four. They have each received £100 towards their future flying and this, coupled with the generous support from the club and their own families, will ensure they continue to fly gliders.

They were presented with their awards at this year's BGA conference. In order to get to the conference, they stayed overnight at Sarah's house, after first cycling to the club to collect their sleeping kit. Just another job for the CFI – true dedication and an example to all. Thank you Sarah.

Roy Wilson from the Deeside Gliding Club presented the awards. So hearty congratulations to Aiden Hughes, Alex Szymanski, Roger

HELPING

Cottee and Sam Woodgate, the Caroline Trust Cadets of the Year 2008.

The current focus of the Caroline Trust is on young pre-solo pilots, disabled and female glider pilots. If you have a pilot in your club who you think is eligible for an award then get them to visit our website and make an online application. The Caroline Trust is making a valuable contribution to youth glider flying, if you would like to help and make a donation then please visit our website and complete the form.

The trustees would like to thank those who have generously supported us over the past year. During 2008, we made 43 awards with a value of almost £11,000. This is real money going into your sport at the grass roots level. Whilst the grants have been made mainly to young pre-solo pilots, during the year we helped several post-solo youngsters and a young male and a female BI to become Assistant Instructors.

The Caroline Trust can be found at www.carolinetrust.org.uk/

■ AIDEN HUGHES started flying at the age of 13 because his aunt and uncle (who instructs) bought him a trial flight for his birthday. Since it has become something of an addiction and he has been up at the club almost non-stop for the past four years.

"In November 2007 I started to look for trusts and bursaries to see who was out there to help me fund my habit," said Aiden. "I looked at a few, but the Caroline Trust stood out the most and their application process was simple and easy. Just a couple of weeks later I received an email back from one of the trustees saying they would be interested in funding me.

"In February 2008 I went solo on my 16th birthday. It was a Monday so the club wouldn't usually operate, but club members turned out to help set up the site. The sky was blue and the wind was calm, the ideal day for your first solo. My uncle, who flew with me on my first ever flight back when I

was 13, sent me off. It was a big day for him too, as it was the first time he had sent a pupil off solo."

At the end of February, Aiden's bursary of £250 from the Caroline Trust helped him achieve Silver height and all of the flying for a Bronze and Cross-Country Endorsement in the following season. Aiden also won the club trophy for best flight in a club glider.

■ BEFORE joining Rattlesden, Roger Cottee had flown a little at Essex and Suffolk GC but being quite young had to rely on his mum for lifts. This meant that he flew little there and didn't make much headway towards going solo.

One evening almost two years ago at the local air cadet squadron, Roger and his friend Alex decided they would like to start gliding. "We looked at all the local gliding clubs and decided Rattlesden would be the best," said Roger. "The following weekend we arrived. It was an overcast day with no one flying but they got the gear out and I bagged a 30-minute soaring flight.

"In February 2007 with the help of a Caroline Trust bursary I went solo. The Caroline Trust was of tremendous help, their grant of £250 let me concentrate on the flying instead of worrying about the money. Without their help it would have been a lot longer before I flew solo.

"Not long after flying solo the soaring season kicked off. Taking full advantage of the cadet scheme at my club, I racked up as much half-price soaring and as many winch launches as I could. I managed to get both half-hour Bronze flights, both cross-country flights and my Silver height last summer.

"As we all now cycle to the club from the Colchester area, we stay in the club house overnight. It allows us to cycle up during the evening and then to set things up first thing the following morning.

"This season I hope to get my Cross-Country Endorsement and to complete my Silver badge."

SAM WOODGATE's first flight at Rattlesden was in the K-13 in October 2007.

"This seemed disappointing after being given a walk around of the new and shiny Puchacz, then being thrown up in a 1970s wooden box as it seemed at the time," said Sam. "I could not have been more wrong. This first taste of powerless flight left me eager for more and ensured that I was down on the airfield nearly every weekend, on my bike with the lads from Colchester.

"After 55 flights, my first solo was on 10 May, 2008. This gave me such a fantastic sense of success and really demonstrated that if you put the effort in you get the achievement out.

"I hope to gain my Bronze this year and start to think about Silver also!

"I am currently in the process of applying to the Royal Air Force as a pilot. The experiences I have had through the sport have been fantastic talking material during acceptance interviews. "A gliding club doesn't just teach you to fly; it develops key areas such as teamwork and banter handling, which are essential in everyday life."

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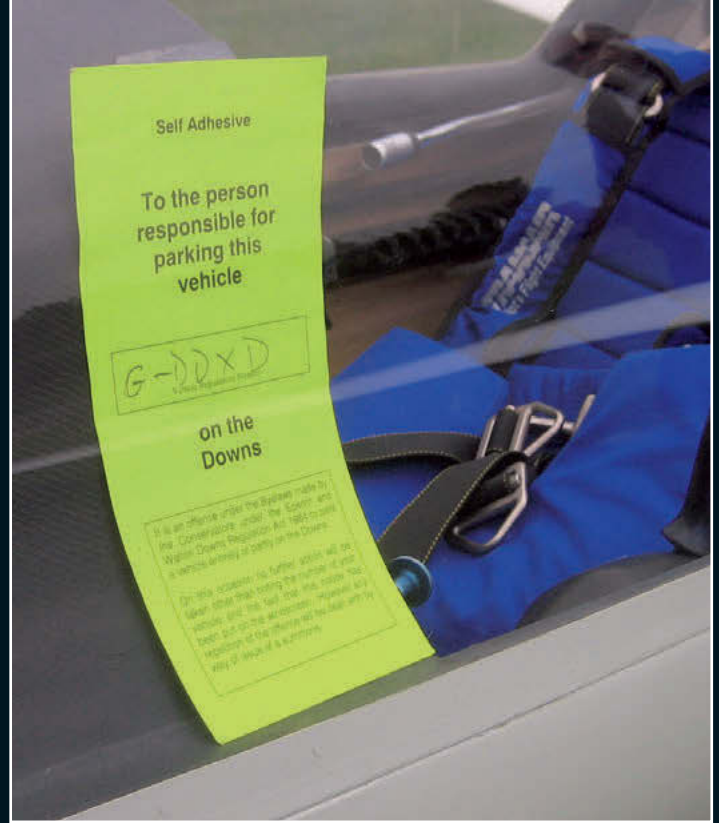
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This page, from top:
Balloons at the Vintage Gliding Club rally at Gransden Lodge (Derek Coppin)

Greg Marshall acts as ballast while waiting for the storm to pass at Crusaders (Jo Rigby)

Gerry Cox and Colin Weyman noticed this strange looking cloud over Eyres Field. They decided to call it a 'Cumuli Nimbus Lenticular'. It disappeared in about 20 minutes (Gerry Cox)

Opposite page, clockwise from top left:
The last flight of the day in ESGC's K-21 (Jim Izzard)

Surrey Hill's Russell King landed out on Epsom Downs recently. While he went away to find help, he was given a parking ticket by the Downs Conservators. It was all done in good spirit and they proved to be friendly and very helpful in recovering the glider (Russell King)

Royal Aeronautical Society scholar Jonathan Phillips went solo on his 16th birthday at Wolds, with the event attracting media coverage

Ken Day, who served in 9th Battalion Parachute regiment in WW2 and trained and flew in Horsa gliders, visited Bowland Forest having received a birthday gift voucher from his family (Russ Weaver)

Kestrel's K-13, pictured during the celebrations of the club's 60th anniversary of operations from Odiham in June (Rob Armstrong)

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

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ANDREAS (ISLE OF MAN) **WWW.MANXGLIDING.ORG** **542210N 0042524W**

THE return to service of the Auster has seen a clamour for aerotows. Soaring conditions have seen several members staying aloft during May. Dave Wiseman broke his own club altitude record by going over 6,700ft. Some of our members spent a week at Aboyne recently and got easterlies and no wave. Dylan Smith and Graeme Howie both got their Silver height and Cross-Country Endorsements to add to their duration flights. In March we lost Alan Robins. Alan, 75, was a former member at Ridgewell and used to fly a tug for Dublin GC. His help and experience was invaluable in 1992 when we started the first club on the island and for several years thereafter. He retired from flying a few years ago.

Brian Goodspeed

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

WHILST our friends from Essex GC have been joining us here at Anglia over the winter for several years now, a number of our members enjoyed a reciprocal visit in May to take part in Ridgewell's soaring week. Thanks to Gwyn Thomas, we have started to make progress on fitting FLARM to the club fleet, with our two K-21s being the first to get the system up and running. The club's investment in an LS4, to replace the Junior we had on loan, has led to many conversions over the past couple of months. We also have a number of pilots close to their first solo, with plans to increase the number of instructors to help ease the burden on our three over-worked Full Cats!

Andy Smith

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

DAVID Spillett soloed at the end of April. It was a great achievement because he had only been gliding for a relatively short time. Our secretary, Janet Veal, converted to the K-21. May presented some good cross-country days particularly at the beginning. Sixteen gliders set off on cross-country flights and all successfully completed their individual tasks. Roger Combs and Peter Fincham completed our first 300km of the season in their DG500. Our chairman, John Giddings, also put in some commendable flights during the month. Congratulations to Brian Hammon for achieving his five hours and completing his Silver C. We hosted the ICL during the end of May Bank holiday, but unfortunately only one day out of three was a competition day.

Rod Watson

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

OUR day for the inter-club league was a great success. Steve Lambourne and his wife Lesley organised it, co-opting various club members on to their team. We held an open day on 24 May, which was also a tremendous success. The weather was ideal, not too soarable, but enough to keep four two-seaters flying all day. The day, organised by Alan and Jan Bailey, ran like clockwork with a real feel of professionalism about it. They had support from a great team who worked tirelessly for 12 hours, and retained a sense of humour!

Jan Smith

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

BICESTER continues to go from strength to strength. Our new bus/launchpoint is in regular use and our new briefing facilities are up and running. Our membership is growing and we have a very active cross-country group. The Going for Solo and Learn to Glide courses are proving popular already and bookings for the new NPPL Conversion course are also starting to come in. We are pleased to see so many visitors from other clubs on these courses. April and May have brought us a whole bunch of 50kms, 300kms, Silver heights and many first solos. Welcome to Tim Wheeler as our season course instructor, as well as to all of our new members.

Alan Smith

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

WE ARE seeing lots of visiting pilots who seem to like what we offer and keep coming back. If you haven't visited us yet, have a look at the great training videos on our website as well as our webcam and weather station, now up and running thanks to the efforts of Geoff King, Tony Crowden and Phil Swallow! East wave has been present to the surprise and amazement of many, who find the concept of picking it up 1,500ft above the clubhouse and rocketing to over 10,000ft awe-inspiring. The AGM went off smoothly this year with Clive Mickliwright, our treasurer, reporting very good results and an optimistic forecast.

Robbie Robertson

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

WE START with the very sad news that our longest serving staff member, Dave Richardson, who worked for Booker in

many capacities for over 25 years, died unexpectedly in May. There will be a full obituary at a later date for a person who had been at the very core of Bookers activities for so long. Our condolences to his partner Emily and family. The club has been making good progress this year; Denis Campbell has achieved considerable success in negotiations over airfield operations, and we have a number of flying successes, including first solos by Nick Jennings and Cadet Adam Clarke, and badge legs by Alex Chalmers, Yan Clave, Simon Phelps, John Portwin and Gary Stephen.

Roger Neal

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

BORDERS now has a new CFI – Keith Latty. Keith has taken over from Bill Stephen who is looking forward to flying his Pik20 a little more. Many thanks for all your efforts from all of us at the club. Well done to Mark Fielding who has become Borders' newest instructor. Mark has only just become our club chairman, and on 30 May became a dad too. Congratulations and well done from all of us at Borders. Another well done to Stewart Campbell (Northumbria) who claimed his Silver distance and completion of his Silver with a flight from Currock Hill to Borders in his Dart. Luckily we hadn't retrieved the Hotspur trophy from Northumbria, otherwise we'd have lost it again! Well done.

Rich Abercrombie

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

SOME notable achievements. Marian Leith has gone solo at Hus Bos. Meanwhile, way up north at Portmoak, Yvonne Stott continues her meteoric progress with a five-hour duration flight towards Silver. With the good Easter weather came a major winch failure – however, the reserve winch was wheeled into action and performed magnificently. On 9 May, the club played host to a visitor from Kidderminster, Ken Day. Ken flew with us while on holiday up north, courtesy of a birthday gift voucher from his family. Ken is no stranger to gliding as he flew in Horsa gliders during the second world war and thoroughly enjoyed his time here.

Russ Weaver

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

CHRIS Edwards has taken over as from Tim Macfadyen who has ended his 10-year stint as CFI and he goes with our thanks. An EGM

Going solo (left to right): **Banbury's** David Spillet with instructor Tony Limb (John Giddings); Phil Abbott with **Bicester** instructor Tim Wheeler (Alan Smith); Sam Newmark with instructor Mike Morrison at **Cairngorm** (Chris Fiorentino); **Darlington's** Ryan Hobson with instructor Dave Foster



decided to increase the number of powered aircraft/TMG based on the site by four. Jeremy Mitcheson got Silver height and 100km diploma as he won day one of the novice class in Sid's Easter task weekend. Class B was won by Fred Ballard (LS6) and Class A by Don Puttock and Steve Eyles (LS4). We again part sponsored the regional Flying Start Challenge at Yeovilton Air Museum, to encourage youngsters into gliding. A new launchpoint to winch radio system with air band radio was set up, as well as a mobile phone in the launch bus for incoming calls (07884 458360).

Bernard Smyth

BURN (BURN)

WWW.BURNGLIDINGCLUB.CO.UK
534445N 0010504W

SOARING so far has not quite lived up to the promise of earlier in the year but we have had several notable flights. Wave has continued to be contacted more easily than in previous years. John Firth has qualified as an Assistant Instructor, also Keith Springate and Chris O'Boyle as Basic Instructors. Terry Tordoff has completed his Silver. Congratulations to them all. In May we played host to the biennial reunion of 643 Gliding School. Several club members are competing in National and Regional competitions this year. It is with regret we report the death of Roy Schofield, a pilot and craftsman, known for his expertise in the renovation of wooden sailplanes.

George Goodenough

CAIRNGORM (FESHIEBRIDGE)

WWW.GLIDING.ORG
570613N 0035330W

MAYFEST saw us entertaining the Walking on Air flying for the disabled association as well as visitors from Portmoak, Bowland Forest, Oxford, and Welland. There was fantastic wave and a handful of badge claims so congratulations to all. Thanks to all involved. Congratulations to Sam Newmark, a 16-year-old Caroline Trust bursary student who soloed in May and outsoared some of our pundits claiming an A & B badge, as well as a Bronze leg in the process. Bookings are coming in fast for our celebrated October Fest, so please book early with Chris Fiorentini at Chris@cabrich.com.

Chris Fiorentini

CAMBRIDGE (GRANSDEN LODGE)

WWW.GLIDE.CO.UK
521041N 0000653W

THE Vintage Glider Rally was blessed with fine and sunny weather, many thanks to the Kent Gliding Club for producing a large and very welcome contingent. Lots of flying during the day with winch motorglider launches very

popular. Evening activities included radio control scale models and balloon flying. The end of rally hangar dance proved a great success with festivities going on until late. Membership continues to grow and CGC extends a big welcome to the 22 new members who have joined (or re-joined) in the first quarter of this year. Congratulations to Andrew Dowell, our newest solo pilot.

Derek Coppin

CHILTERN (RAF HALTON)

WWW.RAFGSA.ORG/CGC
514733N 0004416W

THE RAFGSA Centre's joint service adventurous training role, gliding, featured for five minutes at the end of BBC1's *Countryfile* on 7 June. The club's weekend ladder is providing the impetus, together with excellent weather in May and June, for a real boost in the club's cross-country flying – with five flights over 300km (a record for the club) on 10 May, with Jim Randall finally obtaining his Diamond Goal. Quite a few pilots are looking forward to the Inter-Services Regional Gliding Competition in the West Country (well, at RAF Keevil) for a change, in early August.

Andrew Hyslop

COTSWOLD (ASTON DOWN)

WWW.COTSWOLDGLIDING.CO.UK
514228N 0020750W

DURING May we welcomed eight new members to the club with our fixed price to solo offer continuing to be very popular. Thanks to Geoff Dixon, we now use Glidex computer software to manage members' accounts and this now allows members access via the club website so there is no excuse for overdue accounts. We also have an excellent weather station available via the internet if you need to check Cotswold weather. Congratulations to Jeremy Liber on his first solo, which he extended into a 60-minute soaring flight. Our expedition to Portmoak was enjoyed by all. Finally, Robin Birch has acquired some further Slingsby artefacts that he assures us will again take to the air.

Frank Birlison

CRUSADERS KINGSFIELD (CYPRUS)

WWW.RAFKROTIRI.CO.UK/CRUSADERS
3501N 03344E

THE warm weather is finally here although we keep getting the odd freak storm – just to keep us on our toes. Greg Marshall our vehicle member had to jump into one of our gliders to stop it getting blown away! During the last two months we've had some good soaring days and Pavel Kantor completed his five hours – a feat which hasn't happened here for almost two decades – well done! Thanks are

sent to Glenn Turpin for being the man on the ground to make it happen. Glenn is off now until September – we'll miss you. Dimitri Savva spent a week in Halton and Derek Smith, our health and safety member, will head there in June to attend his Ass Cat course.

Jo Rigby

DARLTON (DARLTON)

WWW.DARLTONGLIDINGCLUB.CO.UK
531444N 0005132W

CONGRATULATIONS to 17-year-old Ryan Hobson, who took his first solo in a K-13 much to the delight of his Dad Craig, who has been coaching him. Ryan is one of three of our young pilots who have the benefit of a Caroline Trust bursary. Welcome back to Tim Cawood and Tim Sharpe, previous members who add to our steadily increasing membership. Club development continues with the ground works of our second hangar and new clubhouse. Members have displayed a remarkable range of talents enabling the majority of the construction work to be kept in-house, keeping cost to a minimum. Our spring flying week was a great success with members getting into soaring mode for the summer.

Geoff Homan

DEESIDE (ABOYNE)

WWW.DEESIDEGLIDINGCLUB.CO.UK
570430N 0025005W

GLEN Douglas, Mary-Rose and David Smith have elected to stand down from committee work after a long stint. Our thanks go to them for their extraordinary dedication and extremely valuable contribution to the club. Deeside has an instructor and tug pilot available seven days a week, so feel free to visit us and enjoy a flight or two over the stunning Scottish countryside. The dates for UKMSC 2009 are 6-12 September 2009. Booking forms are available online.

James Addison

DERBY & LANCS (CAMPHILL)

WWW.DLGC.ORG.UK
531818N 0014353W

THE weather continues to frustrate our attempts to fly, even though it is summer and we are open seven days a week. We welcome Alan Jolly again as summer instructor, together with CFI John Shipley; Alex Green will be driving the winches. Sylvia Insley and John Sconce have taken over the catering and we look forward to good food and drink to come. We are testing the Launch Assistant, reported in S&G recently and, as I write, the annual expedition to Portmoak is about to leave. Shortly we shall have computerised flight logging; linked directly to the office.



(Left to right) James Hood after first flight in K-6 at **Devon & Somerset** (Cheryl Smith.) Police arrived when **Essex & Suffolk's** Jim Whyte landed out! Mollie Lyne, 16, was sent solo at **Hus Bos** by Basil Fairston (Sid Gilmore). Alan Somerville (front) with Peter Field at **Kestrel's** 60th anniversary (Rob Armstrong)



Congratulations to Malcolm Blackburn, one of our longest serving members, and a past chairman, who has become our new president.

Dave Salmon

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

CONGRATULATIONS to Edd Hiron, sent solo during the university course, and Pete Smith for completing his five-hours at Portmoak. Seven pilots gained Silver heights during Easter weekend: well done to Paul Summers, Peter Smith, Paul Little, (me) and three visitors from Kestrel GC. We held a media day in April, flying various members of the press and local dignitaries. We had lots of publicity in local papers and an article on ITV's *Westcountry Tonight*. The weather held beautifully for a hugely successful open weekend in May, flying around 200 people. The club is now very busy with inter-club league, weekly courses and air experience evenings. For (almost) daily news and results, visit our blog on the DSGC website.

Cheryl Smith

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

CONGRATULATIONS to new Basic Instructor Tony Law. Shaun Reason has converted to the Libelle and done the two-hour flight towards his Cross-Country Endorsement. Shaun has also had some landing-out practise with an involuntary field landing with instructor Gerry Cox. We have been busy for a five-week period flying pupils from Milton Abbey School on Wednesdays, and would like to thank all those who have helped out getting to the club early to open the hangar and get the gliders ready. Also to the tug pilots and instructors who volunteered to be there mid-week. The school flying was organised by Carol and Jon Marshall.

Colin Weyman

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

APRIL and May have been busy with Bob Milligan getting his Silver height and Iain McIver going solo, doing his A and B diploma and starting his Bronze. Other *ab-initios* are also doing well, Allister McGregor doing a flight with instructor John McIver in our Ka-13 at Edensoaring – managing to wave soar to 10,000ft. The weather wasn't kind to us for our week there, but both Allister and Iain McIver returned with huge grins. Bob Roger has resoloed – well done to him. Work on our new

clubhouse has progressed well and drainage work is starting on our runway. We're now hoping for a good flying week for us the first week in August.

Wendy McIver

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

THERE haven't been too many great flying days since the last instalment but the folks at ESGC have been making the most of what's been available. Peter Crouch and Graham Wheeler completed their Silvers during club flying week while Phil Williams and the Tuesday crew have been opening up the field for an extra day's flying a week since early May. Weather permitting, the delayed ground works should soon re-start and we look forward to a long hot summer of flying.

Jim Izzard

EDENSOARING (SKELLING FARM)
WWW.EDENSOARING.CO.UK
544152N 0023506W

MAY'S soaring was great, with thermals, ridge and wave giving Gold Height to Frank Roles and 19,500 ft to Mike Armstrong. English Mountain Soaring Week went very well, with mainly old-timers (gliders) launching in the Lakes near Keswick from our original expedition site, using bungee and winch, with the rest at Skelling, enjoying noticeably drier weather. Instructing is going well with a few locals solo or near solo now, helped greatly by Bruce Cooper's training week in July. We plan to be open at weekends in August then every day from early Sept to end of October when we shall be welcoming visitors to sample everything this amazing site has to offer.

Peter Whitehead

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

WELL done to Steve Rhenius on completing his Bronze on a blustery and challenging day. Heartiest congratulations to Alex Arbitro on going solo in May. We were very pleased to see a group from Anglia GC coming over from Wattisham to fly with us. We hope they enjoyed the experience of flying from what to them was a small field, and come again. Much to the hard work and negotiating skills of those concerned, we are now proud possessors of a K-21, which is proving very popular with all the members. We welcome five new members to our happy band of aviators, Geoffrey Millett, Domas Punis, Simon Barnes, Helen Baker and Jamie Spencer. We wish them every success.

Peter Perry

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

WE ARE collecting a number of notable achievements, including first solos for Steve Hedger and Andy Reider. James Beach achieved his Silver with a 100km out-and-back, Vernon Bettle made 200km and Dave Bolsdon had his first two-hour flight. Meanwhile, among other landings out, Jim Whyte attracted the attention of the local police who insisted on breathalysing him – "just routine" they said – negative of course. A more sober and upright citizen it is hard to imagine! We continue to be busy with trial lessons and presentations to local clubs and organisations are helping to raise awareness of gliding.

Dick Skinner

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

CONGRATULATIONS to Pete Sperry on going solo. Sid Wright is now an Assistant Rated Instructor. The club is enjoying the lovely weather with a good turnout every weekend. Martyn Baverstock had the longest flight of the day on Sunday 31 May – arriving on his motorbike late in the afternoon and jumping into a spare glider, he outsoared all of us.

Natalie Day

HEREFORDSHIRE (SHOBDON)
WWW.SHOBDON.CO.UK
521429N 0025253W

THE wave season merged seamlessly with the thermal season, with good soaring and cross-country flying continuing through the spring. We are involved in the negotiations to minimise the effects of new Welsh airspace, which has been applied for by the UAV developers based at Aberporth. John Cox and Ossie Vaughan took the Falke to Aberporth and back and had a look at the UAV project while they were there. We had good weather for our spring bank holiday week, with members clocking up plenty of hours. Our next major event is our task week in the first week of August. We have a good number of members committed to that, but could accommodate a few visitors.

Diana King

HIGHLAND (EASTERTON)
WWW.HIGHGLIDE.CO.UK
573508N 0031841W

APRIL task week winners were Roy Wilson, Rothes Forest Estate Cup and Pete Gray, Rothes Forest Estate Height Shield. Stuart Naylor captained our team to some excellent results in the first leg of the Scottish Inter-Club League. He also won the height gain task

(Left to right) **Lasham** have two new Skylaunch winches. **London's** vintage glider club took gliders to the Vintage Gliding Rally at Gransden Lodge. **Nene Valley's** newest solo, Dan Chidley, with instructor Chris Hill (Andy Souter)



on the first day. On the second day Robert was second in the Pundit Class, Geddes won the Intermediate class and Scott Napier won the Novice Class. The second and final leg takes place at Easterton on 27 and 28 June. Congratulations to Karl Melen who achieved a Gold height. There have been some aircraft changes at Fulmar with the "old" Discus being replaced with the winglet-equipped Discus 27.

John Thomson

KESTREL (RAF ODIHAM)
WWW.KESTEL-GLIDING.ORG.UK
511403N 0005634W

WE CELEBRATED our 60th Anniversary of operations from Odiham in June with an open day. The event was well attended, with many past members as well as visitors from the station, and good weather enabled a full day of flying and reminiscences of Kestrel, which went on well into the evening. Much thanks to the organising committee with special thanks to David Calvert and Jim Aggiss for the catering both on and off the field. And thanks to all members old and new for making the day such a memorable event.

Neil Armstrong

LASHAM GLIDING SOCIETY (LASHAM)
WWW.LASHAMGLIDING.COM
511112N 0010155W

LASHAM saw the busiest April for many years with more than 2,500 launches. Two BGA Assistant Instructor courses and one Basic Instructor course have been run successfully at the club. We finally took delivery of our two beautiful new Skylaunch winches and one of our old Tost winches has found a good home at Mendip Club. Surrey and Hants gliding club has now fully merged with Lasham Gliding Society. Richard Moyle took over from Alastair Mackinnon as manager in February bringing with him 35 years of gliding experience and 30 years of business management experience. Plans are well under way for the regional competition (places still available) and the Open Class Nationals both to be held 8-16 August.

Richard Moyle

LINCOLNSHIRE (STRUBBY)
WWW.LINCSSLIDINGCLUB.CO.UK
531836N 0001034E

CONGRATULATIONS to Pam Duckenfield on going solo. Derek Woodforth has left us, moving away from the area, and we are grateful for all his assistance and expertise particularly on the drainage and sewage matters. The club has finally invested in a grass cutter of our own so the need for contractors is very much reduced. The Lincs

Gliding Club flying tigers badge is still available to anyone who takes a winch launch from the club and lands at least 25 km away in a glider with a handicap of less than 95.

Dick Skerry

LONDON (DUNSTABLE)
WWW.LONDONGLIDINGCLUB.CO.UK
515200N 0003254W

CONGRATULATIONS to Chris Hazell, Arthur Jerrett and Adrian Leach on their solos, and to Denis Keegan on achieving his Bronze. Our "novices" Helen Hingley and Ryan Berry both achieved "Day winner" at their first inter-club league contests. Our Girls Get Gliding day was a great success. Clubhouse refurbishment works are continuing with new electrics, plumbing, and security. Meanwhile, despite good weather at home (more than 80 flights exceeding 300km by the end of May); the trailer rack has been looking empty with members taking their gliders to various locations in France, Germany, and Austria. The vintage glider group is as active as ever with several LGC gliders seen at the recent national VGC rally.

Andrew Sampson

MENDIP (HALESLAND)
WWW.MENDIPGLIDINGCLUB.CO.UK
511544N 0024356W

A HUGE thank you to the members that attended this year's AGM. Tony Smith received the most improved *ab-initio*. Lez Saker was thanked for his tireless efforts in maintaining the club fleet by receiving the award for the most selfless service to the club. Terry Hatton received the winner's trophy on behalf of the entire inter-club league team as team captain for 2008. And finally, the converted Red Ball award was not won by Andy Whiteman this year. His crown was taken by Peter Turner for adding further evidence that when it comes to wheels-up landings, there are those who have and those who will. In his words: "I have now joined the club for those who have!".

Terry Hatton

MIDLAND (LONG MYND)
WWW.LONGMYND.COM
523108N 0025233W

WE SEEM to have had more opportunities than usual for bungee launching this year. Apart from being great fun, it is an excellent way of keeping the launch crew fit. Our 75th anniversary celebrations started off with a very successful barn dance on 30 May. The Anniversary Party is being held at the club on 15 August, also the start of the vintage glider club week at The Mynd. More information is available on our website or from the office. Our Rockpolishers team, led by Dave d'Arcy

this season, may not have scooped up all the points at Talgarth but much fun was had flying the local ridges and Hay Bluff. Congratulations to Rob Shephard on his first solo.

Steven Gunn-Russell

NENE VALLEY (UPWOOD)
WWW.NVGC.ORG.UK
522612N 0000836W

MANY congratulations to Dan Chidley for his first solo, achieving his A and B badge, closely followed by his two Bronze duration flights, Silver duration flights and height gain, even managing to bag a five and a half hour flight on a blue day when most pundits found the ground after a couple of hours. Dan must surely be a gliding star in the making. NVGC has also enjoyed an excellent mini task week with a really good turn out including visitors from Scotland and Australia. Many gliding hours were racked up across the week (and lots of Scotland's finest sank in the evenings).

Kerry Mertz

NORFOLK (TIBENHAM)
WWW.NORFOLKGLIDINGCLUB.COM
522724N 0010915E

THE two expeditions in April had mixed fortunes with the weather spoiling things a bit at Talgarth. Nevertheless, many thanks to the Yorkshire and Black Mountains clubs for their hospitality. Unfortunately the Easterns had to be cancelled, but our club task week went ahead that week with tasks being flown on six days. Congratulations to Pete Ryland the winner, Dave Rushbridge on his Silver distance and Warwick Swancott on going solo. Our recent recruitment drive is meeting with some success with more trial lessons and the membership figures already up to last year's level. I don't think it's got anything to do with the photo shoots for "The Calender".

Mike Bean

NORTH WALES (LLANTYSILIO)
WWW.NWGC.ORG.UK
530239N 0031315W

OUR club has had some excellent flying conditions. We had a club week in May, which included thermal, hill lift, and a little wave plus one day of quite rough air giving us lift in quite testing conditions. Being able to fly eight out of nine days was a boost for the club funds, which was much needed as the gearbox on our main winch developed a fault and a large bill. We have attracted a couple of new members with one or two more expressing interest after taking up trial flights – like many clubs we really do need some younger people. So on an upbeat note we all look forward to a continued good season.

Brian Williams



(Left to right) **SGU's** Jesus Gallego being congratulated after his first solo by Neil McAulay (Ian Easson). First Bowden's Cub Scout Group visit to **The Gliding Centre** for their airmanship badge, organised by Sarah Ferns (Sid Gilmore). **Trent Valley's** Dave Bieniasz on his way to Gold Height (John Williams)



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

AFTER many years, Jon Christensen finally completed his Silver. Congratulations on 50km's to John Mart and Alberto Aroz. We have also had a fine batch of Silver heights, half and two-hours to assorted pilots. The rush of early solo pilots has seen us rig the 'spare' Ka8, which certainly makes for entertaining hangar packing. We are testing one of the new SkyLaunch 'Launch Assist' units on one of the ASK-13's. If reactions are favourable we will equip most of the club fleet and one or two private gliders. And finally thanks to Windrushers for helping us out when we have had a series of unexpected Hercules drops!

Neil Swinton

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

THE club's AGM was held in May: Peter Hardingham takes over as treasurer, Murray Spittal joins as vice chairman and our ex-CFI Martin Ewer takes on the role of safety officer. To the committee members who have stood down – we thank you for your services. Our annual club dinner was held in May with the CFI's cup going to Garry Lacy. Congratulations also to Murray Spittal on going solo. We are now finalising plans to get our second hangar floor concreted.

Merv Bull

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

THE spring has been relatively soarable. Our Easter course for the Navy, as well as the May Joint Services course led by Halton, were both successful with a number of solos. The club's new Grob motorglider has been an instant success. Congratulations to Paul Carder on his recent glider solo and to Neil Shaw for qualification as a BI. Henry Freeborn gave a good performance at the Overseas Nationals in Ocana, and the club now has an Exped team with the RINGS there for three weeks. Onsite, we now have our clubhouse bar operating after good work from Stuart Pollard, Alan Turner, John Hale and Tony World.

Neil Shaw

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

CONGRATULATIONS to Shawn Carrigan on flying solo in the UK in April, and for converting to the Junior in May. The inter-club league was well attended; congratulations to Sarah Lee who won the intermediate task

on Saturday. Congratulations also go to Mick Nicholls who has converted to the Pegase, and to Neil Morley who has completed his Cross-Country Endorsement.

Helen Page

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

WE HAVE already had streams of visitors – please can potential visitors ring the club to ensure we have space for you. The RAF Gliding School is on site for five weeks, so if you are visiting be sure to check the local rules with our CFI. We welcome back instructor Chris Robinson following his skiing accident. Recent achievements include Jesus Gallego – solo, Yvonne Stott from Bowland Forest – Silver duration, Peter Clayton – Gold height and Gold Badge, Alastair Mutch – Diamond height, and Ian Easson – BI Rating. Following the Scottish Inter-Club comp held at Portmoak on 23/24 May, Highland are leading and (at time of writing) we look forward to the next round at Easterton in late June.

Ian Easson

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

CONGRATULATIONS to Gavin Preuss for completing his 300km on his first attempt. On the same day a new club record was set by Dave Smith, who flew 723km in his Nimbus 3. We are running a very successful youth flying group on Friday evenings. It is encouraging to see some promising young pilots. A group from Parham had a successful week with us in early June and we are now looking forward to our annual visit from Lincolnshire GC.

Bob Winters

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

WITH details of the airfield purchase announced to a jubilant membership, the AGM was conducted in record time and chairman Craig Lowrie presented with a rose bowl for leading the team that secured our future. Congratulations to Guy Knight, Andrew Longhurst, Nick Busvine and Rik Foreshew on going solo and to Dave Clews and Katie Simmonds for qualifying as tug pilots. The Weiss Centenary Celebrations, to be held during the Vintage Gliding Club rally, will include a scaled-down version of the original Weiss machine, built by Andrew Jarvis. Eric Gordon England flew the original glider here at Amberley Mount in 1909 – his daughter and granddaughter have been invited to the rally.

Peter J Holloway

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

THE retired sages of the club have organised a regular Thursday flying operation during summer – Ian Kennedy being the driving force behind it. The clement weather has also bought in a steady flow of new members, some even beginning to lower the average age of the club. Despite coming 2nd at Talgarth rockpolishers we would like to thank all the members there for the enjoyable weekend. With the club fleet in high demand by post-solo pilots, Martin Bishop is knuckling down to pass his Bronze so he can fly his new toy – his share of an ASW 19. Dave Allen has rejoined the ranks of our brave hawk men by being cleared solo in the K-8's.

George Robertson

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

HARDLY a soul at launchpoint. The entire club fleet somewhere high above the Warwickshire countryside. What a pleasure to have a good summer flying day. All the stats are up on the same period compared to last year and the year before. We're doing more flying, more visitors are coming through the gate and our trial lesson evenings are proving to be a success. The club ladder filled up pretty quickly with some notable late spring flights. Some innovative thinking by the committee over the winter period has brought about increased utilisation of the club fleet with options for members to hire a glider for a day and a fixed-fee 'syndication' of the club Junior.

Richard Maksymowicz

SUFFOLK (ROUGHAM)
WWW.SUFFOLKSOARING.CO.UK
5214912N 0004600E

WE OPERATE from Rougham airfield most weekends and on 'good' weekdays. Visiting pilots are welcome. Cross-country flights in 2009 have exceeded the distance achieved in the prior two years already and all flights are now going on to the National Ladder. Our thanks to Peter Lazenby, our tuggy, for turning out at an hours' notice midweek to launch us off into those cracking spring days.

Richard Maisson Pierre

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

IT'S been a busy few months. Charity day was a great success with more than £2,000 raised for a local charity. A small group visited Hereford Gliding Club at Shobdon where we were very well looked after by our

(Left to right) Stuart Pepler congratulates his son Alex on his first solo at Vale of the White Horse (Paul Graham). WW2 pilot John Haddock returned to Cosford. Yorkshire's Sanjay Nath, solo, with David Bradley, and the club's chef and restaurant manager Brian Clark (Steve Gough)



ex-CFI Peter Poole. We were blessed with fantastic soaring in the surrounding areas. Congratulations to new BI Mick Ely and Al's Ingram Gavan and Stephen Skinner. Tom Arscott and Adrian Hewlett have all passed their Bronze exams, while Brian Yates and Adrian Roberts have both gone solo – well done to them all. And finally a big thanks to Mick Ely, Phil Chapman and Alan Rennison for redesigning the interior of the clubhouse.
Marc Corrance

THE GLIDING CENTRE (HUS BOS)
WWW.THEGLIDINGCENTRE.CO.UK
522626N 0010238W

CONGRATULATIONS to Mollie Lyne who soloed on her 16th birthday, and Les Harcutt and Steve Guy who have re-soloed. Christine Foster, Rob Cobb, Guy Wilson and Ollie Ford have completed their Bronzes, and Ollie has also got his Cross-Country Endorsement. Graham Leatherland has flown his Silver distance, Frank Roles his Gold height. Alex Stanford got his Assistant Rating, and Mike Larkin did his five-hours to complete his Silver. Well done to Russell Cheetham, Richard Browne and Gary Stingemore who came 1st, 2nd and 3rd respectively at the Overseas Nationals in May. There have been two expeditions to Edensoaring in Penrith. The OAFs lunch was well attended by old and former members.

Siobhan Crabb

TRENT VALLEY (KIRTON IN LINDSAY)
WWW.TVGC.ORG.UK
532745N 0003436W

IN APRIL, some Scouts held a weekend camp here and we were able to give them all flights. We made our first venture into the world of caravanning in May, when members of the Lincolnshire Centre Caravan Club joined us for a weekend rally. Spring Bank holiday weekend saw a team from Trent Valley at Saltby for the first leg of our annual Wood and Glass competition with Buckminster. Despite poor conditions, Trent Valley pilots filled the first five out of six places in the competition! Our programme of Scout flying events continued in June with a party from Foston (near Grantham) joining us for a flying day.

Alan Spencer

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

CONGRATULATIONS go to Alex Pepler on a first solo and to Alan Hadwin and John Heath for their Silver badges. Our Friday flying day remains popular and will continue for the rest of the season. The 25th of July marks our summer hog roast, hangar party and 50th

anniversary celebrations. Refurbishments are continuing at the clubhouse with a new paint job and kitchen floor. Now if we can just get that stove installed before the winter sets in we will be sorted!
Jay Myrdal

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

SPRING has seen Welland returning to the inter-club league by fielding a team with Wittering. Visits to the hills of Eden and Feshie have seen excellent soaring weather and Paul Porter and Mike Taylor returned from Scotland, each with Gold heights and Mike with Gold complete. Mark Prickett has been doing some flying for himself, including finishing his SLMG IR. Our forthcoming club open weekend is promoting gliding to the public and arrangements are being made for our flying week in August when we hope to have a talk from the RSPB about our neighbouring Red Kites. We have hopes that our tug will be back on line very soon and we are making plans to upgrade our winch.

John Strzebrakowski

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

THE club has hosted a successful inter-club weekend. We had a dozen hot air balloons based on our site for the annual Flying Man of Pocklington Festival, raising funds for our parish church. At the end of April we held a cross-country training weekend when we were pleased to have Sarah Kelman and Pete Harvey leading pilots from across the north of England in cross-country flying. Our CFI, Tim Milner, is working himself (and other club members) overtime preparing for our open weekend on 20/21 June. We would like to thank the team of indefatigable workers who have improved the drainage on our trailer park: Dave, Chris, Karen and John.

Avelyn Dell

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

THE excellent season continues, soaring conditions reliable for all but two days flying. Among those enjoying the conditions; Noel Hawley, Geoff Matthews and Dave Judd have had extended local flights. Dave Vale, Dave Catherwood and Nigel Lassetter are close to completing Silver C. Keith Sweeting, Andy Walsh and I, are close to completing Bronze C. Les Simpson, having re-soloed after a 14-year break, has been enjoying good soaring flights. Apologies if I miss other achievements,

too numerous to recall. Congratulations Nick Lewington on passing his Basic Instructor's course, great news especially as our K-13 is now back online.

John Vincent

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

IN MAY we held a gliding day for patients from the Defence Medical Rehabilitation Centre at Headley Court under an initiative that aims to improve the use of adventure training in the aftercare of wounded Service personnel. A number of injured combat soldiers were flown, attracting attention from the national press. The first inter-club league heat at The Park provided two scoring days and Wyvern was placed second to the home team – well done Allan Tribe and Bruce Hudson. In the second heat at Northill, the Wyvern team won outright – this time thanks to Will Chappel and Alec Watt. There is all to fly for when we host the third heat in June. Congratulations to Dean Heit on going solo.

Andy Gibson

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

A DETAILED questionnaire has been sent to all York members in a bid to improve facilities and meet possible outstanding needs. We have become a Junior Gliding Centre, following the realisation that, in most cases, as soon as Air Training Corps cadets complete their training by going solo in motorgliders there are no more opportunities for them to fly gliders with that organisation. As a result, we held an open day to give cadets a taste of gliding to develop their flying skills further in a civilian environment, which has met with a positive response.

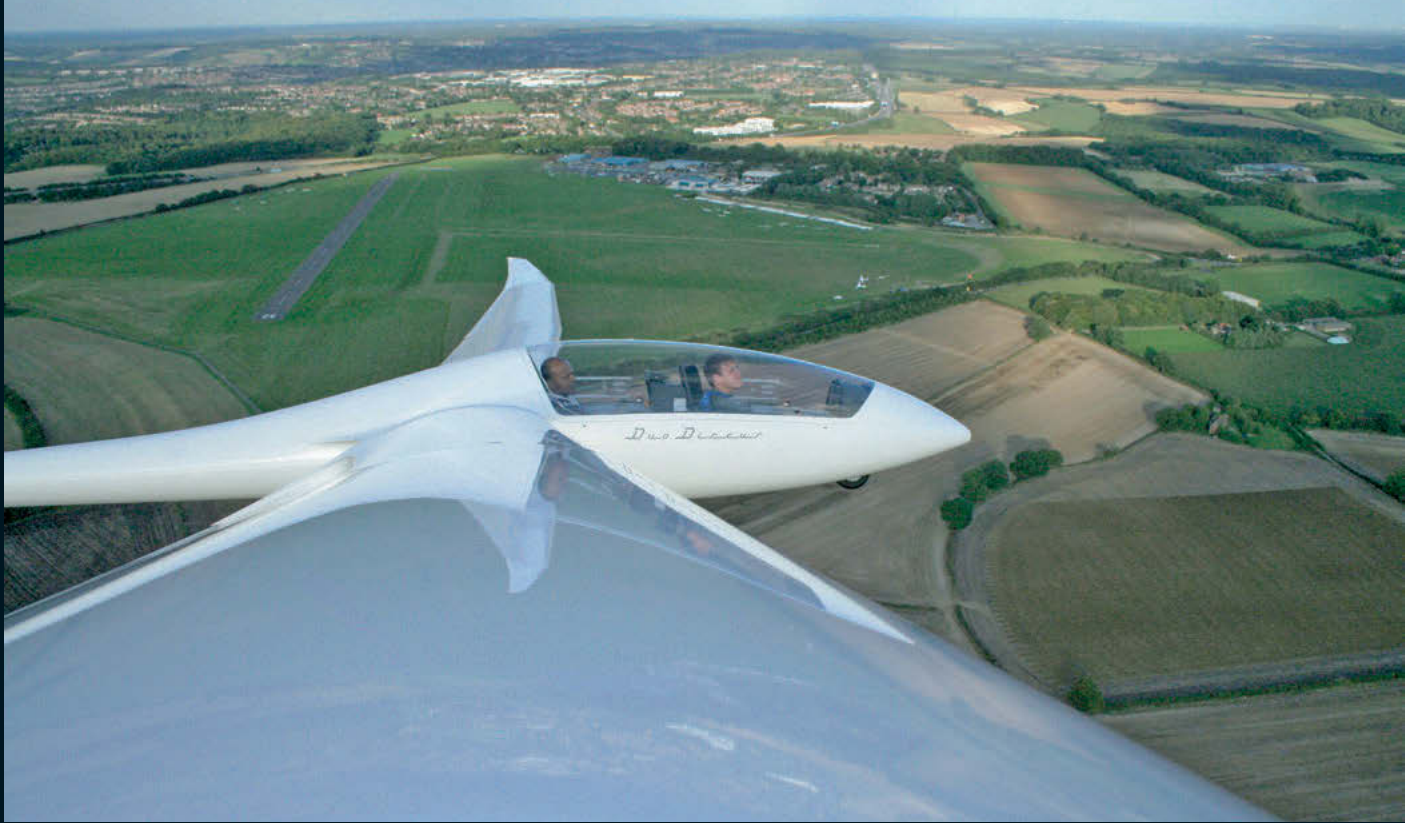
Christopher Brayne

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

OUR 75th Anniversary celebrations have continued throughout the year, and despite the doom and gloom our membership is continuing to rise! Congratulations to our two new solo pilots – Sanjay Nath and John Shaw – and also to Darren Clare on his conversion to the Astir. The aerobatic week gave members a chance to see our club and the ground from another perspective. Not seen for some time were dual aerotows.

John Marsh

S&G's thanks as usual to Debb Evans for editing this issue's Club News.



Julian Saakwa-Mante

> CLUB FOCUS BOOKER

AT A GLANCE

Membership:

Full: £595pa
Country: £315pa
Junior (up to 26): £95pa
Cadet (up to 21 and selected for scheme): £70
Student (full-time ed): £110

Launch Type:

Aerotow £9.50 plus £1 per 100ft, discounts for aerobatic tows

Club Fleet:

Duo Discus, K-21 x2, K-13 x3, Discus, Pegase x2, Junior x2, K-18, Falke

Private Gliders:

approx 70

Instructors/members:

29/162

Types of Lift:

Thermal/ridge

Operates:

364 days, including weekday evenings in summer

Contact:

01494 442501
www.bookergliding.co.uk
129.975 mhz (callsign Booker launchpoint)

Long and Lat:

N51 36.70 W000 48.48

BOOKER Gliding Club operates from Wycombe Air Park (WAP), situated just two minutes from junction 4 of the M40. WAP offers all the facilities of a licensed airfield, including ATC, emergency response, fuel and hangarage. There is also a restaurant on site, an ideal spot for that post-flight drink with a view of the sunset.

The airfield has a long and distinguished history. It was requisitioned by the Air Ministry in 1939 and opened in 1941 as RAF Booker, a base for the Glider Pilot Regiment and Bomber Command Communications Flight. In 1965 it was developed as a civilian aerodrome under the name Wycombe Air Park.

Civilian gliding started at Booker in 1957 with the Silver Wings GC, later renamed Airways Flying Club, for BOAC and BEA employees. This was followed by the Post Office Gliding Club and the London & District Civil Service Aero Club. In 1965, the Thames Valley Gliding Club was formed by a bunch of gliding enthusiasts, several of whom are still members of Booker GC, which was created in 1978 when all the clubs amalgamated.

Today Wycombe Air Park is a very busy airfield with a number of fixed wing and helicopter enterprises. Booker GC operates from the southern half of the field, on grass, runway directions being 24/06 and 35. The amount of traffic can seem daunting to visitors, but gliding and power circuits are on opposite sides of the field so there is

no conflict. The environment does mean that club members are well trained in the importance of a good lookout. The operation is all aerotow, with four tugs ensuring an efficient launch rate. The airfield (elevation 520ft) is under the LTMA at 3,500ft amsl but this poses no difficulty as there is plenty of class G airspace to the north and west.

The club has its own maintenance workshop and team able to carry out both glider and tug maintenance and annuals. We also have a clubhouse with briefing room and tea bar.

Cross-country flying is a prime focus at Booker, and aerobatics is becoming increasingly popular, with coaching available throughout the year and the hotly-contested Easter Egg Cup competition. We have a Falke motorglider for field landing and navigation practice, and a Duo Discus for cross-country training. Early cross-country pilots make good use of the Discus and two Pegases.

The club offers a wide range of courses to suit the different needs of trainees, backed up by task weeks in the summer and a programme of lectures during the winter. Expeditions to other sites are well subscribed, with the autumn visit to Aboyne and the spring trip to Shobdon being established features of the club calendar.

Visitors are always welcome, detailed notes are available on the members' page of the club's website www.bookergliding.co.uk
BGC marketing

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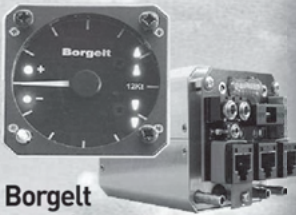
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BGA accident/incident summaries

AIRCRAFT		Registration	Damage	Date, time	Place	PILOT		P1 hours
Ref	Type					Age	Injury	
28	PW5	G-CHZB	none	19/02/09, 11:25	Burn GC	n/a	none	not reported
The winch cable and parachute made contact with the glider after a low level launch failure. The glider made a straight ahead landing but the winch driver continued to retrieve the cable, later reporting that he had lost sight of the glider.								
29	not reported	not reported	none	6/03/09, 16:20	Scottish GC	70 / 72	none/minor	1909
The glider landed firmly and bounced after a 70 knot, full airbrake approach.								
30	K21	G-KXXI	substantial	6/03/09, 12:30	Shenington GC	not reported	none	610
The rear canopy came open during the winch launch and was subsequently destroyed. CFI recommends that the canopy interlock mechanism should be checked during the DI.								
31	K13	G-DDVB	substantial	7/03/09, 11:00	Essex & Suffolk GC	not reported	serious	21
Hard landing led to back injury requiring a (brief) admission to hospital.								
32	K8	G-CFWL	none	16/03/09, 13:30	Welland GC	59	none	not reported
The glider landed in an undershoot field after encountering severe sink on baseleg.								
33	Super Dimona	G-OSFA	write-off	18/03/09, 11:30	Oxfordshire Sport Flying	61	serious	29
The TMG drifted sideways on landing and left the runway. The pilot, on his first solo flight, applied full power and took off again but when the pilot started to turn, the TMG stalled and spun in from approx. 40' agl.								
34	Junior	G-CHDB	minor	21/03/09, 13:10	Stratford GC	56	none	344
A heavy, tailwheel first landing cracked the tailwheel support mounting.								
35	Ventus CT	G-IFWD	minor	not reported, 16:30	Scottish GC	n/a	n/a	n/a
Split elevator and creased fin during ground handling. The wingtip caught on an obstacle, slewing the glider round and the tailwheel was forced off the towbar mount, allowing the elevator to contact the rear of the car.								
36	ASW24	G-CJTB	minor	30/03/09, 14:20	Scottish GC	65	none	188
After a long, shallow, minimal airbrake approach into a 20 knot wind, the glider was seen to drop a wing at about 10' agl and start to rotate before descending onto the long grass of the undershoot area.								
37	LS8-18	G-CJJK	substantial	3/04/09, 13:30	Cerdanya, Spain	86	none	3300
The glider's wing was damaged during an outlanding. The pilot had intended to soar locally but allowed himself to get out of range of the airfield over unlandable terrain.								
38	K13	G-DCRT	minor	5/04/09, 15:30	Bowland Forest GC	n/a	n/a	n/a
10cm split in trailing edge of aileron caused when the wingtip hit a trailer. The three pilots pushing the glider backwards were in a hurry to move clear of the winch cable run.								
39	Pegase	G-CKAE	minor	29/03/09, 14:45	Rattlesden GC	62	none	1465
Damage to the gelcoat and glassfibre structure. The experienced pilot flew his task with the wheel down and then retracted the undercarriage during the circuit, subsequently landing on the runway with the wheel up.								
40	LS8-18	G-CHVF	minor	21/04/09, 14:50	Southdown GC	55	none	918
Damage to the gelcoat and glassfibre under the nose after a wheel-up landing. The pilot was dehydrated after a 4-hour XC flight in blue conditions.								
41	DG100	G-CJEZ	minor	19/04/09, 16:10	Booker GC	52	none	87
The unlocked canopy smashed during the aerotow take off. The CFI has advised the pilot to physically check that the canopy is locked, not just look at the latch position.								
42	Pawnee	G-BFEV	none	25/04/09, –	Trent Valley	not reported	minor	n/a
The engine fired as the prop was being turned by hand, fracturing the would-be pilot's wrist. All the switches were off but later investigation revealed a broken grounding wire, allowing the magnetos to supply current to the spark plugs.								
43	ASH25	G-RAIR	minor	29/04/09, 19:00	Lasham GS	50 / –	none / none	3135
The underside of one wing was badly scored after landing out into a stony field. Landing across a slight slope, the uphill wingtip touched down during the ground run.								
44	LS4	G-CFKG	minor	3/05/09, pm	Bath, Wilts & N.Dorset GC	53	none	81
Wheel-up landing after hurried pre-landing checks. The pilot had been attempting to soar away from circuit height.								

LEARN FROM THE MISTAKES OF OTHERS

IN FLYING, it is better to learn from other people's mistakes than your own. On that basis it is proposed to publish from time to time accident or incident reports in more detail than most have had to date, so that all may learn from them.

The accounts will stick to the facts as reported; no opinions or judgements will be given.

This first account is of a near collision between two gliders in the circuit. The site of this incident is a narrow east-west strip about 100 yards wide. One glider was doing a left-hand circuit to land towards the west.

Simultaneously, another was doing a right-hand circuit.

The pilots' accounts follow, but any details that might identify them or the site have been changed.

The Cirrus pilot

After soaring all afternoon I descended to the South West of the airfield. Then on the radio I heard an aerotow being launched so I watched the tug and a K-21 climb out. I saw no other aircraft apart from the K-21.

On the strip there was one glider being towed by car, which pulled to the side and there

was another glider parked on the side near the winch launch area, so both sides were clear. I commenced a left-hand circuit to land to the west as briefed by the duty instructor in the morning.

When I turned on to the base leg, I was surprised to see the ASW coming towards me, slightly higher so that I could see it against the sky. I assumed, wrongly as it turned out, that the pilot had seen me and that we could each land on our respective sides. Therefore I made a final turn to line-up with the left side of the strip and started to descend on my approach.

At this point, out of the corner of my right eye

BGA accident/incident summaries *continued*

AIRCRAFT Ref	Type	Registration	Damage	Date, time	Place	PILOT Age	Injury	P1 hours
45	LS7	G-TWAZ	minor	5/04/09, 14:15	Wolds GC	58	none	316
After being prematurely bumped into the air during the aerotow ground run, the subsequent touchdown retracted the undercarriage and ripped off a gear door. The pilot was able to continue with the take-off and later landed normally.								
46	Antares 20E	G-DCDC	minor	8/04/09, pm	Scottish GC	55	none	2006
Groundloop on take-off caused minor damage to the top of the fin. The self-launch was initially as normal and the pilot suspects a crosswind gust or obstruction catching the wingtip wheel caused the groundloop.								
47	Junior	G-CKHN	minor	9/05/09, 12:00	Nene Valley GC	25	none	29
PIO on approach ended with a heavy landing, leading to compression damage under the nose, cracked seat pan and possibly further damage.								
48	Discus BT	G-CHGK	minor	3/05/09, --	Lasham GS	60	none	173
After hitting a bump during the winch ground run, the airbrakes came open. The pilot closed them and proceeded with the flight but after landing and further testing, the pilot felt that the mechanism needed further inspection.								
49	Duo Discus	G-CHWB	minor	11/05/09, 20:00	Lasham GS	60 / 53	none / none	834
The open canopy was shattered by a falling winch cable and parachute. The cable had broken at approx. 1500' agl on a windy day and the remaining cable, parachute, weak links and strop drifted downwind towards the landing area as they fell.								
50	Mosquito B	G-DDTY	minor	19/04/09, 17:00	Santa Cilia, Spain	62	none	550
Broken canopy and minor fuselage damage after hitting a trailer at the end of the landing run. Taxiing off the runway, the pilot turned downwind while braking heavily and was unable to prevent the collision after losing control.								
51	Zugvogel III	G-CHKV	none	24/05/09, 10:30	Dartmoor GS	n/a	n/a	n/a
The canopy focused the sun's rays onto the cockpit cushion, which then began to smoulder. The canopy had been left upright and standing on the cushion on a sunny day.								
52	LS6-18	G-CHMK	none	25/05/09, 15:00	Cambridge GC	49	none	1285
The glider groundlooped through 360 degrees after the wingtip touched the ground. The pilot had been trying to steer the glider during the ground run as the landing area was obstructed by other gliders.								
53	Libelle	G-DCSJ	substantial	31/05/09, 13:15	Staffordshire GC	62	none	2215
Broken fuselage and damaged tailplane after the wing dropped during a winch launch. The pilot released the cable too late to prevent the accident.								
54	ASW19	G-CHUA	substantial	30/05/09, 14:30	Burn GC	not reported	not reported	401
A wheel-up landing on the runway caused considerable damage to the glider. The pilot was on final glide for a straight-in approach when he noticed that the runway was obstructed. He retracted the undercarriage and circled in weak lift to gain enough height to overfly the obstruction, but neglected to lower the wheel before landing.								
55	ASW19	G-CGCA	none	30/05/09, 13:30	Deeside GC	58	none	109
On landing, the glider ran off the end of the runway, down a slight slope and into a gorse bush.								

LEARN FROM THE MISTAKES OF OTHERS

continued

☞ eye I saw the ASW pull up. After I had landed on the grass I saw the ASW land longer to my right.

The ASW20 pilot

It was my first flight on type. Doing a right-hand circuit, I did not see the Cirrus on opposite base leg. I observed gliders being towed along the grass and another parked near the launch point. I turned onto approach and selected landing flap as briefed. As I looked out of the left side, the port wing of the Cirrus appeared from under my wing. It was flying faster. I did a climbing turn to line-up parallel to the landing line and landed long. There was no contact but it was close.

Summary

The Cirrus pilot was briefed to do a left-hand circuit. It is not reported what circuit briefing, if any, the ASW pilot received. From their accounts, both pilots were concerned about the potential for gliders and vehicles to obstruct the narrow landing area. There is no mention of any radio calls by either.

The Cirrus pilot saw the other when both were on their base legs but did not give it sufficient attention thereafter to avoid the close encounter. The ASW pilot, on his first flight on type, did not see the other before the close encounter.

WING COMMANDER BILL BARNARD Croix de Guerre (Belgium) RAF Retd



WG CDR Bill Barnard passed away on 11 April, 2009 – aged 100. Bill, having served in the RAF as a pilot, decided to try gliding as means of getting airborne again in

1966. The club was then a member club of the Army Gliding Association (AGA) now RAFGSA.

Bill was persuaded by the AGA to take on the job as treasurer for Kestrel – a job he was to do with excellence for 25 years. In addition he was secretary, field treasurer and insurance member. It was Bill's careful, thoughtful and prudent approach to costs and control of club funds that helped Kestrel to have the financial strength to cope with various hangar and winch problems.

Bill joined the Royal Air Force as a boy apprentice at RAF Halton, where he did so well that he was offered the opportunity to go to the RAF College Cranwell to be commissioned and trained be a pilot.

However, this was not what Bill wanted and he turned down the opportunity, preferring to become an aircraft engineer. His first posting was to the Sudan, where he travelled all over the Middle East repairing various RAF aircraft. In October 1931, the station commander instructed Bill to report to Number 4 Flying Training School (FTS) at RAF Abba Sueir in Egypt for pilot training. Bill told me: "I started to say I would rather carry on being an aircraft engineer," – when the Station Commander (who had read his file from RAF Halton) said "Corporal Barnard do as you have been told – report to 4 FTS." And that's how Bill became a Pilot Sergeant – as they were in 1931.

Bill started his initial flying training in November 1931 on the Avro 504, going solo in nine hours. Initial training was completed with 46 hours dual and solo training. Advanced training followed on the Atlas aircraft, adding further 104 hours flying to achieve the presentation of his wings and the special assessment of a distinguished pass.

Bill's first posting was to 47 (Bomber) Squadron based near Khartoum, flying the Fairey Gordon both as a land and sea plane. He flew all over the Middle East and Africa and was away from home for seven years.

The next posting was to 29 (Fighter) Squadron based at RAF North Weald, flying

the Demon. In October 1935, 29 Squadron were posted to Egypt so seven months after returning from the Sudan he was back in the Middle East again.

Bill was commissioned in 1935 as a Pilot Officer and posted to 32 (Fighter) Squadron, based at RAF Biggin Hill, flying the Bulldog and Gauntlet aircraft. Bill was selected to fly with the 32 Squadron aerobatic team.

In 1937 Bill became an armament specialist, following a one-year course. He was then Chief Instructor or Station Commander of 10 Air Gunner or Bombing Schools. In this period Bill was promoted Flight Lieutenant and Squadron Leader.

In June 1944, Bill started his training for operations flying multi-engined aircraft, on the Oxford, Wellington and Halifax Mk3 aircraft. He was also promoted to Wing Commander. In February 1945 Bill took command in turn of three bomber squadrons – 102, 640 and 51 Squadrons flying from RAF Leconfield Yorkshire. Bill led 51 Squadron from Bomber Command to the new Transport Command changing aircraft from the Halifax to the Stirling Mk4. A conversion to the York and posting to 246 Squadron followed.

In 1946 Bill was on his overseas travels again commanding RAF Butterworth and then to Kuala Lumpur and Rangoon Burma.

The next posting was back in the UK commanding RAF Newton. This was followed by a posting to the Air Ministry (Bill never liked the term MoD).

In April 1954, Bill attended a jet training course to fly the Meteor Mk 4 and MK 7. So Bill Barnard flew from the Avro 504 bi-plane to the Jet age via fighters and multi-engine aircraft.

Bill finally retired from the RAF in 1956. He was honoured by the Belgium nation with award of the Croix de Guerre for bravery in the face of the enemy. In addition he was honoured with the Order of Leopold. Bill never told his wife Eleonore or anyone else the reason why.

I am only able to write this obituary because Bill's wife, Eleonore, kindly gave me access to his RAF log books. Bill was a modest man who spoke little of his remarkable career.

In retirement Bill was a much-liked, hard-working and respected member of Kestrel GC. He continued to fly with the club until he was 85 years old. Bill completed 3,270 glider launches and 617 hours, achieved his Silver C and was awarded a BGA Diploma for his service to Army Gliding. Kestrel GC made Bill a life member for outstanding service to the club.

We extend our condolences to Eleonore and his family.

Christopher Wick, Kestrel GC – RAFGSA

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ROY SCHOFIELD

ROY SCHOFIELD was what could be called "one of the old hands". He died in May.

Roy started flying shortly after his retirement from teaching, when the club was based at Doncaster.

On his first 50km attempt, he landed only a few miles away near Bawtry in his Yellow Skylark, which was none radio. Then of course with no mobile phones, instead of waiting until someone happened to be in the clubhouse to answer the phone, Roy hopped on a bus and was seen emerging through the bushes, and onto the airfield.

He hijacked a volunteer, hitched up the trailer to his car, got in and retrieved himself.

He was very precise in his flying, and a master craftsman when it came to carrying out repairs on wooden gliders.

Roy took very careful and gentle care of his K-6, which he flew with enthusiasm. I towed him on many occasions, and was always assured that he would be visible in the mirror regardless of conditions. Roy retired from flying through ill health some time ago. We all missed his smile, and his knowledge and experience.

He gave us (unwittingly) a laugh one day when after he had de-rigged, he hitched the trailer to his car, reversed up then set off for the clubhouse.

Little did Roy know, but as he set off, the car and the trailer parted company. He didn't notice but kept on all the way to his hitch, got out of the car, and hey presto, no trailer.

In the meantime we had seen it all happen at the launchpoint, so pushed the trailer back to where it had been parked, and put it back up on the stand and walked away in innocence.

We all had to look the other way as Roy stood there scratching his head, "I'm sure I put that thing on the back of my car".

The laugh was on Roy, but he enjoyed it just as much as we did when we admitted our culpability. Roy was a lovely, friendly man.

Tony Flannery, Burn GC

COLIN RATCLIFFE 1936-2009

ONE simple measure of the high regard the gliding fraternity had for Colin Ratcliffe was the presence at his funeral in Stafford of so many of his friends who travelled from near and far to pay their last respects. It wasn't a surprise. For 40 years he graced our gliding fields in his familiar 'deerstalker' as a member not only of the Staffordshire Club at Meir, Morridge and Seighford, but also of the Shropshire Soaring Group at Sleaf, and of other clubs in Scotland and France when his work in the oil industry took him away from home.

As a pilot we remember Colin first for his exemplary airmanship and soaring skills. These he retained even to his last three flights in March and April, each one lasting over an hour despite the obvious burden of his illness. Although he was never a 'pot hunter' it is no accident that he often won awards. Most recently he earned the Staffordshire Ken Sheriff Trophy for the most noteworthy flights from Seighford in both 2006 and 2007.

Although Colin loved to fly on his own, we also remember his qualities as an instructor. He was one of the few who succeeded in teaching others to fly at Morridge, which was one of the most challenging sites in UK gliding history. At various times he served as Chief Flying Instructor for both the Staffordshire and Shropshire clubs.

In later years he still sought out new challenges. He regularly joined the annual pilgrimages to sites in France and Spain. In 2005 he gained his motorglider licence, and many friends shared memorable flights with him in the Motorfalke.

As a club member, we remember him for countless and varied contributions. He served for several periods as chairman and secretary.

He was always generous with his time and skills, not only in his formal roles but also in many other ways. He was instrumental in starting the Staffordshire Club search for a better airfield, which culminated in our move to Seighford. Without his professional skills and leadership in installing the underground tanks, the tugs at both Sleaf and Seighford would be lying idle through a lack of fuel. Many soaring badge claims relied on his rare skills in calibrating barographs. In recent years he was the public face of Staffordshire Club seen through the pages of S&G and few have captured the day-to-day life of the club so well.

As a man we remember Colin for his quiet dependability. We remember him particularly as a friend. Gliding friendships are often long lasting, but none more so than with Colin.

Of course we'd been aware of the serious nature of Colin's illness for more than a year. True to form, he preferred to keep it much to himself. However, despite the obvious signs, we were still shocked by the final suddenness of his parting. It's strange but somehow appropriate that, unlike previous years, the sun shone throughout the spring whilst he was still flying with us, and it rained almost every day from his death until the funeral.

We extend our heartfelt sympathy to Anita to whom he was married for more than 50 years, and to David and Jane.

Peter Gill

BGA BADGES

No.	Pilot	Club (place of flight)	Date
750K DIPLOMA			
78	Nick Woods	762	5.2.2009
From Benalla, Australia		ASW29E G-CKOY	
DIAMOND HEIGHT			
3-1708	Alan Irving	SGU (Portmoak)	22.2.2009
3-1709	Alastair Mutch	SGU (Portmoak)	22.2.2009
3-1710	David Rhys-Jones	Southdown (Omarama, NZ)	18.12.2009
DIAMOND DISTANCE			
1-1109	Victor Leitch	SGU (Portmoak)	22.2.2009
1-1110	Stephen Powell	Lasham (Benalla Aust)	28.1.2009
1-1111	Ian Mountain	Cranwell (Cranwell)	26.4.2009
DIAMOND GOAL			
2-2352	Alan Munro	Gliding Centre (New Tempe)	7.12.2008
2-3254	Martin Woodcock	Bristol & Glos (Benalla)	5.2.2009
2-3255	Peter Davey	Four Counties (Wittering)	26.4.2009
2-3256	Zbysek Kmita	Trent Valley (Kirton in)	26.4.2009
2-3257	David Farmer	ex-pat (Benalla)	19.2.2009
2-3258	James Randall	RAFGSA (Halton)	10.5.2009
DIAMOND BADGE			
	Mark Dickson	739	
	Stephen Powell	740	
	Ian Mountain	741	
GOLD DISTANCE			
	Frederic Joynes	SGU (Portmoak)	22.2.2009
	Alan Munro	Gliding Centre (New Tempe, S Africa)	7.1.2.2009
	Martin Woodcock	Bristol & Glos (Benalla, Australia)	5.2.2009
	Peter Davey	Four Counties (Wittering)	26.4.2009
	Zbysek Kmita	Trent Valley (Kirton in Lindsey)	26.4.2009
	David Farmer	Ex-Pat (Benalla, Australia)	19.2.2009
	James Randall	RAFGSA (Halton)	10.5.2009
GOLD HEIGHT			
	George Ballantine	SGU (Portmoak)	22.2.2009
	William Anderson	Cairngorm (Feshiebridge)	22.2.2009
	Peter Clayton	SGU (Portmoak)	25.3.2009
	Andrew Bates	SGU (Portmoak)	22.2.2009
	David Rhys-Jones	Southdown (Omarama, NZ)	18.12.2009
	Arran Armstrong	Bannerdown (Portmoak)	30.3.2009
	Tony Howe	South Wales (Benalla, Australia)	29.1.2009
	Peter Mason	Gliding Centre (Benalla, Australia)	5.2.2009
	David Bienasz	Trent Valley (Portmoak)	25.3.2009

BGA BADGES

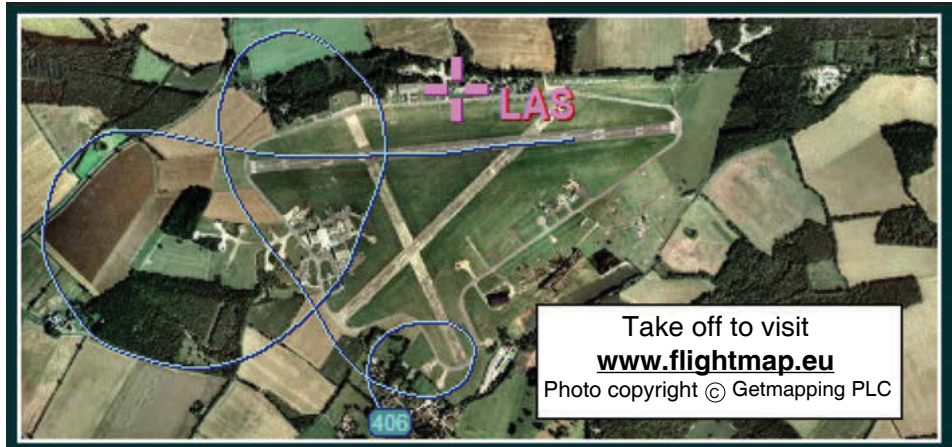
No.	Pilot	Club (place of flight)	Date
GOLD HEIGHT cont			
	Michael Codd	Black Mountains	14.3.2009
	Paul Porter	Welland (Feshiebridge)	13.5.2009
	Michael Taylor	Welland (Feshiebridge)	13.5.2009

GOLD BADGE			
2480	Frederic Joynes	SGU	22.2.2009
2481	Peter Clayton	SGU	25.3.2009
2482	Andrew Bates	SGU	22.2.2009
2483	Paul Jessop	Wyvern	13.10.2008
2484	Tony Howe	South Wales	29.1.2009
2485	Peter Mason	Gliding Centre	5.2.2009
2486	David Bieniasz	Trent Valley	25.3.2009
2487	Michael Taylor	Welland	13.5.2009
2488	James Randall	RAF GSA	10.5.2009

SILVER BADGE			
11964	George Tvalashvili	Windrushers	29.3.2009
11965	Owen Anderson	Ulster	20.2.2009
11966	Marko Bacic	Windrushers	15.8.2008
11967	Victor Marshall	Ex-Pat	18.2.2009
11968	William Amor	Bristol & Glos	29.3.2009
11969	John Bates	Staffordshire	1.4.2009
11970	Alexander Giddins	Nottingham University	5.4.2009
11971	Dewi Edwards	Herefordshire	29.3.2009
11972	Colin Hinson	Cambridge	8.4.2009
11973	Helen Hingley	London	11.4.2009
11974	David Binney	Wolds	5.4.2009
11975	Chris Braithwaite	Bath & Wilts	1.4.2009
11976	Jochen Froehlich	Lasham	21.4.2009
11977	Roland Ogden	East Sussex	13.3.2009
11978	Chris Emerson	Cranwell	26.4.2009
11979	Tony Powell	Wolds	26.4.2009
11980	Christopher Burrows	Stratford	26.4.2009
11981	Paul Ruskin	Cambridge	29.4.2009
11982	Philip Marsh	London	3.5.2009
11983	Alan Hadwin	Vale of White Horse	26.4.2009
11984	Charles Page	Midland	3.5.2009
11985	Robert Sumner	Cranwell	5.4.2009
11986	John Heath	Vale of White Horse	2.5.2009
11987	Mike Larkin	Gliding Centre	3.5.2009
11988	Andrew Smith	Anglia	5.4.2009
11989	Jon Christensen	Oxford	10.5.2009
11990	Colin McGinn	Kent	17.12.2008
11991	Karen Binney	Wolds	2.5.2009
11992	Edmund Watkinson	York	2.5.2009
11993	Christopher Collett	Booker	1.4.2009
11994	Seth Helstrip	Windrushers	11.4.2009
11995	Alberto Araoz	Oxford	10.5.2009
11996	Finbarr Cochrane	Ulster	10.5.2009
11997	John Brooke	Lasham	10.5.2009

UK CROSS COUNTRY DIPLOMA			
1095	Alex Eden	Four Counties	14.9.2008
1096	David Binney	Wolds	5.4.2009
1097	Tony Powell	Wolds	26.4.2009
1098	Karen Binney	Wolds	26.4.2009
1099	Edmund Watkinson	York	2.5.2009

AEROBATIC BADGES			
Standard Known	Andy Bland	Lasham	5.4.2009
Standard Known	John Donovan	Shenington	5.4.2009



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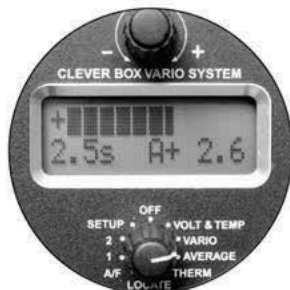


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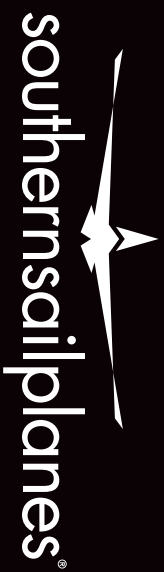
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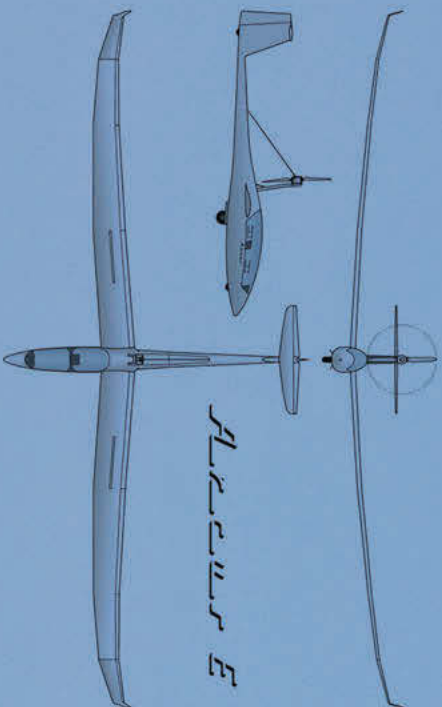
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