FEB/MARCH 2020

# SAILPLANE &GLIDING

VOL. 71 NO.1

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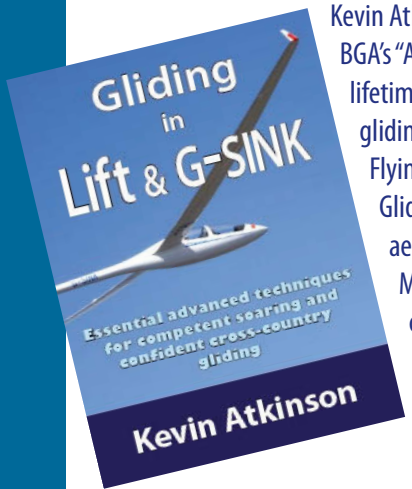


Kevin Atkinson, the man behind the BGA's "Aim Higher" program has a lifetime of experience in aviation, but gliding is his first love. A former Chief Flying Instructor at the Humber Gliding Club, he has flown in aeroplanes as diverse as the Tiger Moth and the Typhoon! His flying career started with the RAF in 1972, at the age of twenty, and ended in 1993.

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## FEATURES



MEMBER OF THE ROYAL AERO CLUB AND THE FEDERATION AERONAUTIQUE INTERNATIONALE

**THE MAGAZINE OF THE BRITISH GLIDING ASSOCIATION**
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COVER STORY
On the last leg back home, completing a 302km wave task in Wales on 30 October 2019, flying 'Rudolf', Denbigh's DG-1001M. It was piloted by Chris Gill and Senna Van Den Bosch
(Chris Gill)

**DEADLINES**

*April/May 20*
Articles, Letters, Club News: 5 Feb
Display advertisements: 20 Feb
Classifieds: 6 March

*June/July 20*
Articles, Letters, Club News: 6 April
Display advertisements: 20 April
Classifieds: 6 May



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› Don't miss the BGA Conference and AGM taking place at the Belfry Hotel, Nottingham, on Saturday 29 February. The day will have a theme of 'the evolution of gliding from the 1930s' and has a packed programme of presentations. It is also a great opportunity to get your hands on some of the latest gliders and gadgets in the accompanying trade show. Exhibitors include Schempp-Hirth, HpH, Schleicher, Jonker Sailplanes and Cobra Trailers.

› Congratulations to Gerhard Waibel and Karl-Heinz Horstmann, who were each awarded the Otto Lilienthal Medal for engineering-oriented high-level scientific achievement in aviation at the social evening of the 2019 German Aerospace Congress in Darmstadt. Gerhard Waibel is an innovative designer of sailplanes (the 'W' in Schleicher gliders), whose groundbreaking work has influenced other areas of aviation, such as laminarisation. Prof Horstmann (wing geometry and profiles for Schempp-Hirth gliders) was honoured for his pioneering work in the field of laminar research.

› Schempp-Hirth's Ventus-3M has recently received its EASA certification. *www.schempp-hirth.com*

› Schleicher is planning the maiden flight of its AS 33 early this year and to achieve EASA certification soon afterwards. *www.alexander-schleicher.de*

› Congratulations to HpH CEO Jaroslav Potmesil on his FAI 1,000km flight at 127km/h flying an 18m Shark on 3 January, 2020, in Namibia.

› Stratford on Avon Gliding Club is holding a wooden glider week at its Snitterfield site in Warwickshire. The Wooden Wings Week is on 19-25 July. For more information, email *chairman@stratfordgliding.co.uk*

› The CAA has been instructed by the Government to carry out an airspace classification review, with the aim of better meeting the needs of airspace users, and has launched an associated consultation. The BGA intends to respond to this important consultation and will be offering advice to clubs and their members, who will be encouraged to participate. See *https://consultations.caa.co.uk/corporate-communications/airspace-classification-review-2019-2020/*

# Beware kangaroos and dust clouds!

Above: end of the day dust cloud
Right (l-r): Claudia Hill, Liz Sparrow and Ayala Truelove (photos by team captain Jeremy Pack)

AS WE go to press, Team GB is facing rather interesting competition conditions, including kangaroos having to be chased from landing areas, and dust clouds.

The team is taking part in the Women's World Gliding Championships at Lake Keepit, Australia. Liz Sparrow (18m Class), Ayala Truelove (Standard Class) and Claudia Hill (Club Class) are putting in a strong performance. Podium positions have been achieved on several competition days and GB was the leading team after six days of racing.

Liz also took the opportunity to give the whole competition a briefing on WWGC2021, taking place at Hus Bos.

A common question for the team has been how they are affected by the Australian bushfires. The competition is being held in an area away from the worst of the bushfires and the organisers are safety focused at all times. There is a responsibility for the competition organisers and individual glider pilots to keep out of the way of water bombing and fire spotting aircraft. Organisers are in regular liaison with the team directing fire-related aeronautical operations and tasks are set so the gliders are routed away from fires and fire operations to ensure there is no conflict between gliders and fire-related aircraft.

The biggest effect on the competition is that visibility is reduced, sometimes very significantly. The density of the smoke changes from day to day depending on wind direction, where the air is coming from and how large the fires are. With tasks taking competitors up to 150 miles from the airfield, visibility changes all the time as different winds are encountered.

■ **STOP PRESS**: With the last two flying days cancelled, WWGC2019 came to an early close. Congratulations to Ayala Truelove, who won a Bronze medal in the Standard Class. Team GB achieved second place in the Team Cup. More next issue.

# RECOGNITION FOR SHENINGTON PILOT

CONGRATULATIONS to Shenington Gliding Club's Jane Nash, who has recently been awarded a Master Air Pilot Certificate by the Honourable Company of Air Pilots. This is a rare honour as it is usually awarded to military or professional pilots, in recognition of consistently high standards and long service to aviation. Jane has contributed massively to the sport of gliding over the years as pilot, instructor, CFI, competition pilot (regionals and nationals), tug pilot and all-round educator, so the award is well deserved. Jane is pictured above, second left, with others receiving their awards from Master Malcolm White OBE.
(Gerald Sharp Photography)

## DATES

NATIONALS, REGIONALS AND OTHERS

| | | |
|---|---|---|
| FAI SGP practice | Denbigh | 18-24/5/20 |
| 15m Class Nationals | Hus Bos | 13-21/6/20 |
| Standard Class Nationals | Hus Bos | 13-21/6/20 |
| Open Class Nationals | Hus Bos | 13-21/6/20 |
| Competition Enterprise | Milfield | 4-11/7/20 |
| Club Class Nationals | Nympsfield | 4-12/7/20 |
| Worlds | Germany | 19-31/7/20 |
| Open, 18m and 20m multi-seat Classes (Stendal-Borstel) | | |
| 18m/20m Class Nationals | Lasham | 8-16/8/20 |
| Worlds | France | 8-22/8/20 |
| 15m, Standard and Club Classes (Chalons-Ecury sur Coole) | | |
| Junior Nationals | Aston Down | 22-30/8/20 |
| Two-seater comp | Pocklington | 23-30/8/20 |
| UK Mountain Soaring Champs | Aboyne | 6-12/9/20 |
| 10th World Sailplane Grand Prix | St Auban, France | 9/21 |
| **Glider aerobatic competitions** | | |
| Dan Smith | Dunstable | 4-5/4/20 |
| Saltby Open | Saltby | 6-15/8/20 |
| Worlds | Poland | 22/7-2/8/20 |
| Nationals | Saltby | 3-6/9/20 |

**SHENINGTON REGIONALS**
27/6-5/7/20

**BIDFORD REGIONALS**
4-12/7/20

**BOOKER REGIONALS**
11-19/7/20

**BICESTER REGIONALS**
25/7-2/8/20

**HUS BOS CHALLENGE CUP**
18-26/7/20

**INTER-SERVICES REGIONALS**
1-2/8/20

**YORKSHIRE REGIONALS**
2-8/8/20

**GRANSDEN REGIONALS**
8-16/8/20

**DUNSTABLE REGIONALS**
22-30/8/20

**COTSWOLD REGIONALS**
22-30/8/20

■ **BGA Conference and AGM, Saturday 29 February 2020 at the Belfry Hotel, Nottingham**

# OBE awarded to David Roberts

DAVID Roberts has been made an Officer of the Most Excellent Order of the British Empire (OBE) in the 2020 New Years Honours for his services to aviation. David, who flies at Cotswold Gliding Club, has for decades generously volunteered his expertise, knowledge and abilities to numerous local, national and international roles in support of gliding and wider air sport. Roles include chairman of the BGA, 1st vice president of the European Gliding Union, chairman of the Royal Aero Club and, more recently, as president of Europe Air Sports. David continues to provide a significant contribution to all air sports through the Royal Aero Club.

David Roberts OBE (Martin Gammon)

# Thanks, Tony

PART 2 of *Flying with birds* (pages 14-15) marks the end of a prolific six+ years of *S&G* articles by Cambridge GC's Tony Cronshaw.

*Ask the Coach*, a series of articles aimed mainly at beginners, appeared for the first time in the Oct/Nov 2013 issue of *S&G*. The series was followed in the Aug/Sept 2018 issue onwards with a series of *Aim Higher Coaching* articles.

Tony's contribution to raising awareness of the BGA's Aim Higher initiative, with lead coach Kevin Atkinson, earned them both BGA Diplomas and also the Royal Aero Club Certificate of Merit in 2018.

Thank you again, Tony, for your regular contributions and enjoy a well-deserved breather from writing articles.

SAILPLANE &GLIDING

**Andy Davis**
Competition flying

**Paul Whitehead**
SLMG

**Howard Torode**
Airworthiness

**Derren Francis**
Tugging

**Mike Fox**
Instructing

**Dr Frank Voeten**
Medical

**Andy Holmes**
Winch operating

**Neil Goudie**
Airspace

**Alison Randle**
Development

**Bruce Stephenson**
Vintage gliding

***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).***

EXPERT ADVISERS

# How defibrillators can help save lives

WHEN it was suggested that Bicester Gliding Club get an automated external defibrillator (AED), there was a discussion among the members on the subject. I asked: do they actually get used or do they just sit there going out of date and needing maintenance and upgrading? But what I said was taken to mean that I thought they weren't as life-saving as people imagined. Which proved to be true, but largely because I hadn't realised what people thought a defibrillator did. The discussion taught me two things.

Firstly, it emerged, many people understood that if you had a heart attack, a shock from a defibrillator would automatically improve your chances of survival. But most heart attacks don't stop the heart pumping, and the benefit of an AED comes when the heart actually stops, arrests, and if it does so with the heart muscle quivering ineffectually, with a chaotic electrical pattern. This is why the AED device takes a tracing of the heart rhythm, analyses it, and then advises whether a shock is appropriate or not. A 'shockable rhythm' occurs in around three-quarters of heart attacks that are severe enough to prevent the heart pumping. These are the ones that benefit from the application of an AED.

Unexpectedly, I also discovered that some people thought that a shock would actually reverse the coronary blockage that underlies a heart attack. No wonder the devices have become so popular.

And then I'm on an airfield when my friend has a heart attack that stops his heart. Lucky there was a defibrillator nearby, I heard afterwards. Well yes and no. The first thing that saved his life was the big, strong man who knew how to perform external cardiac massage and did it until the ambulance crew arrived. Yes, my friend had a 'shockable rhythm', and using the on-site defibrillator will have helped. But without external cardiac massage, he would not have survived. In fact, he needed it both during the time it took for the defibrillator to be brought from the clubhouse, and after that. He survived and is now recovering well after emergency bypass grafting.

When I was a working doctor, I suffered regular, highly-technical training in resuscitation, which I didn't ever need to put into practice once I was fully qualified. What would have been more useful for me was practice in what to do in the middle of nowhere, with no equipment to hand: cardiac first aid. It's been suggested that Bicester could organise cardiopulmonary resuscitation (CPR) training. Good idea, I think. I'd want to be there. As the population of glider pilots ages, the more people who know how to do cardiac resuscitation, the better. If the person is collapsed and unconscious, with their heart stopped, it's no good waiting for an AED to arrive and do its stuff, external cardiac massage needs to be started straight away. Though I'd also want to know where the nearest AED was sited. Maybe there's a phone app?

By the way, mouth-to-mouth ventilation, the 'kiss of life', is no longer thought to be that important, so that's one less thing to put us off.

**Anne Stotter, Bicester GC**

***BGA Medical Adviser Dr Frank Voeten comments:*** *There is good evidence that AEDs do save lives when applied at the time of a cardiac arrest. Cardiopulmonary resuscitation with chest compression is important, but the single biggest contribution to survival is the accessibility to and use of AEDs. That, and the fact that they are truly foolproof, has led to their proliferation across the country and why there have been concerted campaigns to raise awareness and use. For gliding sites, a good point would be the launch point and the clubhouse.*

■ **The key message is to call for help (including an ambulance), start CPR, get someone to find an AED and follow its instructions, continue CPR until you are certain the person has recovered. For further information, search *cprguidelines.eu*, select 'Posters' and download 'Basic life support with the use of an AED'.**

# LOOK UP TO THE SKIES

I LOVED Peter Holloway's letter about seagulls (p7, letters, Oct/Nov 19). Gulls are not loved by all, but they have a special significance for us being the universal symbol of gliding. I was also delighted to read how Peter linked his experience to that timeless film, *The First of the Few*.

In the film, seagulls inspire Reginald Mitchell to create the Spitfire, but also, in the moment after Mitchell's peaceful death in his wheelchair, the cry of the gull is briefly heard again. This reminded me of an unforgettable 'seagull' moment at a graveside. I apologise to anyone who may have read my anecdote elsewhere, but the incident was so memorable, I'd like to retell it to you.

In 1982, I was at the funeral – a burial that is – of a dear family friend called Edmund. He was a remarkable person, who really ploughed his own furrow in life. A D-Day veteran, he loved nature, gardening and exploring wild places, but he especially loved aviation, a love he inevitably passed on to me.

Edmund died prematurely of a heart attack, aged only 60. This seemed incredible, as Edmund's ideal holiday would be camping on a mountainside in Iceland. He had a very traditional burial in a tranquil Kent churchyard; it was a warm September afternoon. I stood well back from the other mourners, on what one might even call a 'grassy knoll', as the coffin was carefully lowered into the grave.

Just then, the gentlest breeze arose behind me and I thought I heard a voice murmur. I looked round – no-one was there, of course. But now there were some seagulls circling directly above the grave. More and more birds quickly flew in, from all directions, and soon there was a thermal full of birds, not a hundred feet above the graveyard. There were two or three kestrels, lots of seagulls, and dozens of swallows and swifts. Then the 'bird-thermal' gently rose and drifted south, exactly like a hot air balloon. I watched it intently for many minutes till it was maybe a mile distant, over the North Downs. I have never before, or since, seen such a perfect 'bird-thermal'.

Of course, not one other person present at the burial even noticed! While the mourners were staring into the abyss, that grim hole in the ground, they had all missed a truly beautiful miracle. Read into it what you like, but next time you are at the funeral of a loved one, please remember to look up, not down!

**Andrew Jarvis, Southdown GC**

**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 5 February**

# BUILDING ON 90 YEARS OF DEDICATION...

BGA Chairman **Andy Perkins** reflects on the invaluable work by huge numbers of volunteers who give their time to keep gliding growing, and asks that everyone contributes to help shape the future of our sport

AS WE celebrate our 90th birthday, I continue to be humbled by the huge number of volunteers across the UK who give their time so willingly to keep gliding happening. With the backdrop of challenges we face as a sport, having expertise and energy from within our fraternity is an essential ingredient to keep gliding healthy and participation growing.

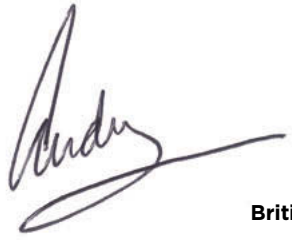
Philip Wills was one of the pioneers of gliding and BGA Chairman for 19 years in the early years of the Association. His exploits and devotion to our sport, along with his peers, established strong foundations that still benefit us today. From his book *Free as a Bird*, these beginnings are highlighted with it noted that the BGA formed officially on 27 March 1930. The idea for the organisation was formulated at a lunch at the Comedy Restaurant, Panton Street, London, on 4 December 1929 – 30 people had promised to go along, but apparently 56 turned up! A good sign of the enthusiasm of the time. The challenges of the early years are detailed in his book and mention some hot favourites akin to our era.

The pinch points of airspace, airfields and our age demographic, left unchecked, could create the perfect storm. Brexit should have finally occurred by the time this is published and next year will see the transition to EASA regulations for training and pilot licensing. So how do we react? Very simply – together. Under the guidance of vice chairman George Metcalfe, the BGA Strategy is a working document to which I am keen for all to have an input so that we can work out how, together, we ensure these challenges don't overcome us. When I say all I mean everyone. The BGA is your organisation so if you have thoughts or suggestions please do contact any Exec member with your contribution.

**HAVING EXPERTISE AND ENERGY FROM WITHIN OUR FRATERNITY IS AN ESSENTIAL INGREDIENT TO KEEP GLIDING HEALTHY AND PARTICIPATION GROWING**

We need to continue the superb work that many undertake to get local government and national support for initiatives that use gliding to get people participating in outdoor activities, engaging in STEM, or just active socialising and having fun doing whatever their interest is at a gliding club. The latter point might seem slightly strange, but I think we need to be clear that to survive we need to be part of the community and therefore being available as a facility where other groups can get involved and run their activity alongside traditional gliding activities is an essential part in our longevity.

This is your organisation, thank you again for your support and endeavours. I hope that together we can build on the 90 years of dedication so that by our Centennial year gliding is more epic than it is today!



**Andy Perkins**
**Chairman**
**British Gliding Association**
**January 2020**

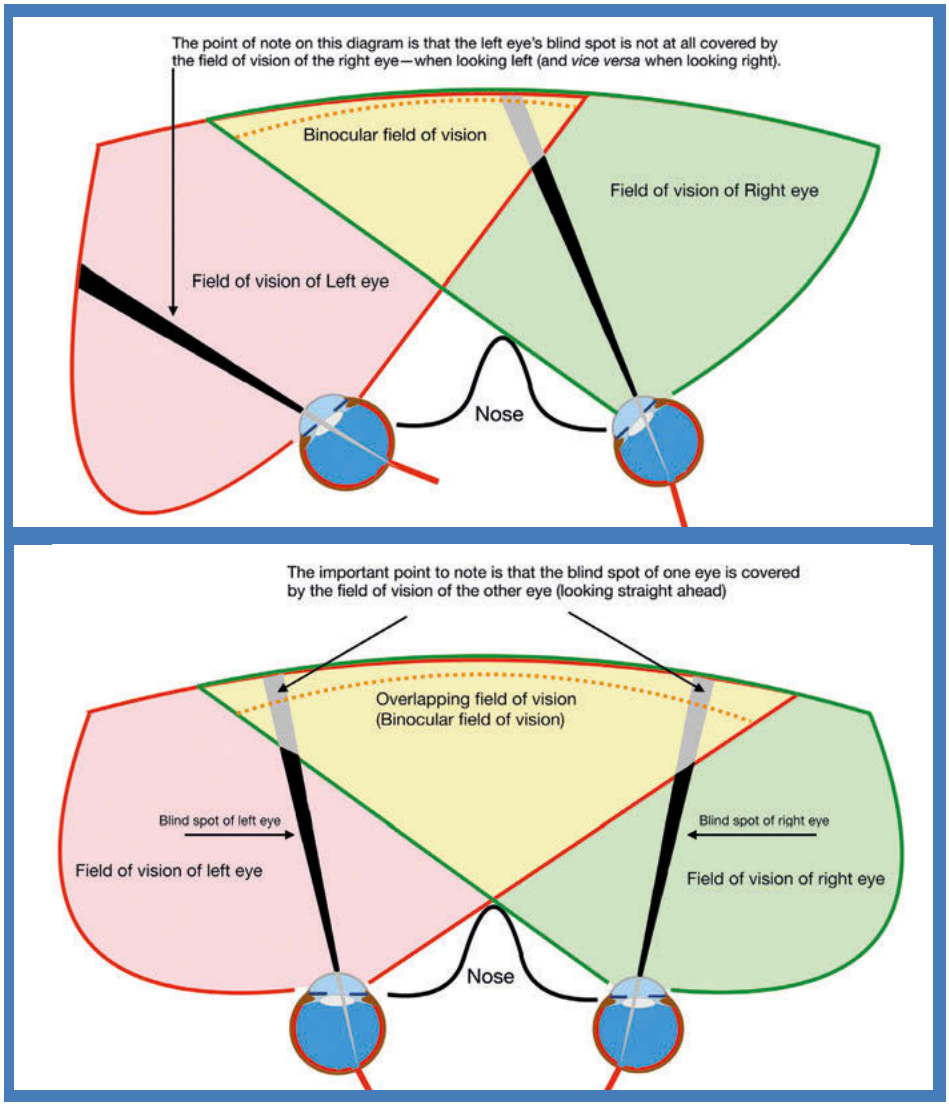
# LOOKOUT: HOW THE EYE CAN LIE

PART ONE

"I just didn't see it!" Sound familiar? Paul Sheffield explains why it may not be your fault

MOST of us probably think we carry out a pretty good lookout when flying and we need to, because our vision is not all that it seems. How many times, for example, have you heard people say "I never saw the person, the bike or even the truck"?

In the UK we had TV adverts stating 'Think Once, Think Twice, Think Bike' because drivers were pulling out of junctions into the path of motorbikes. The point wasn't simply about looking, it was about giving your eyes an opportunity to overcome physical issues with eyesight – the natural blind spot and saccades (quick, simultaneous movement of both eyes between two or more phases of fixation in the same direction).




Just imagine for a moment you're sitting in a car at a 'T' junction as a cyclist rides past on the main road in front. You'll follow their path smoothly and see everything along that path, but try moving your eyes just as smoothly when there's no bike to follow. You can't; it's impossible. Without something to track, your eyes will be moving in sudden jerks, or 'saccades', then pausing for a moment (fixating), before another saccade, and so on.

During this very rapid and short – around 20–200 milliseconds – saccadic eye movement you are effectively blind. This is because the brain suspends vision during the saccade and nothing new is seen for that small duration. If that wasn't the case, the world would whizz past in a very blurred and disconcerting fashion. Our vision is only updated when our eyes have come to rest and had a moment to interpret the image.

The consequence of this in flying is that with large saccadic eye movements we could easily 'jump-over' any number of aircraft while we are 'blind', and if there are none where our eyes come to rest, or fixate, we will assume there are none anywhere. Even a bright flash of light would not be seen during a saccadic eye movement.

### Collision course

If an aircraft is moving relative to us in that jumped-over part of the visual scene, we might see it after the saccade ceases if our peripheral vision detects movement, but if it's on a constant relative bearing (collision course), it's very probable we wouldn't see it until it's alarmingly large in our field of view.

In addition to saccades, we have a natural blind spot, and the eye makes assumptions about what's in that blind spot. These are often the cause of "I just didn't see it…".

Light enters the eye through the cornea, continues through the pupil and adjustable

crystalline lens, and finally falls into focus in the form of an image on the retina. This retinal image is received by more than 100 million light sensitive cells, and additional cells that convert the light (ie the image) to nerve impulses. The result is only superficially analysed in the retina and so is compressed and sent to the brain for further interpretation. Note that this compression of the data means assumptions have to be made by the retina. The main thing it does is to break down the image into edges and contours – a contour map of edges. One of the biggest assumptions is that anything within a given contour is uniform, in other words, nothing else exists within that particular boundary. There are roughly one million nerve fibres leaving the retina (the optic nerve), so clearly there has been at least a 100:1 data compression by the 100 million light sensitive cells.

It's also worth looking at the retina's two types of light sensitive cells in more detail: rods and cones. Cones require a lot more energy (brightness) to work and therefore generally only function in daylight conditions (photopic conditions). Cone cells peak in number in the centre of your retina – the macula (and the macula therefore gives rise to the centre of your field of vision and its peak resolution) – and rapidly decrease in number more peripherally.

**Daylight conditions**

Rod cells only work in low light (scotopic conditions) and are completely bleached out and functionless in daylight conditions. Rod cells are much less numerous in the very centre of the retina, which is why a faint star appears to fade if directly looked at, and brighter if looking just to one side of it at night-time. Rod cells cannot detect colour, and so the colour of navigation lights is only seen by the cone cells, and they only function when there is sufficient-focused light energy at night to stimulate them. Fortunately, rod cells at night are extremely sensitive and excellent at detecting flashes.

In daylight conditions then, what you might think of as one big clear, detailed picture is far from it; detail is seen very centrally, in an area roughly that of a thumbnail held at arm's length. Not only is this area small, but also an image falling on it has to be stable for a moment for retinal processing, and for the higher brain centres (the pilot's attention) to comprehend. The more peripheral your field of vision, the less resolution. Try reading a car number plate by moving your eyes (your point of fixation) just one car width to the side.

Meanwhile, the cones in the periphery of the retina are responsible for the peripheral visual field in daytime, and it is now motion detection that comes to dominate. You may have noticed a flickering fluorescent light bulb in your peripheral vision which appears less flickery when looked at directly. Peripheral vision is especially good at detecting motion and flicker. Movement of an object is a very important attention-grabber. This is fine if an object isn't on a constant relative bearing – a collision course.

On top of all this, the nerves from the rods and cones pass through a hole in the retina (the optic disc), which gives rise to a small, circular area called the blindspot about 12.5 degrees from your absolute central vision (your fixation point), about the size of a fingernail at a hand-span's distance, where there is no vision whatsoever.

**Visual field**

This area of blindness is to the right in the right eye, and to the left in the left eye on the horizontal plane. Each eye simply fills in the blind area with whatever it sees around the edge of the blindspot, so in a blue sky it will be filled in with blue – the retinal data compression assumption. Thankfully, one eye tends to cover for the other blindspot with its visual field when looking ahead. It is possible when just moving your eyes to the left that the right eye doesn't cover the blindspot in the left eye, and vice versa when looking to the right, so it's crucial to turn one's head when looking around to maintain a full field of vision.

Then there is empty field myopia. It is easy, in a younger eye (roughly less

## DEMONSTRATION OF THE NATURAL BLIND SPOT

■ Cover your left eye and look at the red cross (above) with your right eye only, from a distance of approx 40cm. The aircraft will disappear, if it doesn't, move your head slightly closer, or further away from the page until it does.

The aircraft is now in the blind spot of your right eye.

Now open your left eye (whilst still looking at the red cross). The aircraft will re-appear, but not that obviously. The left eye's field of vision is now making up for the blind spot in the right.

Now, keep looking at the red cross with both eyes open and slowly turn your head to the left (which is in effect the same as glancing to your right without a head movement), the aircraft will disappear again as your nose cuts off the overlapping field of vision from your left eye. This could be quite a small movement if your nose is larger, or your head held slightly chin high.

This latter demonstration shows that when looking to your right, without moving your head, it is possible that an aircraft further to the right is lost in your blind spot even though your field of vision extends well beyond that point. Turning your head, ideally roughly pointing your nose in the direction you wish to scan, will allow the fellow eye to cover the other's blind spot. The same is true for the other eye if looking the other way – close your right eye and look at the aircraft with your left and the red cross will disappear.

**Paul Sheffield went solo at 16, then gave it up, apart from the odd week's gliding holiday around the country. He took it up again and got Silver C 20 years later. Family/work commitments meant that Paul gave up gliding again until in recent years. He now flies from the Gliding Centre and is hoping to try cross-country flying. Paul has been an optometrist for 35 years.**

than 50 years of age), in a featureless sky, or poor visibility, with no visual cues to stimulate the eye's focus, to stop actively adjusting the crystalline lens. Focus comes to a rest at a point in space one to two metres away – this is called empty field myopia (effectively a temporary short-sightedness). The result is you won't necessarily see anything that does gradually appear in your field of vision, as it will be out of focus. To counter this, we need to look at an object at a distance, preferably some feature on the ground, the sharp edge of a distant cloud, or even the wingtip.

The focusing crystalline lens of the eye also suffers a significant age-related loss of adjustment after 50 years (presbyopia – this being the reason that that age-group end up with reading spectacles or multifocals), with virtually no focusing adjustment by the age of 55. Beyond this age, the eye's focus will set at a distance dependent on whether you had previously perfect eyesight (rare), myopia – in which case your spectacles should give you good distance vision regardless of your age, or are long-sighted (hyperopia). In the latter case this is not as good as it sounds because when younger the crystalline lens can compensate for hyperopia (an eyeball that is a fraction short) and your vision can be returned to proper focus. With a hardening crystalline lens due to age your distance vision will be become gradually blurred as no compensation can take place.

So, what can we take from all this? I don't own my own glider, so I have to wait for a club single-seater to land. On an excellent day, when the thermals are so strong that even dustbin lids are going up and not coming down, I search the bit of sky 'my' glider was last seen in to see where it's got to, and whether it's coming back! I make lots of small eye movements in the area it's most likely to be, pause, look intently and examine that small bit of sky before moving a little further to the adjacent piece of sky. If on a non-flying day someone had asked me to look for an aircraft in the sky, I would probably make large saccadic eye movements, pausing for as short a time as possible so as to cover as much of the sky as I can.

**Attitude of mind**

In reality, both these methods have their uses, but in the latter case if I'm looking for a distant aircraft, I'd almost certainly not see one that was there. Here lies the clue on how to look out for other aircraft. The first step is attitude of mind. If I think it's unlikely there's an aircraft there, the temptation is not to look properly. So when looking out, absolutely assume there's something out there. Next, look in the area of sky the threat is most likely to be. Where these are, and how we move our eyes and head depends on the mode of flight we're in, and what we're flying. Gliding and light aircraft typically have very different flight paths. These will be looked at in the second part of this article in the next issue.

Quite apart from the physiological limitations, the eyes are vulnerable to other visual distractions; lighting, illness, fatigue, emotion, the after-effects of alcohol, certain medications, dehydration and age all play their part. There are also additional challenges, such as atmospheric conditions, glare, deterioration of transparencies, aircraft design and cockpit temperature, which all take their toll on your eyes and what you can see.

You'll probably be familiar with the problem of 'constant relative bearing', or 'stationary in the field of view', mentioned earlier where colliding aircraft have a relative bearing constant to each other until impact. The subjective effect of this is that the collision threat remains in the same place

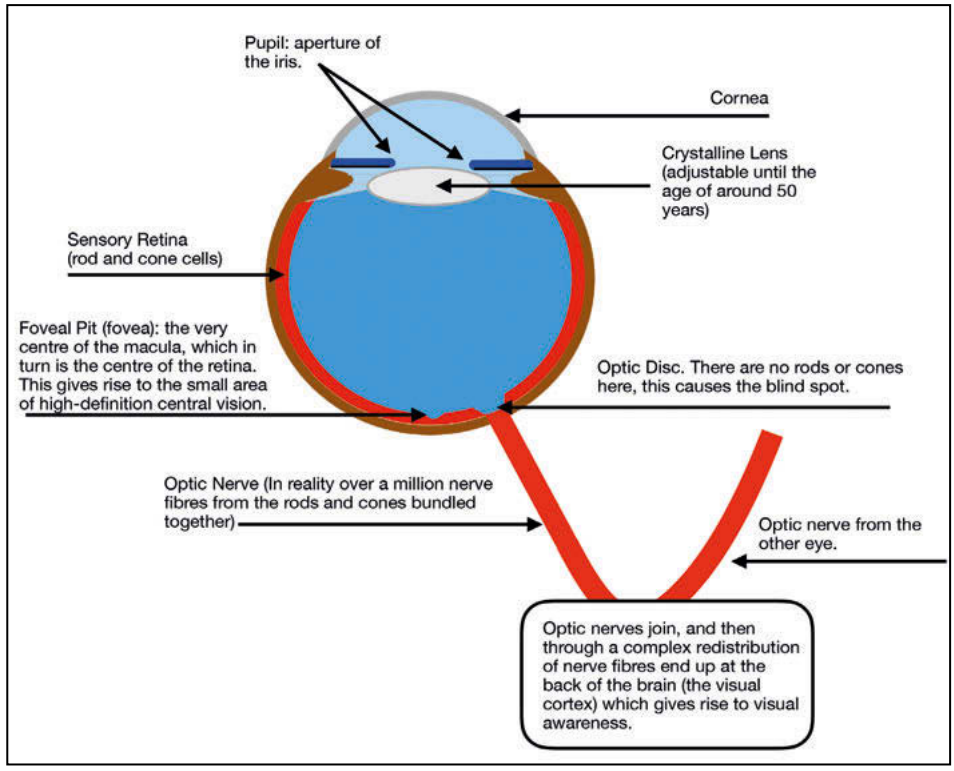
(stationary) on the canopy – so looking intently is key. An unfortunate consequence of 'constant relative bearing' is that pilots are most likely to see aircraft that are moving in the field of view and therefore not on a collision course. Frustratingly, it's the very ones on a collision course that are so hard to see because they don't move in your field of view.

**Collision threat**

A quick bit more science shows that as a collision threat approaches, its angular size roughly doubles with each halving of the separation distance, so colliding aircraft stay relatively small until shortly before impact when it all happens rather quickly. This presents a bit of a challenge even if you do perform a good lookout, but it underlines the importance of apportioning the correct amount of time for a systematic and repetitious scan pattern to spot aircraft early.

It's a curious thing about flying that many pilots believe they keep a good lookout when, in reality, it's less than effective. Glancing out and scanning with non-stop eye or head movements is unproductive because for the pilot to perceive another aircraft, time is needed for a stable image of it to fall on the retina, up to one second in fact.

Lookout should be performed using a series of eye and head movements with intervening fixations, the latter being the only time when the outside world is really being interrogated. Carrying out regulated scans may sound a bit formulaic and, let's be honest, boring, but they do work. That said, there is no one technique that suits all situations or all pilots, so it is important to develop your own comfortable and workable scan.




## A salutary tale...

IN 2009 two Grob Tutors (a single-engined, two-seat trainer) collided at 2,500ft. The visibility was good with light scattered cloud.

It took on average just 20 seconds for them to impact the ground.

Minimum operating height of the pilots' parachutes was 500ft and, due to the aircraft flight trajectory, after collision they had 10 seconds to minimum abandon height.

The pilots and students would have been shocked and disorientated, the aircraft rolling and yawing about a new, unfamiliar C of G with increased G loads.

There were no survivors.

*Recommendations/Observations by the MoD:*

- Get to be thoroughly familiar with the abandon drill of your aircraft, and know exactly where to find your parachute handle... seconds really do count.
- Conspicuity of aircraft (they were white with blue flashes on the fuselage) was poor against a bright sky, especially against clouds.
- Obscuration of field of view by canopy arch required significant head movements to mitigate.
- Glare from the sun.
- Windscreen zoning — the tendency to look ≠out through the easy, central parts of a canopy, and not to the edges.
- Lookout, although never perfect, must be developed and practised to search in the higher risk areas.

In general, the probability of a pilot seeing a threat until a short time before impact is low.

## IN SHORT

- Ensure your eyesight is properly focused in the first place with clean spectacles and canopies, and your eyes focused in the distance.
- Only a small, central area of your vision is high definition.
- The peripheral retina is good at detecting movement, but an aircraft on a collision course, a constant relative bearing, has virtually no movement until the last few seconds.
- You must turn your head as well as your eyes to mitigate the effects of the natural blindspot. Additionally, moving your head relative to the canopy or windscreen helps reduce obscured areas from canopy furniture, pillars, high/low wings etc.

**IT'S A CURIOUS THING ABOUT FLYING THAT MANY PILOTS BELIEVE THEY KEEP A GOOD LOOKOUT WHEN, IN REALITY, IT'S LESS THAN EFFECTIVE**

# FLYING WITH BIRDS

PART TWO


Cambridge GC's Colin Knowles on task in his SH-K, Schempp-Hirth's V-tail Club Class glider (Neville Howarth)

Tony Cronshaw concludes his investigation of what we can learn from soaring birds

Swifts have a curved leading edge *

The vulture, like the eagle, has a near straight leading edge *

ENCOUNTERING soaring birds can be an amazing experience, inspiring us to ask 'how do they fly like that'? Tony Cronshaw asks leading coach G Dale for his insights into their modes of flight and airframes.

**TONY:** ***What are your thoughts on sharing airspace with avian "air traffic"?***

**G:** Well, birds' reasons for soaring are different from ours, although some birds obviously fly for fun. I've seen crows (or ravens – who can tell?) playing in the updraft over the former Didcot power station; they were having a great time. But this means that you can't bet on finding them in the best lift. Some birds are just hanging out, holding station, much like a start gaggle. Others, the swifts for instance, are where the most bugs are: although this is often the best part of a thermal anyway. But you don't want to hit anything big. A big bird is perfectly capable of completely removing your tailplane.

The trick is never to fly close underneath any large birds. If they suddenly see a glider at close range they may dive as a reflex, and you don't want to be in the way of that. The red kites are particularly dopey and unlikely to notice you coming.

**TONY:** ***What do you think about birds' different wing shapes?***

**G:** Simply endless fascination! I'm most interested in the meat eaters. Each has a different planform according to the way they hunt or scavenge. Some are lightly loaded and fly at low speeds – the kites and vultures. On the other hand, some are slim and fast. The peregrine falcon is especially interesting: it has an extreme airframe, so much so that the young birds fly their first season with a 'trainer' version of the airframe, slightly bigger tail volume and, I think, a bigger less heavily loaded wing. Then the new flight feathers replace the old and they have the avian equivalent of a fighter jet; more performance and harder to fly.

I've also spent a lot of time watching the albatross. I'm interested in dynamic soaring, which we often encounter without recognising it. Their soaring technique requires them to pull a lot of g repeatedly over very long periods, days at a time. To achieve that they have a wing lock mechanism so they don't have to use muscle strength, despite being heavy. They can put their tip feathers right down on the water surface to "close the gap" when they turn at low altitude. Their feathers follow the little wavelets right down on the surface of the sea. They'll also drag their tips into the sea to help them turn when they are not soaring, but gliding in pure ground effect,

and hence they don't have to bank as much. Incredible to watch.

**TONY:** ***Glider designers seem to have adopted a bird's configuration of two wings, a body, "eyes and brain" in the nose, and a tail.***
**G:** However, I'm not sure a glider t-tail is anything like a bird's tail, with the possible exception of the V-tail such as SH-K (see photo top left). Watch a red kite flying and you will see how the tail is working: you can infer that the airframe has zero stability. Sometimes the tail is lifting, sometimes pushing downward and it tilts the surface in order to provide a rudder effect. All done with a brain the size of a pea, but evidently focused on precision airframe control.

Designers have also mimicked how birds modify their wing shape for fast and slow flight, for take-off and for landing, by incorporating flaps. Also folding/retractable undercarriage to reduce drag.

**TONY:** ***By comparison, human designed land transport has diverged completely from nature's template of the big cats running after their prey!***
**G:** You'd have to squint quite hard to believe that grey streak flashing past you on the road was anything like a jaguar! Nature never came up with the wheel/axle solution. Another point scored for evolution verses creationism, I guess. The wheel is a no-brainer for an intelligent designer.

**TONY:** ***In the case of aircraft we end up with a beautifully aerodynamic shape: "If it looks good, it flies well" is a good adage.***
**G:** Unfortunately the moment we use man-made materials, our designs diverge from nature's. We can now fly-by-wire completely unstable airframes. However, a fixed wing can't emulate how a bird morphs its entire wing for flight path control or for muscle driven flight. We don't have the flexible strong structures that muscles provide. Wait another hundred years or so and we'll be on to it. At least our longer wings and higher mass give us amazing performance advantages over any bird in a straight line in terms of cruise speed and glide angle.

Another feature of soaring birds with 1-2m wingspan is their amazing wingtip feathers. The small array of feathers found on the wingtip are multi-functional, capable of sensing the air, fine tuning their flight path, and acting as series of tiny 'winglets' to reduce drag. If you're going to have to work with such a low aspect ratio it's essential.

**TONY:** ***Could I ask you about the way that birds use gusts and eddies to extract energy?***
**G:** In a nutshell, they specialise. Look at a kestrel hovering in slope lift, or a kite working the early morning thermals low down, or the albatross extracting energy from the wind shear. None of these forms of lift are available to us in our huge and clumsy ships. The problems of linear dimension/squared surface area/cubic volume and mass prevent human beings from being able to approach the capabilities of birds and vice versa. Nature is never going to build a hypersonic surface to orbit and back airplane, but we will.

But the dynamic soaring problem is interesting. We can almost, but not quite, achieve it with conventional sailplanes. I've tried and tried in promising situations, but failed every time. Just ask the model fliers; they have an entire discipline built around it, but they don't go anywhere.

**TONY:** ***What about birds' amazing STOL (short take-off and landing) capability? I witnessed a heron leaping into the air not requiring a single step of runway to become airborne.***
**G:** The air is much thicker and heavier than you think at 1 bar and 1.2kg per cubic meter at sea level. You can't feel it when you wave your arms about, but you can sure feel it when you get on a bike. And a heron isn't huge. Even Quetzelcoatelus, the monstrous Pteranodon, at 13m and 400lb, could simply flick itself into the air. Watch the documentary *Flying Monsters*. It shows a different regime that we can't get into. Maybe closest would be a hang glider or model gliders.

**TONY:** ***Finally, is there anything we learn from bird's about "green" environmental sustainability?***
**G:** That's a big question, but maybe our sport already suggests some clues to the answers. Obviously once launched, our flying doesn't use fossil fuels and there are minimal energy needs for a winch launch or self-launch. An electric single-seater like a Silent can travel a long way on very little power and this can only improve. Flight can be surprisingly efficient, soaring flight more so. If our world is to become "carbon neutral", birds and gliding must surely offer food for thought.

The Albatross' lockable long wings enable many hours of dynamic soaring *

* photographs kindly supplied by Bernard Eckey

Below: Vulture thermals in a high Alpine valley (Sophie Mathieu)

■ Gerrard Dale – "G" to his friends – is a member of the British Club Class team and won a Silver medal in the 2019 Europeans. He currently coaches for Narromine GC in New South Wales, for Lasham in the summer, and at Serres in the French Alps. G is the author of *The Soaring Engine Volume One; Ridge Thermal Flatland and Mountain* and *The Soaring Engine Volume Two; Wave and Convergence*. He's hard at work on Volume Three of the series, which explores the world of high performance flying and competition flying. These can be purchased from *www.navboys.com* or *www.bgashop.co.uk*

# A DREAM FLIGHT WITH TOP PILOT

In the second of a two-part article, Jean-Sébastien Seytre reflects on his flight in the Eta with Uli Schwenk in Slovenia

Jean-Sébastien Seytre flies the Eta with Uli Schwenk (left) on 22 April 2019

**THE ETA ROSE SLOWLY AS THE SOLO 2625 ENGINE SNORTED 63 HORSES WITH A TYPICAL 2-STROKE STRIDENT SOUND**

WITH the Eta, gliding is already a sport at the pre-flight visit: just circling the machine will make you walk 80 metres; and it is better to haul the Eta on the runway with a vehicle rather than push the 600kg empty mass.

Given that the engine controls are at the front only, I will pilot from the rear seat. I am pleasantly surprised by the ergonomics: I am immediately in my place, with clear forward visibility. This is largely due to the installation of a parachute fixed behind the seat, so that the pilot wears only a harness connected to the parachute by a sling, which will activate the opening when stretched at the time of evacuation (so don't forget to detach the harness before leaving the glider after landing!). Another very positive point is storage space: two wide side pockets and a large locker between the seat and the stick; enough to store snacks and all the necessary equipment for long flights.

After spending the morning observing the mixed flight conditions, we were ready to take off at 12:20: thumb up, wings horizontal, and Uli applies full power. The Eta rose slowly as the Solo 2625 engine snorted 63 horses with a typical 2-stroke strident sound. The wide composite propeller readily slapped the air and the initial inertia gave way to a better acceleration. As soon as the ailerons are efficient, the flaps are moved from notch position -3 to +2. As the lift increased, the wingtips curled elegantly upward, inviting the great craft to rise into the air. At around 90km/h the Eta takes off, the best climb being around 100km/h with the vertical speed indicator around + 2m/s.

### Difficult first 100km

After little more than five minutes with the engine, around 1,300m AMSL [1], Uli cut the contacts and the propeller retracted into the fuselage. I was not sorry to find the silence of free flight. The start was difficult: in addition to the veil, there was almost no breeze. Moreover, the local slope gave only weak thermal lift in the lower relief, which was not easily exploitable. In addition, the spiral speed (low bank angle and flaps +2) on the Eta is no less than 95km/h. While Uli showed as much patience as piloting fineness, the Blanik of Lesce flying club taunted us by spiraling over the ridge, 200m higher.

Despite all the talent of the skipper, our average rate of climb was only 0.5m/s up to 1,500m. We could then go forward at about 120-130km/h towards the mountain of Begunjscica (2,063m). A better fed northwest oriented bottom of valley allowed us to have an average 1m/s up to 1,750m. At the same time, the new elevation permitted us to be at the level of the first ridges, which was more comfortable than having to exploit weak thermals on a false flat at the foot of the slopes, especially with the largest of the gliders.

We crossed the Slovenian-Austrian border reaching 1,850m at the Golica (1,835m) at 12.50pm. It was getting better, but we were still 20km from our departure airfield. However, from there on we travelled 50km without losing too much altitude. Heading north-west, we crossed the valley of the Gail River, leaving the Slovenian part of the Julian Alps for the Austrian Gailtal Alps. On the southern slope of the Dobratsch mountain range with its characteristic television relay, the ceiling rose to 2,000m.

Across the Nötsch Airfield, a Duo Discus and several single-seaters joined us. The pace accelerated a little with good thermal conditions and transitions up to 140km/h (flap -1). But any excessive loss of altitude would require us to hang up in chopped thermals with a lot of time wasted, and we still had to take the time to spiral. By then, I dared take a little more control and tried to tame the Eta by piloting carefully. I did my utmost to watch my altitude gains and transitions. Turning other than at very low bank angle is done with full rudder accompanying the aileron movement to ideally have the yaw

string slightly in the opposite direction of the turn. It goes without saying that it is preferable to avoid any spin departure with an airframe of such dimensions. The speed must not fall below 95-100km/h or you will end up being at the controls of a large mass of inert plastic and carbon fibre. However, I found that the differential flaperons steering makes the aileron control more clear and pleasant than with other large wingspans. In particular, to get out of a steep turn, there is no need to push the stick forward to regain energy in addition to the yaw and the roll inputs. The control of the bank when rising is very pleasant, especially with the wing flaps on +2, which one should not hesitate to pass as soon as the roll is stabilised.

It goes without saying that the Eta is an excellent climber. In a straight line, the aircraft wants only to accelerate, with very little aerodynamic noise and attitude change. On the rear dashboard, to the left of the LX8000 computer, is an electric elevator trim switch with the indication 'Vorne' – 'forward', nose-diving – for upward pressure and 'Hinten' – 'backward', nose up – for downward pressure. The trim control is accurate, but I find the progress of the trim a little long especially if you want to take two thermals in quick succession – which is normally rare with the Eta. The 'flight director speed/flaps' with a simple system of two rows of 15 LEDs each is very practical too. The top diodes repeat the position of the wing flaps (positive to negative from left to right) and those at the bottom are for the speed (about one 'digit' per 13km/h). You just adjust the flap control to get the light indicating the speed within the row that represents the wing flaps.

We travel a further 50km slope-soaring with an average heading of 290°, with vertical speed indicator sometimes up to a little over +2 m/s and ceilings around 2,200m. But the route towards the west seemed more and more mediocre, with a still high veil of altitude, while some cumulus clouds were forming on the Niedere Tauern mountain range (Lower Tauern) about 60km to the north-east of our position. We decided to change playing fields.

**From Carinthia to Styria**

We managed to climb to about 2,580m in a +1.5m/s before crossing the valley of the Drava; the first stretch of just over 100km was completed with a low average speed of 71km/h. Heading to 015 ° and Lake Weissensee (one of the largest in Carinthia) on our right, I could at last admire the tremendous "pace" of the Eta in calm air: with 115 on the airspeed indicator, the drop rate oscillated between -0.3 and -0.5m/s. The course costs us less than 250m for 13km. Nevertheless, climbing on the heights of Greifenburg was not easy. It was only 30km further, on the southern slope of the Ankogel mountain range, that we found good conditions with +2.5m/s, which took us from 2,000 to 2,700m at 2.30pm. We could then increase the tempo with glides at 160km/h (flaps -3), pulling on the control smoothly up to an attitude of 30° in strong thermals, then pushing when the airspeed is around 100km/h, with the wing flaps back forward just before the neto collapsed.

After the city of Mauterndorf, in the heart of the Niedere Tauern, we reached our first ceiling at more than 3,000m. We climbed in an average + 4.8m/s that we immediately centred, propelling us from 2,200 to 3,200m. This really would be the 'lift of the day', although ceilings of 3,500m or more are not uncommon in the area on fine days. Sixty kilometres further, our turning point was Trieben, Styria, halfway between Salzburg and Graz – the end of this second stretch of 145km. The conditions were better than at the start and in the Gailtal Mountains, and the average speed increased to 92km/h, but during this part of the flight we logged the highest percentage of spiral with 36 per cent. This was certainly partly due to the fact that we had to climb because of higher reliefs, culminating at 2,500m.

**Towards the Lienz Dolomites**

We then turned round and gained altitude over the reliefs directly bordering the valley of the Palten river and the city of Trieben to the west-southwest. It was to be the best

GoPro captured image of the Eta

[1] The Lesce-Bled airfield is about 500 metres over sea level

**I COULD AT LAST ADMIRE THE TREMENDOUS 'PACE' OF THE ETA IN CALM AIR: WITH 115 ON THE AIRSPEED INDICATOR, THE DROP RATE OSCILLATED BETWEEN -0.3 AND -0.5M/S**

■ With thanks to Jean-Sébastien Seytre and Claire-Lise Chevalley for text and translation

■ Photographs courtesy of Seventy2One, Jens-Christian Henke and the author

■ *www.facebook.com/seventy2one*

■ OLC file of this 22 April flight: *www.onlinecontest.org/olc-3.0/gliding/flightinfo.html?dsId=7106071*

■ In the last issue, Jean-Sébastien looked at the origins of the Eta in his article *The Eta: big on performance*, pp12-14, Dec 19/Jan 20

## ULI SCHWENK

**Known to the world of gliding as much for his qualities as a pilot as for his unfailing jovial and enthusiastic mood, Uli has an eloquent track record:**

- **1992 and 1996: German champion**
- **1995: second at the World Championships in Omarama, New Zealand (Open Class)**
- **1998: European champion**
- **2007: second at FAI World Grand Prix (Omarama, New Zealand), where he was named world gliding ambassador**
- **2007: third at the European Championships**
- **2012: German distance record 684km in a two-seater (with his father) in a 1955 K-2b**
- **2017: second at the World Championships in Szatymaz, Hungary (13.5m Class)**
- **2019: second at the World Championships in Pavullo, Italy (13.5m Class)**

**Among his many contributions to the world of light and sport aviation, Uli is director of Jaxida Cover, a company founded in 1989 to provide a cover solution to large wingspan gliders. Uli took over the company in 2009 and made improvements to products such as zippers. I can testify that the model adapted to the Eta allows to easily cover the large wings and fuselage after flights. These covers, which can be used in any weather conditions, are custom made in Germany for any glider and plane.**
***www.jaxida-cover.de/en***

flight ceiling at almost 3,400m at 3.30pm. However, taking almost the same route as on the way out, no thermals were valuable for climbing. Although we travelled 50km in less than 20 minutes, we also lost 1,200m, with the logical penalty of having to climb in any lift we were able to find. It seemed that on the route that I had chosen, the quite beautiful materialisations, considering the weather conditions of the day, were then only a reflection of 'withering' updrafts. Good conditions had shifted, and one hour after our first passage over the same place, we found ourselves flying in between two breezes.

At the debriefing, Uli told me that I had journeyed "as with a K-21". Fortunately Uli was there, able to lift the majestic Eta in any updraft that no jackdaw would ever manage to circle. After heading 90° straight through Mauterndorf, we hitched up on thermals on the ridges of the Obertauern ski resort (Upper Tauern) comfortably facing the sun. It went up from 1,850m to 3,085m in average Vz 2.5 to 3m/s. We followed the reliefs further north where we found cloudbases up to about 3,200m, and then, the 'higher energy line' on an average 230° heading took us to Lienz.

We were then in the region of Hohe Tauern (Upper Tauern) and crossed the highest peaks of Austria with the majestic Grossglockner (highest point in the country at 3,798m) about 30km on our right. At 4.30pm we crossed a pass at 2,840m near Mallnitz ski resorts leaving Carinthia, this time heading towards East Tyrol. About 30km from the town of Lienz, we reached the last ceiling at more than 3,000m in a lift that gave between 1.5 and 2m/s. Then we moved towards the majestic wall of the 'Lienz Dolomites'.

Unfortunately, like three hours earlier, the route to the west did not look good. There was a mass of clouds that quickly formed over the reliefs of the Austrian-Italian border. Therefore we had to give up the idea of a turning point towards the Italian Dolomites. Our turning point was south of Anras, about 10km from Italy. This was the end of the third stretch of 165km.

The Eta, EM, photographed by Jens-Christian Henke

### Back to Slovenia

It was 5pm and we were 150km from Lesce. After gaining altitude to 2,750m, despite cloud coverage close to 8/8, we crossed to the northern slopes of the Carnic Alps. The route over the mountain range wasn't very good and we re-transited north after barely 20km, back over the Gailtal Alps. There, a wind not over 15km/h caused shears. For a moment we thought about possible wave because the cloud mass on the southern reliefs was higher capped by lenticulars. But they were only turbulent thermals, not rotors. We were about 100km from Lesce and we flew in a straight line, without neglecting to turn in a +1m/s lift a little before Nötsch up to 2,000m, avoiding having to descend below the ridges. But from this point to our last turning point, one hour and about 120km later, flight statistics would show 0 per cent spiral time. Our speed of evolution oscillated between 110km/h with the flaps on +1 on the slopes with good lift, to 180km/h wing flaps at -3 in transition.

The nice surprise at the end of the flight was that, abeam the airfield of Lesce, the slopes still sometimes provided +2m/s, at 6pm. We continued east-north-east for another 40km, between the mountains of Begunjscica and Koschutnikturm 'pushing-pulling', to the small village of Jezersko deep in a valley. We travelled the 152km of this fourth stretch at an average speed of 118km/h. We then turned over the slopes of Karawanken, taking care to stay under the Ljubljana TMA, to Lake Bled to complete this flight with a bucolic and touristy touch.

Still, we had to remain focused on the landing. In downwind, the landing gear was extended and the flaps passed on +2. The wind was weak and, in the end, we approached at 100km/h with landing flap selected. Despite the two pairs of Schempp-Hirth airbrakes, the approach remains very flat. Obviously the wings do not tolerate any bank, even if flaperons on the whole span enable upward bending in all configurations; unlike the ASW-22, for example, of which only inner wings bend upwards with positive flap setting, while the wingtips hang down.

Ridge soaring on the Lienz Dolomites

A long finale approach enables us to visualise the glide path and, following a smooth flare out, we touch Lesce runway at 6.35pm.

**Debriefing**

During a 6hr 17min flight, we travelled 611km (at 98km/h average) free distance as per the OLC website, or a 445km triangle. Not taking into account the short 'stretch' between Lake Bled and the field (under 30km), we also did 607km in five segments (four of which were between 105 and 165km long). If these figures may confirm the 'cruise flight' vocation of the Eta, you still have to consider the weather conditions of the day.

It should be said that local pilots, starting an hour earlier, did a nice flight to Antholz, an almost 650km roundtrip and eight-hour flight, with Club Class ships. However, such an early start would have been a challenge for the weight of the Eta, which cannot be handled like a DG-100 or Standard Cirrus in the lower slopes' cobble stones. And when we had completed our first stretch, the route through Tyrol, the Dolomites and the Bolzano were overcast.

Other elements of comparison: some Open Class gliders that left Lesce after us with renowned pilots on board had to fly a 300km round trip "only". On average throughout the flight, we had 25 per cent spiral time against 20 per cent the day before. But the Eta can allow a figure of 10 per cent especially over the plains of continental Europe, the type of flight the machine handles best.

The following days, it rained so much that my short straight hair began to curl, and Uli put on his black hat reserved for the worst weather. On a positive note, I had the opportunity to discover on solid ground the beautiful countryside of Slovenia. But, above all, my flight was a special memory and quite a gliding lesson.

If you want to experience flying in a rare and high-performance glider with a great man of gliding, I recommend you contact Seventy2One. Some that have enjoyed this experience have had flights in excess of 800km, with one lucky person flying more than 1,000km. It's up to you to choose where you want to fly. If the weather is on your side, you will have a great flight, as well a master lesson on performance management. Uli, always cheerful and in a good mood, changes over the flight into an attentive and demanding sports coach. If you want to pilot with him during the long circuit he takes you on, you will have to work on your rhythm and the precision of piloting. But in any case, as Mr Schwenk would say: "it will be an adventure!".

**Jean-Sébastien Seytre began spending his weekends in flying clubs with his father, a private pilot, from an early age. He discovered gliding in the early-80s when a soaring operation was initiated on an airfield of Pierrelatte, near his hometown, and his dad returned to gliding. In 1984, aged eight, Jean-Sébastien had his first glider flight in a Bijave and was impressed by the majestic and silent flight. He soloed at 17, flying in the southern French Alps, mainly from Vinon and Fayence. He now has 1,100 hours in gliders, power planes and ultralights. Jean-Sébastien is an aerospace engineer, currently working as a space risk underwriter for an insurance company, and occasionally writes articles for aviation magazines.**

■ I would like to express my my heartfelt thanks to Uli Schwenk and Keith Gateley for this wonderful flight.

Lake Bled and its castle and church at the end of the flight

# HELP KEEP US SAFE IN THE AIR

Chris Fox and Ed Downham report an increase in Airprox involving gliders last year

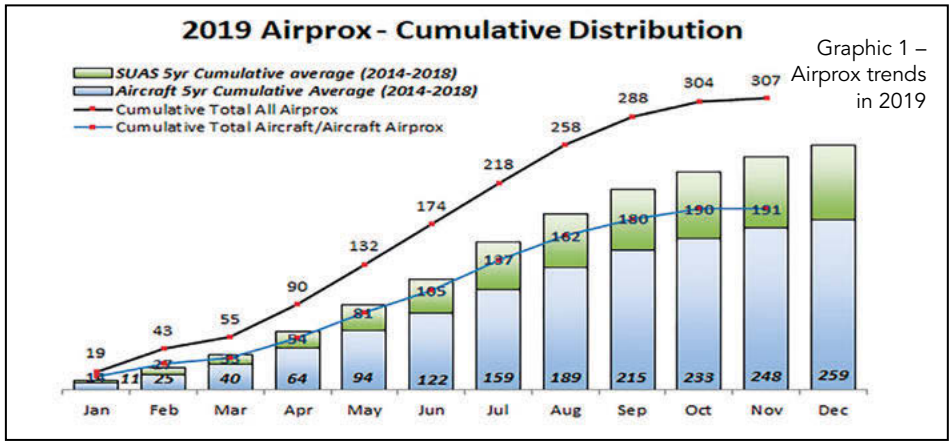
WELCOME back to our annual update on Airprox events involving gliders.

**Glider Airprox in 2018/2019**

From 1 July 2018 to 1 July 2019, there were 32 Airprox involving gliders out of a total of 171 Airprox in the period, excluding drones (see table at bottom of page). This is a significant increase over the previous year; 21 of these were reported by gliders or tugs. It's good that you continue to be engaged with the system, and the lessons we learn from these reports all go to trying to keep everyone safer in the air. Please keep the reports coming.

Seven of these were in the highest risk A category, where the Board felt that luck played a major part in avoiding a collision. All of these involved a late or non sighting by one or both aircraft; in most of them functional and compatible electronic conspicuity equipment would have likely averted the Airprox.

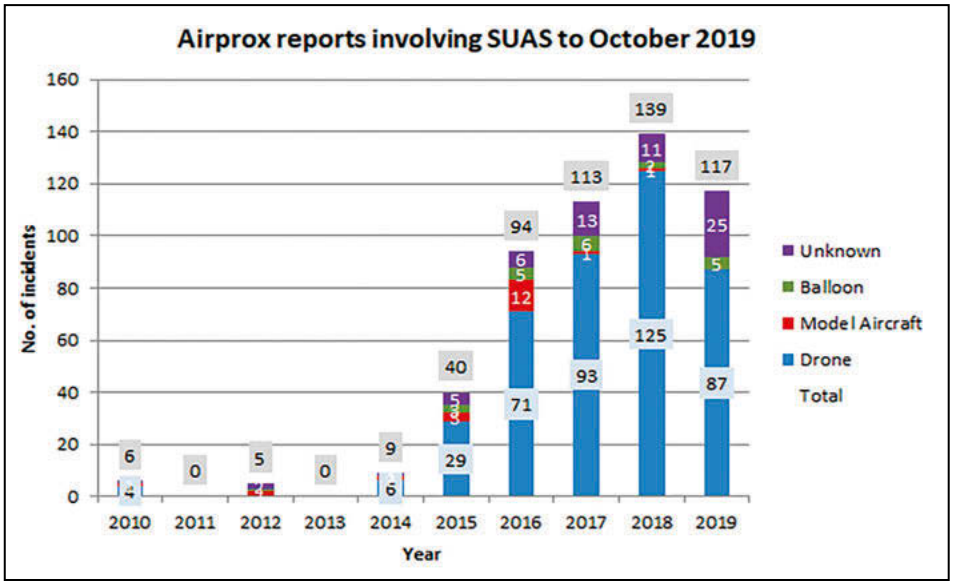
We were very pleased to at last get a formal recommendation from UKAB that the CAA and MAA review their policy regarding the use of non-certified displays (eg 'FLARM Radar') in Air Traffic Units. This arose from an incident last year, where a pair of Hawks passed very close to an LS3 in the Vale of York. The glider wasn't painting on radar, but was there to be seen on the FLARM display in the Leeming ATSU. Current CAA and MAA policy requires that the display is not in the




Graphic 1 – Airprox trends in 2019

| AirproxID | Risk | Latitude | Longitude | Aircraft 1 | Aircraft 2 | Location | Type | Comment |
|---|---|---|---|---|---|---|---|---|
| 2018181 | B | 53.78 | -1.08 | SCHLEICHER - ASW20 | CIRRUS - SR22 | N of Burn | Late Sighting | Late sighting by both pilots |
| 2018188 | A | 51.20 | -1.23 | SCHEMPP HIRTH - DUO DISC | SIKORSKY - S76 - C | NE Popham | Late Sighting | Duo heard the S76 before it saw it. S76 saw a different glider |
| 2018190 | C | 51.53 | -1.93 | SIKORSKY - S76 | Unknown Glider | Swindon | Late Sighting | S76 was Royal flight |
| 2018212 | B | 52.42 | 0.67 | OTHER - Military (F15) | SCHEMPP HIRTH - DUO DISCUS | E of Lakenheath | FIR Conflict | Duo close to Lakenheath approach path |
| 2018249 | B | 54.38 | -1.58 | EUROCOPTER - EC135 | ROLLADEN SCHNEIDER - LS8 | NE Catterick | FIR Conflict | NPAS heli encountered LS8 at ~1500' |
| 2018254 | B | 53.75 | -1.08 | PZL SWIDNIK - PW5 | Unknown GA | Burn | Overflight | Unidentified GA overflew during winch launch |
| 2018255 | C | 52.07 | 0.52 | PIPER - PA25 (and K13 glide | FLIGHT DESIGN (CTSW) | Ridgewell | Aerotow Encounter | K13 on tow, passed by CTSW & another AC |
| 2018266 | A | 54.23 | -1.58 | OTHER - Military (Hawk) | ROLLADEN SCHNEIDER - LS3 | S Leeming, FL85 | Non Sighting | Hawks flew close to LS3 in wave |
| 2018279 | C | 51.95 | -0.77 | PIPER - PA34 | ASG29-18 | SW Milton Keynes | Late Sighting | ASG29 pilot did not see the PA34 |
| 2018303 | C | 50.58 | -4.15 | SCHEMPP HIRTH - DISCUS B | CESSNA - 525 | Dartmoor GC | Overflight | C525 passed overhead westbound, then later eastbound |
| 2019020 | C | 52.17 | -0.12 | PZL BIELSKO - SZD51 | SOCATA - TB20 | Gransden Lodge | Overflight | TB20 on approach Little Gransden with U/C problem |
| 2019058 | A | 52.02 | -1.40 | SCHLEICHER - ASH25 | GRUMMAN - AA5 | SW Banbury | Late Sighting | Very close head-on encounter, AA5 did not see glider |
| 2019060 | C | 52.23 | -1.17 | GROB - G120 | SCHLEICHER - ASH25 | Daventry | Late Sighting | ASH saw the Grob in good time; Grob late seeing the ASH |
| 2019061 | B | 52.18 | -2.23 | SCHEMPP HIRTH - VENTUS2 | Cabri G2 | Worcester | Late Sighting | Ventus acted on PowerFLARM warning |
| 2019064 | A | 52.43 | -1.05 | SCHLEICHER - ASK21 | Unknown Glider | Hus Bos | Non-Sighting | No FLARM alert. Unknown glider passed close overhead K21 from behind |
| 2019070 | C | 51.67 | -1.87 | OTHER - Military (C17) | Unknown Glider | South Cerney | Late Sighting | C17 saw glider at 1nm and manoeuvred to avoid |
| 2019079 | B | 51.88 | -1.70 | OTHER - Military (Viking) | BEECH - 58 | Little Rissington | Overflight | Beech overflew below NOTAM'd height |
| 2019081 | B | 52.33 | 0.97 | Dimona H36 | CESSNA - 172 | E of Honington | Late Sighting | Head on, emergency avoid |
| 2019082 | A | 52.65 | -2.30 | SCHEMPP HIRTH - VENTUS / | Drone | M54 J3, ~3800ft | Late Sighting | Ventus passed very close to a drone |
| 2019083 | B | 51.27 | -2.22 | OTHER - Military (Wildcat) | Unknown Glider | S Trowbridge | Late Sighting | Wildcat on NGV training |
| 2019087 | C | 53.05 | -0.93 | OTHER - Military (Viking) | DIAMOND - DA40 | Syerston | Late/Non sighting | DA40 flew close to Syerston ATZ |
| 2019096 | C | 51.93 | -1.43 | SCHEIBE - SF25 | AGUSTA - A109 | Enstone | Circuit conflict | A109 flew through the Enstone circuit |
| 2019099 | A | 54.13 | -1.28 | OTHER - Military (Hawk) | Glider Gaggle | N of Linton, ~ 5000ft | Late Sighting | 2 Hawks flew through a thermalling gaggle |
| 2019100 | A | 52.61667 | -0.46667 | HPH Shark | UNKNOWN (Glider) | Wittering | Late Sighting | Shark talking to Wittering; no FLARM warning |
| 2019101 | C | 56.18333 | -3.33333 | ASK21 | PIPER - PA28 | Portmoak | Overflight | Launch aborted |
| 2019105 | C | 52.3 | -2.95 | Standard Cirrus | Piper - PA28 | Knighton | Late Sighting | Differing accounts of how close |
| 2019110 | C | 52.16667 | -0.06667 | Puchaz | P51 Mustang/Sea Fury | Gransden Lodge | Overflight | Recommendation to SkyDemon re depiction of Gliding Sites |
| 2019111 | C | 50.71667 | -2.15 | FA 20 | UNKNOWN (Glider) | W of Bournemouth | FIR Conflict | FA20 descending into Bournemouth |
| 2019116 | B | 52.61667 | 0.683333 | BEECH - 58 | SCHEMPP HIRTH - VENTUS | Marham | Late Sighting | Beech manoeuvred to avoid. Ventus talking to Marham |
| 2019117 | C | 56.2 | -3.35 | EuroFox | AS365 | Portmoak | Late Sighting | Helicopter passed close to tug towing glider |
| 2019122 | B | 51.56667 | -1.25 | Duo Discus | TB20 | Didcot | Late/Non sighting | Head on, emergency avoid |
| 2019125 | C | 52.16667 | -0.08333 | ASK21 | DC3 | Gransden Lodge | Overflight | DC3 inbound Duxford |

Table above shows gliders involved in Airprox between July 2018 and June 2019




Graphic 2 – Drone Airprox trends

eyeline of the controller; rather they have to ask a supervisor to check it, which they do only if they can see an unidentified primary contact. Something similar occurred in another incident in 2019.

The Board also made a recommendation that SkyDemon review the way they show gliding sites. This arose from two Airprox incidents where the Board felt that the way the gliding sites were (or were not) depicted may well have been a contributory factor in why the Airprox occurred. We understand that positive discussions with SkyDemon are ongoing.

We'd like to highlight a few general lessons arising from this year's Airprox events:

- If you have a transponder in your glider, you have a greater chance of others being aware of you if it is turned on.
- There was Board discussion about whether Police helicopters should be fitted with FLARM.
- One was difficult to analyse and inconclusive because it was filed some six weeks after the event, meaning that radio and radar records weren't available.

**General trends in Airprox**

Whilst the headline number of Airprox is increasing rapidly (see graphic 1, facing page), pretty much all of that growth is down to drones (SUAS, meaning Small Unmanned Aircraft Systems in Airprox-speak). There were 144 of these in the period (see graphic 2, above).

Within GA, by far the most common primary cause of Airprox is late or non-sighting of the other traffic.

**Overflights of gliding sites**

Overflights of winch launching sites remains a recurring problem. Following a meeting at the BGA conference last year, we've been making a determined effort to build a better database of these incidents to use in our discussions with the authorities.

Historically, we've used Airprox data to give us a clue as to how much of a problem this is. But anecdotal evidence from some clubs suggested that in fact the issue was much more frequent.

However, anecdotes are just that; we can't use them to press for specific action from the authorities, and we didn't have a collated evidence base we could use.

Following a meeting of interested parties at the BGA conference in March 2019, guidance was sent to all clubs requesting that all overflight incidents be reported to the BGA. See *https://members.gliding.co.uk/2019/03/22/bga-guidance-re-overflights-of-winch-sites/*

Since then we've had some 110 reports, of which eight were formally reported as Airprox incidents. Clearly these events are much more prevalent than we previously thought.

First, the ones that resulted in formal Airprox reports:

- Three were at Gransden Lodge; two of these involved aircraft routing to or from Duxford. This is particularly disappointing given the efforts that Cambridge Gliding Club have made to educate local airspace users.
- Two were at Portmoak: an alert ground crew spotted an overflying PA 28 and stopped a winch launch, and a passing helicopter got close to a tug/glider combo.

**UK AIRPROX BOARD**

The Board's sole purpose is to promote and increase air safety. It investigates all Airprox that occur in UK airspace and it's made up 14 people involved in aviation from almost every discipline: ground and air-based, civil and military, professional and amateur, users and regulators. It's chaired by the Director of the UKAB – currently Steve Forward, an ex-Harrier and occasional glider pilot.

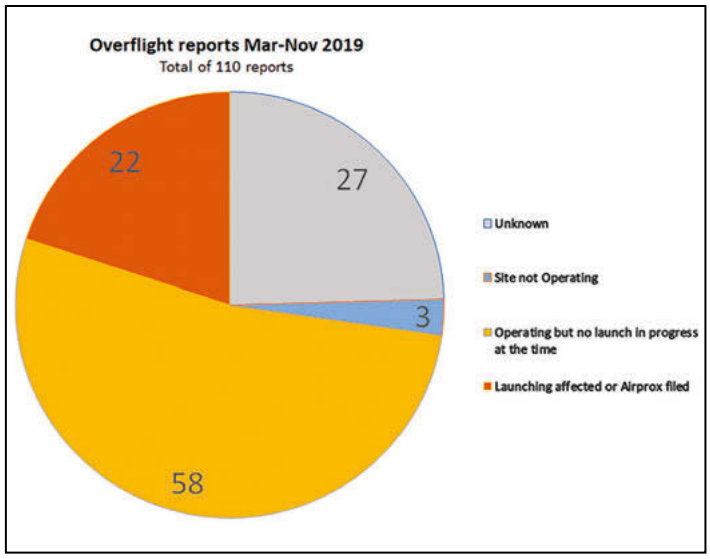
An Airprox is any event where, in the opinion of a pilot or air traffic controller, the aircraft involved got close enough to cause concern. That's it. No minimum distances – but note it must be a pilot or ATC who files the report, not a ground observer.

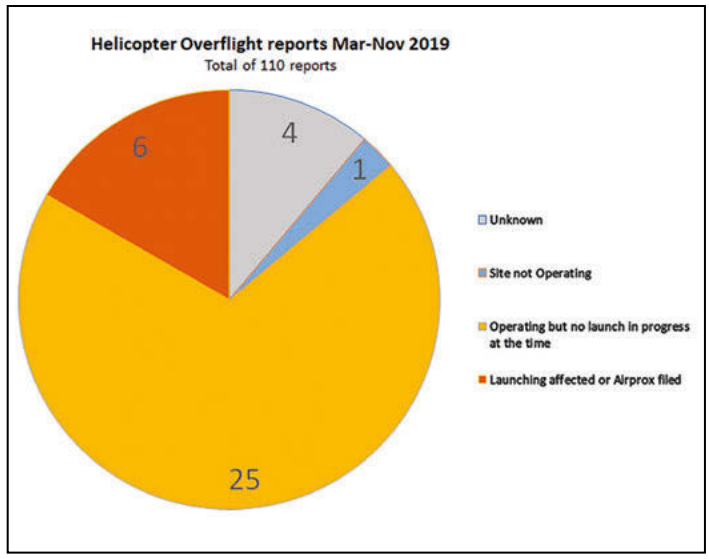
A report is made on form CA1094 – a slightly daunting bit of paperwork available on the website at *www.airproxboard.org.uk,* but actually not too onerous to complete.

Once accepted by the UKAB team based at Northolt, an investigator is assigned and they will collect all the relevant data, including tracing all the involved aircraft, capturing radio transcripts and radar recordings, etc. A report of the facts is prepared and submitted to the Board for appraisal.

The Board meets once a month to consider 20-25 Airprox, supported by advisers from the military, NATS, CAA and so forth. We decide what caused the Airprox (but definitely without assigning blame) and allocate a Risk Category from A – it was pure luck that a collision didn't occur, to E – a Sighting Report where there was never any actual risk of collision. The full details of every report are published on the Board's website at *www.airproxboard.org.uk/home/* updated monthly. There's an annual magazine, available online at *http://bit.ly/2DueCR2*

The real value of the Board's work comes in the form of recommendations made to other bodies, eg CAA or NATS, for systemic changes that can reduce the risk of future Airprox. This comes down to looking at overall trends and looking for common themes.




Above left: graphic 3 – overflight incidents by severity
Above right: graphic 4 – helicopter-involved overflights

**WE'D ENCOURAGE ALL CLUBS TO ESTABLISH LINKS WITH LOCAL POWER FLYING CLUBS TO HELP SPREAD THE MESSAGE. VERY OFTEN THE PROBLEM IS SIMPLY A LACK OF UNDERSTANDING OF THE RISKS**

● An unidentified GA aircraft overflew during a winch launch at Burn; this club has also made great efforts to educate local flying clubs.

● At Little Rissington an overflying aircraft was below a NOTAM'd activity warning height and got close to a Viking.

● At Dartmoor, a Citation passed overhead the site twice on the same day.

These are all included in the overall glider-involved Airprox list.

Each overflight report is assigned a 'Severity' based on the information supplied by the reporting club:
0 – insufficient information
1 – Site was not operating at the time
2 – Site was operating but no launch was taking place at the time of the overflight
3 – Launching was affected and/or a formal Airprox was filed.

Graphic 3 (above left) shows the reports by Severity; about half are Severity 2, but a significant proportion are in the most serious group.

We also track two other items; whether the overflying aircraft was a helicopter (see graphic 4, above right) and whether the aircraft was positively identified.

The bad news is that we see a disproportionate number of helicopter reports – over 30 per cent of the total. We are taking this up with organisations such as the British Helicopter Advisory Board (BHAB) and the Helicopter Club of Great Britain. These organisations are very receptive to our efforts, but is seems the message isn't always getting through to the aircraft operators and pilots.

However, the good news is that the aircraft was positively identified in 50 per cent of the cases. Often the affected clubs then contact the owners (using data from G-INFO) and get a positive response. We're just starting a process for the BGA to write to these owners too, including the recent 'Winch Cables can Kill' leaflet/poster (see below right).

Now that we have some real data, we are starting to get some attention from the authorities. The National Air Traffic Management Advisory Committee (NATMAC), which is chaired by the CAA and has representation from most UK aviation groups, including the BGA, has seen this data and has acknowledged the problem. There are ideas about for helping the situation, including

- Redoubling our communication and education efforts.
- Working with the providers of common navigation software to improve the depiction of gliding sites.
- Examining whether we can get more formal protection for gliding sites without the administrative and cost overhead of establishing formal ATZs.

We'd strongly encourage all clubs to establish links with local power flying clubs to help spread the message. Very often the problem is simply a lack of understanding of the risks. The military run Regional Airspace User Group meetings all over the country and these provide an excellent opportunity to make contacts.

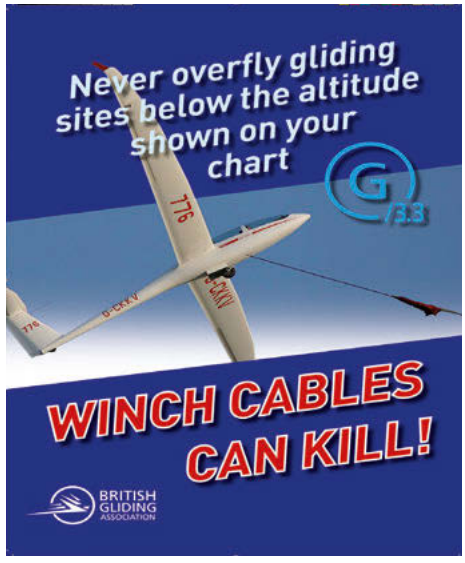
**What can we learn from all this?**

- Keep looking out!
- Move your head
- BUT… help yourself with other info sources – EC, radio, etc.

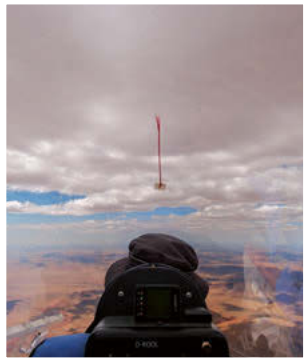
**Minimising the risk**

The messages here don't change:

- Let other airspace users know where you are and what you're doing. This can be via the radio, or increasingly using Electronic Conspicuity devices such as FLARM and Transponders. If you have a transponder, turn it on!
- When you're in the vicinity of busy airfields, especially those with Instrument Approaches, let them know you're there. Just a short call could avoid an Airprox or worse.
- Be aware that our 'risk appetite' – in particular, how comfortable we are with flying close to other gliders – is usually different to that of other airspace users.




Chris Fox is a Full Cat instructor who flies a Duo Turbo, mostly in Wales and the north west. He also flies light helicopters.



Ed Downham flies an EB28 in the UK and other parts of Europe and funds that by flying people round the world in a 777

# WAY FORWARD FOR DBS CHECK

## Jane Mead shares her experience of online application process

I TOOK on the role of child protection officer (CPO) for Dorset Gliding Club in October 2019. The first thing I did was to contact the BGA as the named person assigned to this position for our club and to investigate how I could obtain an enhanced DBS (Disclosure and Barring Service) check both for myself, initially, and for the renewal of checks for our instructors.

I quickly discovered that it was not possible to obtain my check via DBS directly, as the system will only allow an individual to apply for the basic check. Further investigation with the BGA showed that the way forward was to use an umbrella company.

**Jane Mead (pictured above with club instructor Gerry) is Dorset GC's CPO. Husband Andy is the pilot in the family, but Jane loves joining in with the club's flying days. A teaching background adds to her wishing to support the younger generation in being able to take part in a sport that Jane fully believes should be advertised to girls and boys alike with the potential for careers in aviation, or simply for the enjoyment of it. This is something Dorset GC is currently working on, hence the request that Jane took over as CPO at the club to enable her to be fully involved with a specific role.**

I made contact with my chosen company at the end of October and was in immediate receipt, by email, of various documents that I needed to fill out online. This led to me being able to talk, by phone and email, with friendly, helpful, welcoming staff within the company who answered my questions immediately. It reassured me that I had good support to achieve what I needed and matched what the BGA staff provide to all of us who are volunteers within the gliding fraternity.

Having set up an operational web account for DGC with this umbrella organisation, with me as the main contact in order to work on our club's DBS checks, I was then in receipt of the main account login so that I could start the process, including for my own check.

As I was able to choose who could validate ID and the way in which data could be communicated, it became obvious that the company I had chosen made it easy to make progress and also to ensure that personal information given was limited to specified people within the club.

I was also provided with clear instructions as to how payment should be made for each application. I would recommend that the CPO is also the named person who will receive invoices so he/she can keep track of the process once DBS applications for others within the club have been started.

The time taken from selecting this umbrella company, registering, setting up the overall system to enable me to keep track of the whole process and receiving my own enhanced DBS check, was less than three weeks. I was able to view the status of my check throughout the time that it was being processed and see the result of the check when it was completed and sent as a paper notification to the company by the DBS. On receipt of an invoice, which I was able to pass to our treasurer, I could also then track when the payment had been made for it by our club. At this stage I knew to expect, by post, my actual document. When it arrived it showed our club's name as the instigator of the check, my specific role at the club and all the sections marked as expected for a person who is cleared for working with children.

A particularly added bonus is that the cost of an enhanced check, clearly specified for volunteers through this system, is less than half that of a regular basic check.

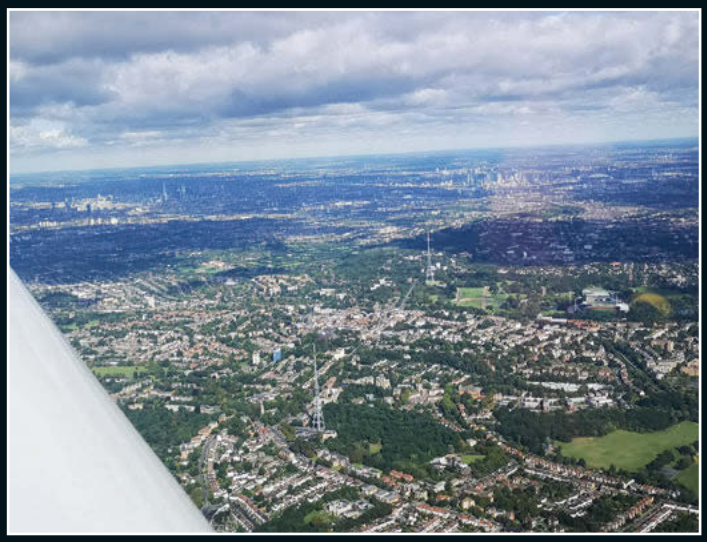
At the same time as receiving the main account logins for myself, I also have the details for remote applicant logins. Having seen this system is successful I will now start the process with our instructors, giving them access to the account.

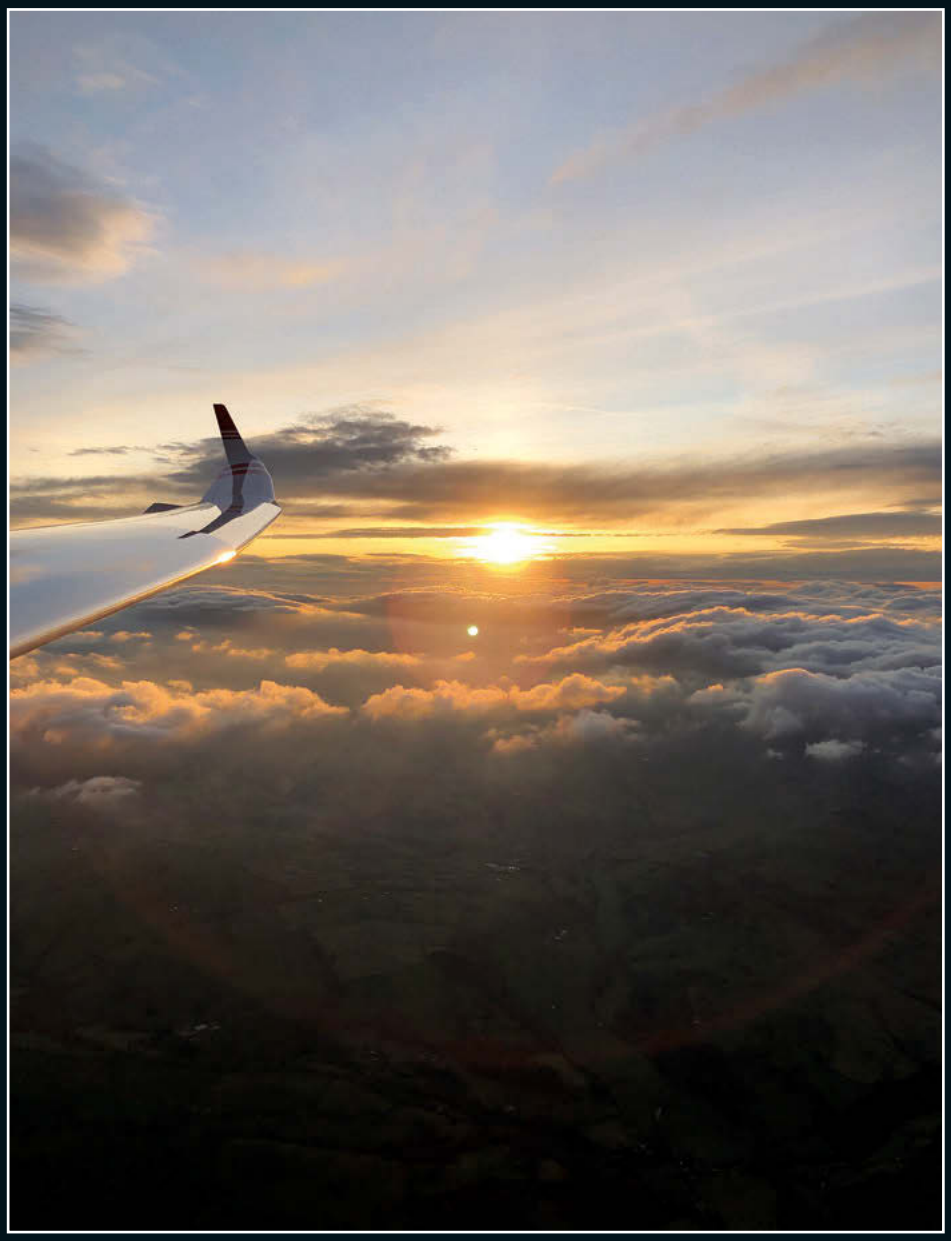
### Track the process

I can validate their ID documents and will be able to track the process of the checks as they occur. It will be interesting to see how this goes, but, with my experience of this company so far, I am confident that as I become more and more familiar with the overall online process I can advise the instructors if they have any questions.

The company I have used additionally provides YouTube tutorials to assist with completing applications, which is very helpful. Another huge benefit of this system is that the timing for renewals of checks can be selected by each club and carried out using the umbrella company.

Adopting this system for DBS checks in England is definitely the way forward for gliding clubs across the country to ensure that we have good systems in place for supporting young people to progress. I hope that other gliding clubs find my experience so far helpful.



*This page, clockwise from top left:*

A last trip to Crystal Palace before the end of the 2019 soaring season (Steve Codd)

Lasham's Duo on a frosty Aboyne morning (Jordan Bridge)

Shark DLOT on tow out of Parham (John Matthews)

Sunset during a November wave flight from Denbigh (Chris Gill)

*Facing page, clockwise from top:*

Fabulous visibility (and flying) for Steve Lynn and Stefan Astley on 8 September for a 400km out-and-return to Goole. Here EB28 '13' shares a thermal at Saltby (Steve Lynn)

Stunning North Wales wave. Taken by Chris Gill in Duo Discus 315

Late October wave flight from Denbigh (Ben Payne)

■ If you would like your previously-unpublished photographs to be considered for inclusion in Gliding Gallery, send them to: *editor@sailplaneandgliding.co.uk* or upload to: *www.sailplaneandgliding.co.uk/dropbox*

# AUTUMNAL TRIP TO THE SEASIDE

Staffordshire GC's Graham Stanford takes a challenging trip to the seaside in his Libelle 201b during an exped to Lleweni Parc

On the way to the cliff at Pemaenmawr, aiming for the furthest ridge on the left

**IT WAS CHARACTER-BUILDING STUFF (AND THERE WAS ME THINKING I HAD ENOUGH CHARACTER)**

WELL how about a nice trip to the seaside in North Wales? I had a trip to North Wales arranged for the weekend of 26-27 October and, as always with the Denbigh site, there is potential for anything you can imagine in the gliding world, from ridge soaring to thermal and wave.

However, after much patient waiting, the weekend did not promise any wave (and having been to nigh on 12,000ft there two weeks previously, I couldn't really complain). What it did promise was potential for the north edge of Snowdonia to work well and for good thermic conditions. So, game on!

After deciding to go down on Saturday instead of Friday evening because the rain was appalling, it cleared so that Chris Gill and I could get up in the motor glider for a recce of the faces as the wind was light but blowing NW. We had a good old time, including soaring the edge of Snowdon with the engine off.

So after a fitful night's sleep thinking about the next day, it was a bit of an anti-climax when Chris said that the wind wasn't as strong as he'd hoped for and that it might be off for a non-engine glider.

Hurumph, and after all that loss of sleep and planning I had been doing in my head and on my maps…

Anyway, as it happened, after I had studied the weather forecast and the wind, I felt it would probably work but might be a bit soft on the ridges. I knew I could aerotow high enough to put myself in easy reach of the ridge at Pemaenmawr and I had a field selected the other side of it if it didn't go to plan.

So I took an aerotow behind the Denbigh EuroFOX, which was high and into wind. Eventually I had to go over the top of some lines of cumulus which peaked at 6,000ft and then circle down through a hole above Conwy to get to Penmaenmawr. I arrived at the ridge about 150ft below ridge top, having followed Rod Witter around the point in his Arcus.

Now I'm below ridge height and in lift, which is all very well, but at this point, when I got that slight sickening feeling in my stomach, I laughed at myself for being such a twerp.

The ridge was working, but not very well. In fact, as I tracked up and down this small piece of cliff, above the waves and the traffic on the A55, at anywhere between 1,000ft and 2,100ft QFE depending on how aggressive I was being and how well the lift was working, I was in a pickle (well sort of). I was happy that I was airborne and in lift – problem number one solved. (Don't forget I always had a landing option planned the day before, although I spotted a fence in it that I hadn't seen the evening before. However, that didn't really make much difference as the field was plenty long enough and wide enough between the trees.)

**Second problem**

Problem number two. I could not plough on with the ridge run as I needed around 3,000ft to move on to the ridges further on and, from 1,200ft, I was not getting back to Denbigh any time soon, it being 35km away albeit downwind.

So what does one do? Well, to start with you sit there watching those with engines come by saying "oh you are brave!". "No, stupid!" is what I'm thinking, but replying: "You can see how brave I am by the brown stuff coming out of the glider!" Ha ha, how I laughed, at myself… eyes to the heavens at this point.

Half an hour went by, hanging in there… then an hour went by, by which point there seemed to be some chance of thermal activity starting and, to be fair, this was predicted. Chris Gill passed by in the DG-1001, hung around for a bit trying to spot thermals for

me, only to get the engine out and motor up on to the local hills, which were working much better – but I couldn't get to those (again, hurumph).

At this point I did radio and say I'd had quite enough of this hanging around and thought I might land in my planned field, but Chris made a good point: "You're in lift, so stay in it and see what happens as there is bound to be a thermal along at some point."

Another half an hour passed and I began moving out over to my landing field to have a closer look and to see if there was thermal lift kicking off.

**A weak thermal**

After two goes at this, I caught what I thought was a thermal, albeit it a weak one. I began circling in my Libelle and had 2.5kts on one side and 1kt on the other. I put up with this as I climbed from around 1,200ft to 1,800ft, drifting back towards the ridge, and then put a bit more effort in to recentre. I lost the thermal (what a berk), then I found it again and managed to centre it properly this time… phew. I got to 2,300ft and was now still 2,000ft below glide allowing for a 1,000ft safety altitude. (Yes, I know I could have cut it a bit, but I still needed more to get back so I thought I might as well allow for that and just get it in to my head that I needed another thermal.)

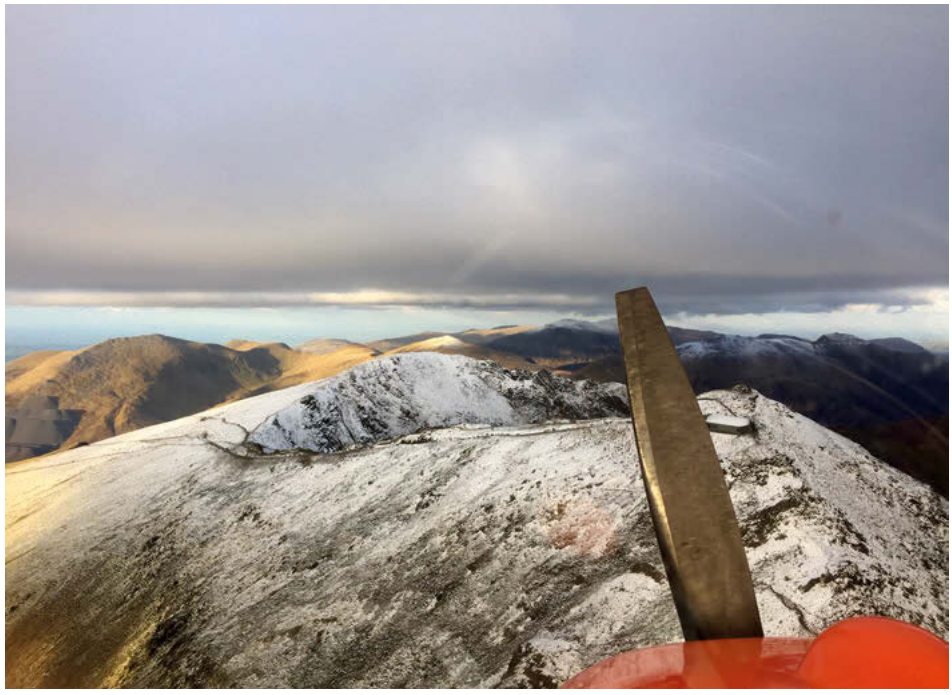
I moved on to the Conwy Valley and there were lots of good looking clouds around. I stayed with my track and headed for the nearest one downwind; it worked to 2,500ft having again got low (about 1,000ft above the local terrain, but, again, with fields spotted and planned for, if needed).

Eventually, as I headed back to Denbigh, there were good cloud streets. I got back with plenty to spare and spent four hours up, eventually enjoying late autumn soaring in my lovely Libelle.

**Am I a lucky boy or what?**

Those with engines in the back had a great day in the mountains and many more soared the Denbigh ridge and the thermals at a really fantastic site.

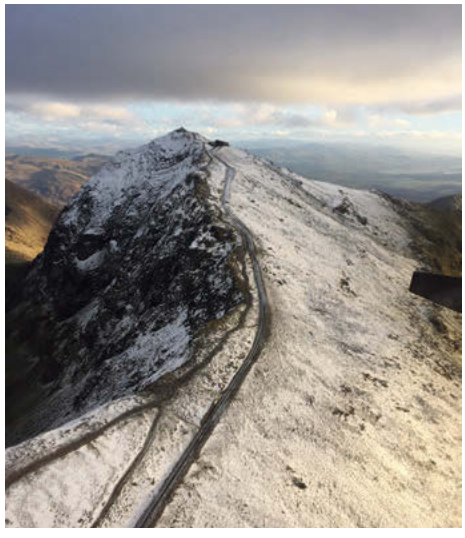
It was character-building stuff (and there was me thinking I had enough character already). I'm not sure how many people have soared Penmaenmawr in a conventional glider, but my respect for them is significant. I'll definitely give it another go as I want to soar Snowdon in my Libelle, but little steps and all that…



With Chris Gill for a recce of the faces of Snowdon in Denbigh's Falke

Conwy Valley thermal…


Graham's Libelle is now having its 3,000-hour check



Soaring over the Snowdon Mountain Railway

Graham Stanford (right) with Denbigh's Chris Gill

**■ Graham Stanford is an Ass Cat at Staffordshire Gliding Club. He has approximately 600 hours gliding and holds a Gold C and one Diamond.**

Looking down the wing of Highland's Duo Discus at the village of Rothes, 9km to the south east of the club. The river is the Spey, famous for whisky and salmon, and the large buildings in the village are predominantly owned by one of the many local distilleries (Highland GC)

# REFLECTING ON 'LONGEST' SOLO

## Adrian Morgan returns to finish what he started with his first glider flight over 30 years ago

Solo at last! Adrian Morgan is congratulated by Mike Black

FOR over 50 years I have sailed as a pastime, and for most of my adult years written about the sea and seafaring. Although my first flight in a glider was 30 odd years ago, it has only been in the past 12 months I have had the space and cash to persevere with a pastime that can, and has, become a passion. What have I learned in that short space of time about gliding, and those who fly? What mistakes are waiting to catch the unwary, both on the airfield and up there? How long will it take and how much will it cost? How dangerous; how terrifying...? Above all, is it worth it?

A few months after my first solo, Mike Black, our CFI, asked me if I would write about my experiences to date; the highs (about 3,000ft) and lows. It had all the sense of déjà vu.

In 1987 I had been sent on an assignment to Booker by *The Independent*, for a feature about gliding, and later a slim paperback emerged called *Gliding in 8 Days*. With half a dozen flights in my log book it was emphatically not a 'How To' book, rather a novice's attempt to describe those seven days of training which, in the event, had spread themselves out not over a week but three years, due to appalling weather, lack of time and, inevitably, money. It did, however, spark a thirst to one day resume my brief career as a pilot, the culmination of which came shortly before lunch on the afternoon of 19 May 2019, when Mike asked me quietly if, after three flights, during which I must have shown some aptitude in bringing this valuable piece of carbon and glass fibre safely to earth, I would like to take the K-21 up again, on my own.

It took less than half the length of the walk back to the launch point at the west end of the Easterton strip to decide. Twenty or so minutes later, Hotel Yankee Juliet was back on the ground. My log book records the flight at 13 minutes, but one which – after a

certain Dave Byass, my first instructor, first said those magic words "you have control", in a K-13 3,000ft above Booker airfield in July 1987 – had taken 31 years, two months and five days to achieve.

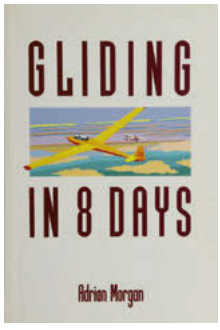
Mike found me with my head in my hands. It was that emotional. And thus, with tears in his eyes, the heroic Highland Gliding Club's newest solo pilot unlatches the canopy… takes a deep breath and rather more prosaically makes a mental note never to eat baked beans for breakfast before flying.

Over 31 years... In my defence, the years from 1987 to 2018 were those of work, career, travel and periods of impecuniousness. A pastime on which it is easy to embark in your 20s becomes hard to sustain in your 30s, with mortgages, family and commitments. And even at the age of 65, the costs of gliding have to be balanced carefully. The trouble is, in feeding an addiction, rational decisions fly out of the window, especially when it comes to spending money. Yet how better to spend it than soaring above the Moray countryside, at the controls of, as I believe, man's most beautiful, efficient and exhilarating machine. Birds fly: humans soar. "If humans were meant to fly, we'd have been given wings." Nonsense.

It is one thing learning to glide at 30-something, how about 60-something? Too late, almost certainly, to reach the heights of those with hundreds or thousands of flying hours; the gliding gods whose 750km tasks appear in *Sailplane & Gliding*; the patient instructors and CFIs; the club pilots who can sniff out a local thermal or signs of wave, who bide their time, while others clamber hopefully, and more often hopelessly, into the sky just a few minutes too soon. Time enough perhaps to explore a circle of comfort around the airfield or, in a year or so, a modest cross-country task. Enough? Who knows. We shall see.

For now it is simply enough to be a barely competent P1, rather than a lowly P2, with an invisible L plate pinned to his tail.

*(This article first appeared in the Highland Gliding Club's weekly news update.)*




■ **You can still get hold of a (secondhand) copy of Adrian's book *Gliding in 8 Days* online, or you can view it in the archived gliding books section of the *S&G* website.**

# A 'NOVEL' WAY OF INTRODUCING AVIATION TO POTENTIAL PILOTS

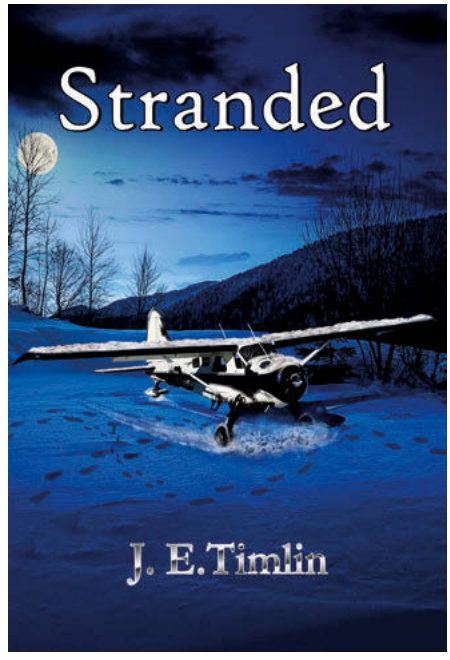
RICHARD Sharrocks is a training captain with an international airline; his wife, Julie, is a writer. Their 10-year-old daughter, Talitha, dreams of following in her father's footsteps and becoming a pilot herself one day. Talitha's interest is not surprising, she has an aviator in her family. She sees her dad head off to exotic locations every week, hears stories of different cultures, and sees photos of fascinating historical sights. Talitha experiences his passion for his career and never hears him complain about having to leave for the office! She also has his encouragement, has him there to reassure her that the fact that she is far from a maths genius will not prevent her following her dream.

Talitha's interest got her parents wondering about how children without the same exposure to aviation become interested in the industry. After all, they don't come across pilots in their everyday life the way they do teachers, doctors, dentists and policemen. Plus, with modern day security concerns, the days of visits to the cockpit, where children had the chance to chat to a pilot are gone.

Julie and Richard decided to see if they could make a small contribution towards inspiring the next generation of pilots. Drawing heavily on her husband's expert knowledge, Julie has written a *Flight of the Phoenix*-style adventure novel for children, aged 7-14, about a young aviation enthusiast who finds himself stranded in the Canadian wilderness with a crashed plane, which he needs to repair and pilot out.

A book is a readily available, easily accessible promotional vehicle; Julie and Richard hope that the novel may start the wheels of interest turning and offer early exposure to the fascinating world of flight. Just as a child reads a spy novel and wonders what it would be like to work for MI5 or the CIA, they hope a young person may read the novel, *Stranded*, and contemplate becoming a pilot; that it may encourage children to take the next step of visiting an air show or an aviation museum, or joining an aviation programme or camp where they will get to experience aviation in all its glory.

Julie's novel, *Stranded*, has recently been published and is available from Amazon and major bookstores. A percentage of the proceeds of each sale will be donated to charities that help to make aviation accessible to all juniors.




***Stranded* by JE Timlin**
**Published September 2019 by Blossom Spring Publishing**
**Paperback, 197 pages**
**ISBN 978-1916173538**
**Amazon: £7.75**
***www.jetimlin.com***

# MANAGING OUR EXPECTATIONS

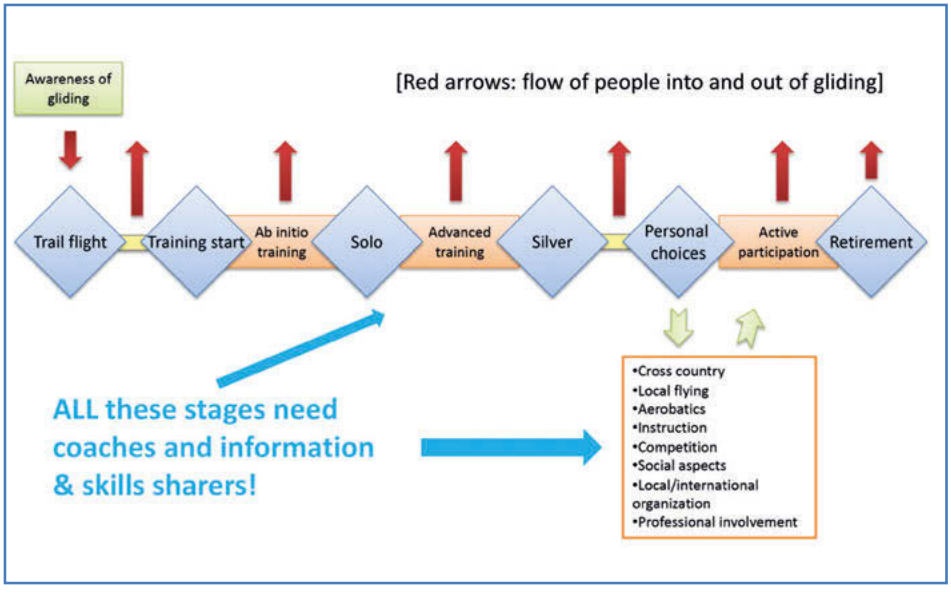
Alison Randle uncovers some unexpected results during a Masters research project

Building social bonds and providing support as pilots progress is important (John Elkington)

GLIDING with confidence! This was the unexpected answer from my Masters-level research project, which looked at factors around gender inequality in gliding. One of the drivers for carrying out the investigation was the apparent lack of voice from the already supportive majority of men in gliding.

As I began, it quickly became apparent that there may be a flaw in our collective assumptions. If, despite the specific projects to increase participation, female recruitment and retention rates have not improved, there must be something else going on. But what? Have we been focusing on the wrong thing?

Standing back to reassess, I realised I already know the problem is broader. In addition to the missing women in our clubs are many missing men; people who fade in and out of gliding. Fundamentally, not about gender, participation is about expectations, confidence and power, ie the factors that affect what an individual experiences and the choices they make about their participation. The investigation used gender as a lens to investigate the dynamics of power and influence in clubs.




Pilot lifecycle, originated by Alexander Georgas

Is there a way that anyone and everyone can improve membership retention? Yes. Understanding where the power is perceived to be held by the people without a voice should provide a good basis for making changes to the way clubs currently support members, with parts for all to play. There are four aspects of the results to discuss here: voice; instructors; language; and pilot development pathways.

Underlying all, not everyone agrees with the statement *'at my club, it is easy to speak up and be heard; regardless of how many years someone has been a member'*. If anyone in your club thinks they have no voice, then a power disparity exists.

Firstly, interviewees were asked 'who in the club has influence to make a difference?'. Most, but not all interviewees have been in gliding for decades. During the subsequent discussion workshop participants considered gliding from the perspectives of the various people found at a launchpoint. The interviewees said that the committee was very important, but a launchpoint viewed as a student glider pilot is peopled with instructors, and the committee is largely invisible. Instructors are a major stakeholder group in gliding. Often motivated by seeing others bloom and thrive, instructors are the face of the club and bring a value that is broader than 'just' teaching. With leadership from the CFI, they carry a party line, and there is a command and control structure that forms the backbone of our valuable, no blame, safety culture. Once we're established in gliding, do we collectively take instructors and instructing for granted?

Secondly, it became apparent that there are many micro barriers for people attempting to 'break into' gliding, after they join a club. One of those is the language in use. Take two comments from male participants, people keen to support development who are in favour of increased female participation in the sport: "We're not resistant to change – if we identify what we need to do, we'll do it" and "We'll support

anyone, as long as they show us they're keen to fly".

Note how these positive and supportive statements contain threshold qualifications. The second one in particular was shattering because I can't remember a time when I haven't heard it and I know exactly what an instructor means when they say it. Imagine that you're new and still very excited about gliding – that statement begs the question "Will I ever be seen to be keen enough to be taken seriously?"

Everyone can take time to bring some attention to what is being said around the club, and how it is being said. Where are those little qualifiers? How are people reacting to what, and how, things are said? Could there be a better way of phrasing things? Real change will come as people challenge and review their current values and beliefs and begin understand where these mini-resistances may be coming into play.

Thirdly, there is a need to set and manage expectations. A fundamental issue in gliding is the amount of information acquired by osmosis. It does not have to be this way. During the workshop, participants discussed how to get new members established in the club so that they stay in the club. They suggested induction to build social bonds fairly quickly. Can someone at your club sit down with all new members as they join and talk to them about their aspirations? They should then explain what to expect in terms of time taken to train, their contribution to the process and where they can seek support if things aren't going as they expected.

Developing this idea further gave rise to the pilot development pathway, which also emerged from three other areas at the same sort of time. If we look at the pilot life cycle, we can see that we already have so many different pathways through the wide variety of gliding activities, especially when we consider that gliding is more than just the flying. At each of these stages is the opportunity to have another discussion and for further support, plus additional opportunity for the coaches.

As well as basic training, many instructors have secondary interests which could be developed into coaching specialisms. At their development discussion a pilot expresses an interest in improving their handling skills, so some aerobatic training is suggested with the one or two coaches who specialise in that. The coaches get to work with small groups of pilots to bring them on, feeding their need to see people develop. It also gives them a chance for teamwork, both within the club if numbers allow, and between clubs; there could be development sessions and training camps for groups of clubs.

Coaches could change specialisms over time, and ground school coaching could give roles to instructors having to take a break from flying on medical grounds. There is opportunity too for other pilots to get involved, especially as coaching doesn't necessarily involve two-seat training. The possibilities are endless, and developing these ideas in creative ways should make instructing and coaching more appealing to all pilots.

As an extra bonus, everyone will be able to make the most of your club's high quality training at all stages of their gliding, making your club a great club to join and remain part of.

Realistically, every pilot should be discussing their aspirations and plans at least once a year – including all the instructors and coaches. Why are you gliding? What do you want to get out of your gliding this year? Nobody needs to be pushy if their path is laid out. People taking an interest in one another's gliding and sharing experiences is a great way to strengthen social bonds, because gliding is so much more than just flying.

**Measuring progress**

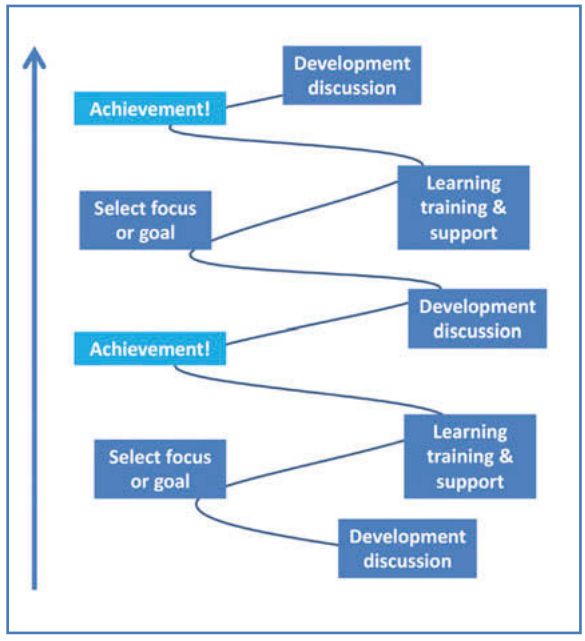
Two obvious measures that generate information slowly:

- members joining per month
- membership numbers at renewal.

However, tracking female participation can give a good indication about how inclusive your club is. Whilst confidence issues can affect anyone, there is some correlation between confidence and gender in that we know that women are more likely to amend their participation according to their confidence levels. If there is a sudden drop in women taking part, then perhaps 'something has happened' which is affecting people who don't feel able to speak out. Tracking female participation will help committees understand how they plan to take relevant action.

The response rate to all aspects of my investigation was well above usual research expectations and if you were one of the people who joined in, thank you!

**DEVELOPING THESE IDEAS IN CREATIVE WAYS SHOULD MAKE INSTRUCTING AND COACHING MORE APPEALING TO ALL PILOTS**




The development cycle

**Alison Randle has been a BGA Development Officer for 14 years. Although not a current pilot, she had her first flight at the age of seven and soloed in 1986 at Oxford GC. She took part in one Junior Championships and holds one Diamond. Alison has previously been club secretary at Dartmoor Gliding Society.**


While members slept, a brave few rigged early at the promise of spectacular wave at Aboyne. Iain Macdonald reports

SUNDAY 15 September was promising to be a day where Deeside Gliding Club (Aboyne) was to live up to its reputation as a prime site for wave soaring. Conditions did not disappoint as four club pilots had extremely memorable flights that day.

As the majority of the club slept it was clear that resident seasonal instructor, Jakub Hlavacek, had big plans for the day as he loaded the wings of the LAK 17A (owned by Roy Garden, aka Roy 2) with water at 5:30am.

By the time the sun crept over the horizon at 6:30am, Deeside Gliding Club began to come alive with activity. Roy Wilson (aka Roy 1) and visitor John Williams were also making preparations to make the most of the forecast wave.

By 7am, the air looking north-west of the club was looking extremely moist and doubts were being raised regarding the possibility of achieving any of the planned triangles. It was make-or-break time. Roy Wilson took the decision to launch at 8am in his ASH 31Mi, with Jakub launching very soon after.

Both Roy and Jakub had planned their 500km triangle: Loch Kinord – Killin – Tongue – Loch Kinord… quite a feat.

Roy reported tough wave in places, with the return home from Tongue to Aboyne at a speed of 190km/h, landing after five hours. Quite a blast!

Jakub reported an average speed of 87km/h for over six hours, being the sixth glider pilot to have flown there… more folk

THE

Roy Garden's LAK 17A ready for the day ahead


Bob Dunthorn and Iain Macdonald flying the club's Capstan


Soaring above clouds over Strathdon


Through the rotor and into nine knots up!

# EARLY BIRD CATCHES THE WAVE

have landed on the moon!

On a more modest scale, pilots Bob Dunthorn and myself, with a gliding experience ratio of 40 years: two years between us, had our own memorable flight in the club's 50-year-old+ syndicate Slingsby Capstan.

With the 'Top Gun' pilots already on course in the Northern Highlands, Bob and I launched at 1pm and took a marathon 15-minute aerotow behind the club's EuroFOX through 2,500ft of rough air to get into the wave. From the local 'hotspot' that is Loch Kinord, at 3,000ft we headed in a north-westerly direction seeking to make the most of the wave.

Tip-toeing in zeroes eventually transformed into +1 in a wingspan width of lift and, with patience and perseverance, we were sucked up to over 10,000ft at 8kts. Time to explore upwind. Capstan penetration can be a struggle at 20:1 and we were flying at above maximum glide to attain some decent ground speed. Jumping four wave bars we lost approx 2,000ft between bars. Each bar provided less lift, but we continued upwind to Tomintoul before returning to base after a flight of 2hr 20mins.

A fantastic achievement in the Capstan. Great views, fantastic experiences, great banter and great fun. This is what gliding is all about, isn't it?!

**BY THE TIME THE SUN CREPT OVER THE HORIZON AT 6:30AM, DEESIDE GLIDING CLUB BEGAN TO COME ALIVE WITH ACTIVITY**

■ TURN TO P36 FOR MORE PHOTOGRAPHS

## GREAT VIEWS, FANTASTIC EXPERIENCES, GREAT BANTER AND GREAT FUN. THIS IS WHAT GLIDING IS ALL ABOUT, ISN'T IT?

Iain Macdonald is a Deeside GC committee member with responsibility for junior development. He is a full-time secondary school Faculty Head of Mathematics and Computing, who loves to escape the classroom to soar the skies over Royal Deeside.

Another sound landing for the Capstan… making it to the end of the runway!

Jumping wave bars north of Ballater

Overhead the Lecht ski centre

# LONG OR SHORT, STILL TROUBLE!

Dave Salmon travels far and wide from Camphill, and returns with two trailer stories

"That's not my trailer either!" Cartoon by Ross Martin

**Retrieve one, France**

BACK in November 1988, three of us decided to go to Switzerland to look at a 19m Jantar and, hopefully, buy it. We decided to use my Jaguar Sovereign for the trip, but this was having a bit of wiper trouble, so I had it into the garage to get it fixed. We set off from Derbyshire on a Friday evening and all went well until half way to Dover, when the wipers stopped again. Eventually we made Dover and boarded the night ferry, but when we disembarked in France it was quite foggy.

As the wipers weren't working, the aircon had to be full blast onto the windscreen to prevent the fog condensing, and the sun roof open at night to prevent heatstroke. As daylight broke, the fog lifted and the rest of the journey was quite pleasant.

We bought the glider and set off back. In the middle of the night, in the middle of France, there was torrential rain. I was driving with no wipers with the window down and, having detached a blade, poking my arm out and giving the screen an occasional wipe with it. After half an hour of this we parked up, waiting for the rain to stop. Just after we got going again, a trailer tyre blew. We didn't have a trailer jack, but managed to use rocks and the car jack to change the wheel. Five kilometres later, at 6am, we found an open motorway service area, which fortunately had the correct size of tyres, so we had two new ones fitted.

The rest of the trip was uneventful, but I wouldn't want to repeat that 1,800 miles in 48 hours again.

A tragic sequel was that six months later, one of the partners was washed away in a flash flood, trapped under his car and drowned.

**Retrieve two, Scotland**

ABOUT eight years ago, a group of us were on our annual trip to Portmoak, with several gliders. On the last day it was soarable, but not that good, and one of the party managed to land out in his Discus 2. He had forgotten to take his phone and all we got was a message that he had landed near a certain village about 12 miles away.

So off we went to the line of trailers, to find the Discus trailer. We opened it up to make sure there is nothing in it – not going to be caught out by that one! – and set off to the village. As we couldn't speak to the pilot for the aforementioned reason, it took over an hour of searching to find where he was.

We drove into the field, only to be greeted by "That's not my trailer!". How ungrateful can you get?

We politely pointed out that things might have gone much better but for his memory lapse, and so off we went back to Portmoak to find the right trailer. Despite diligent enquiries, we never did find out who owned the trailer we had borrowed, so were unable to apologise.

**I WAS DRIVING WITH NO WIPERS WITH THE WINDOW DOWN AND, HAVING DETACHED A BLADE, POKING MY ARM OUT AND GIVING THE SCREEN AN OCCASIONAL WIPE WITH IT**

■ Do you have a landout story – from heaven or hell – that *S&G* could include in this series of retrieve tales? Please send it to *editor@sailplaneandgliding.co.uk*

# WEATHE

## SkySight's Matthew Scutter explains how a rare weather phenomenon scuppered the Perlan Project's latest record attempts in Argentina

ONCE again, in August 2019, I found myself folded twice in the seats down the back of a budget airline for 18 hours, zipping down to Argentina with the Perlan Project for another crack at 90,000ft.

The backstory for those living under rocks: Perlan 2 is a research project to fly a glider to 90,000ft using mountain waves propagating to the stratosphere by virtue of a weather phenomenon known as the "Polar Vortex", which my company, SkySight (*https://skysight.io*), supports with weather forecasting services.

The Perlan team had been down there for several weeks already, but was beset by delays – someone had found a few tonnes of cocaine on the container ship the Perlan 2 glider was loaded upon, and now everything was getting rechecked with a fine tooth comb. This cascaded a series of missed connections that left the team twiddling thumbs on the ground watching stunning wave systems dance above them.

I arrived about the same time as the glider, so I was feeling good to have not missed too much of the action. I'd been eyeing at the longest range forecasts we run before leaving and it seemed to be turning pretty bleak for the foreseeable future. Fat high pressure systems and still air above, all the way to 50,000ft, for over 10 days to come.

No one thought too much of it, not as anything other than a lull between fronts at first, but as


# R CHAOS

**Matthew Scutter is a glider pilot from Australia, previous Junior World Champion, six time Australian champion and frequent Worlds attendee. He has flown six 1,000kms and one 1,250km in his Discus 2 from his home in South Australia. He left his job as an engineer at Google to work on SkySight in Europe full time**

Perlan 2 soars with rare stratospheric Perlan clouds (Perlan Project)

**WITHOUT A STRONG POLAR VORTEX, WE WEREN'T SEEING THE WIND SPEEDS GETTING WHIPPED UP TO THE PACES OF PREVIOUS YEARS**

Below left: Figure 1 – wind speed and direction model validation. Blue = weather balloon, Orange = SkySight weather model.

Below right: Figure 2 – weather balloon trace, clearly showing wave influence as it drifts downwind

as the days went on the long-range forecasts never seemed to improve. It was about this time I started to pick up some tidbits from weather chat groups and meteorologist blogs that some very strange events were happening in the Antarctic atmosphere – what came to be recognised as a Sudden Stratospheric Warming event.

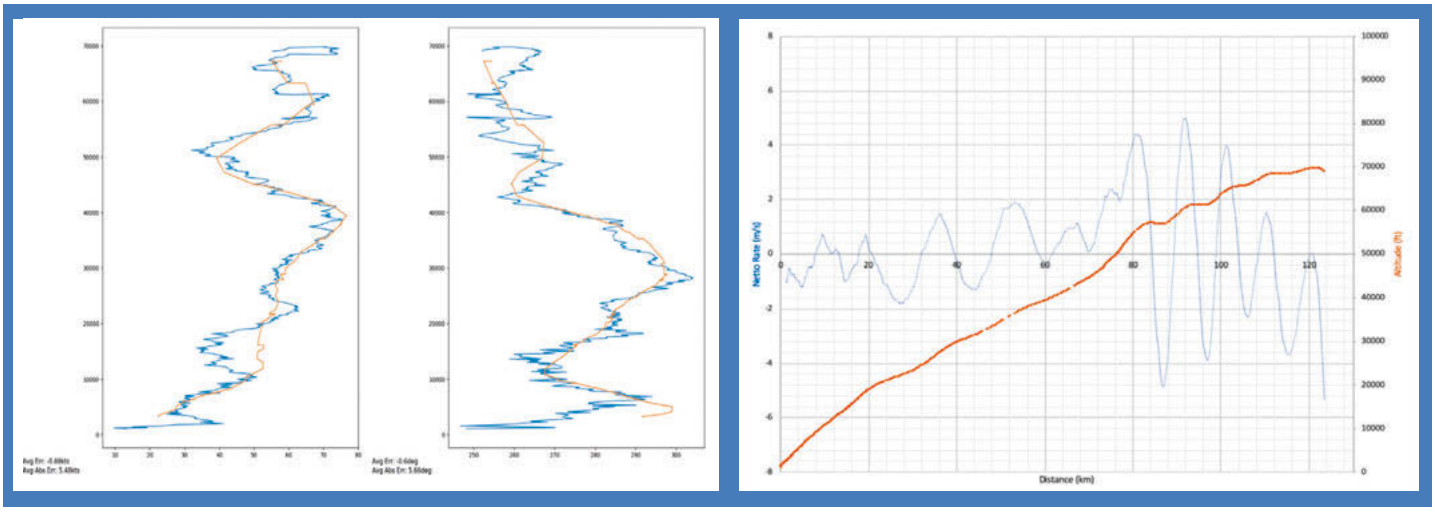
Sudden Stratospheric Warming events (SSWs) are when, for any number of difficult to understand and predict reasons, the polar vortex (the pool of rapidly spinning air at the top and bottom of our planet) is disturbed and mixed such that it rapidly warms up by 40-50°C.

This can have chaotic effects, perhaps knocking the whole vortex off centre, slowing it, collapsing it entirely, or even reversing it. The 'downstream' effects often become weather systems with names (never a good sign), like the "Beast from the East" in 2018, which formed out of a SSW.

These are relatively common in the northern hemisphere (more so as of the last decades, plausibly connected to climate change), which saw three major events in the last 10 years.

In the southern hemisphere, they are much rarer – the first southern SSW event was recorded in 2002, and there has only been one minor event since.

At first there was a bit of uncertainty about whether it was really happening – observations are sparse from this part of the world, and no one seemed to have formally 'called it', but within a week climate scientists were publishing about it and we all knew we were in big trouble. Without a strong polar vortex, we weren't seeing the wind speeds getting whipped up to the paces of previous years and subsequently dragging the lower levels around with it for a nice clean wind gradient. Once the system has collapsed for the season, it won't come back (or at least not with sufficient vigour), so in retrospect for this season it was all over



before we'd even begun – all from one of the rarest phenomena possible.

For a record flight, we really needed at least the upper two of tropospheric, stratospheric, and mesospheric winds to align with a good wind gradient. With the Egrett the Perlan 2 can just tow to the stratosphere and climb from there, but, without the polar vortex above, the good wind gradients we were seeing were only in the range of 40-60,000ft.

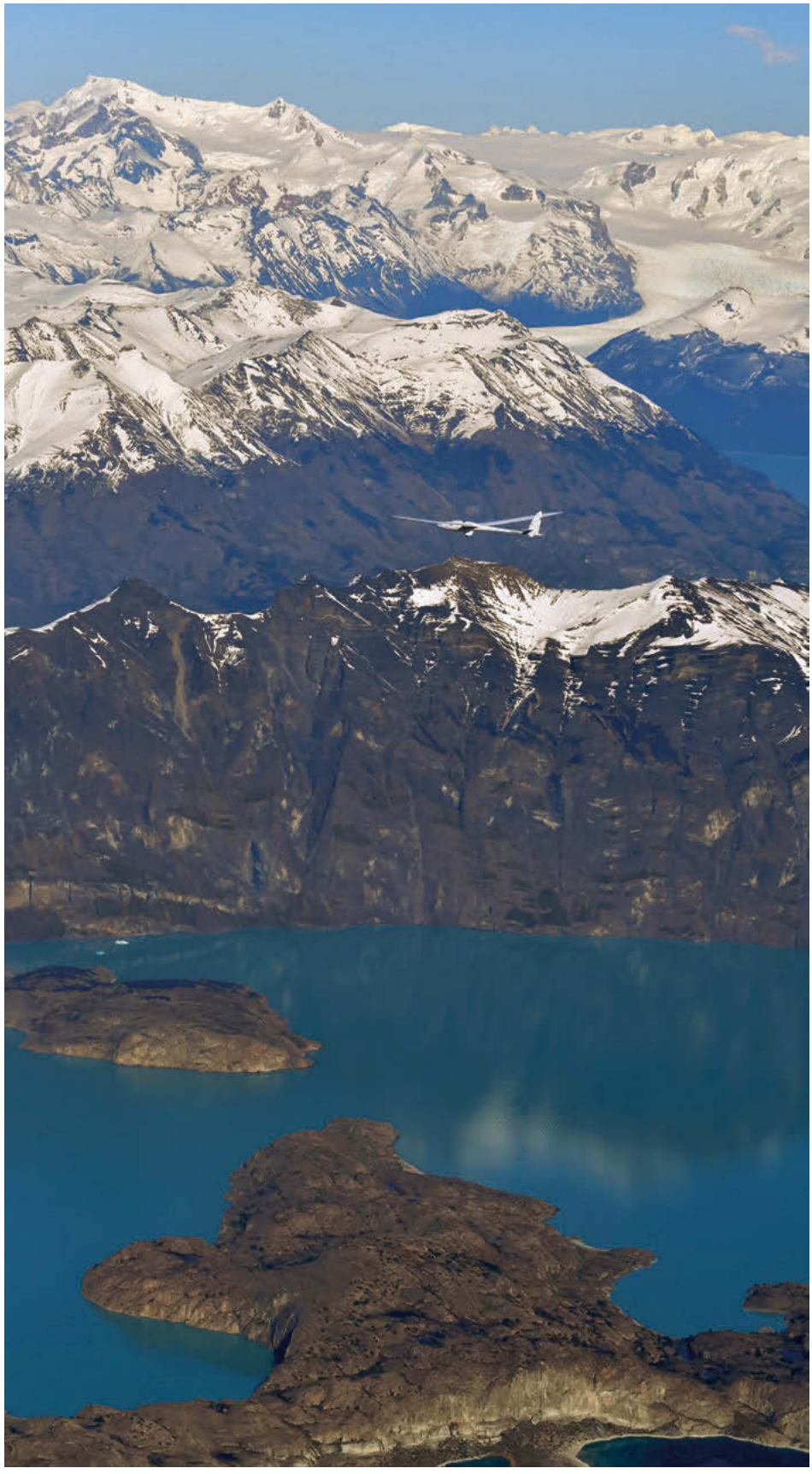
The upper level wave was likely still functioning, but weak and impossible to transition to through the areas of poor wind gradient from 60-80,000ft. We actually had proof that it was still working above – for the first time, we saw lenticular nacreous clouds above the glider whilst in flight, we suspect at approximately 80,000ft.

Clouds forming at these altitudes are not normal clouds – there is approximately zero moisture at these levels, so the air must be extremely cold (-80°C), or composed of nitric or sulfuric acid. These are very interesting from a science perspective because of associated chemical reactions that cause ozone depletion.

So, without great wave conditions, time was spent firming up the glider's aerodynamic limits with more test flights, including what I suspect is the highest ever polar test flight, with an aerotow to 45,000ft for a sled ride at various airspeeds in still air. I spent a lot of time this trip trying to validate the models against the balloon and glider data. One of the big focuses with SkySight last year has been improving the automatic validation systems of our modelling – so it was not too difficult to feed in these new data sources. It's quite remarkable how close the models manage to get from the very sparse observations fed into them in South America (fig 1). Particularly fascinating about the balloon data was the ability to actually observe the influence of the wave on the weather balloon 50km+ downstream. We would see consistent +/- 5m/s changes in the ascent rate of the balloon, sometimes even going down (fig 2).

What will happen in 2020? I don't know – the glider is ready for the record, the team is chomping at the bit, all that's missing is a bit of weather (and a few million dollars)! Funds will be tight for another year, but here's hoping the sponsors will dig deep for another crack at a mission unlikely to be repeatable in the foreseeable future.

You can read more about the Perlan Project at *https://perlanproject.org*



A pre-wave flight for the Perlan 2 in El Calafate during August 2019 (Perlan Project)

■ TURN TO PAGE 42 FOR INTERVIEW WITH PERLAN'S CHIEF PILOT JIM PAYNE

# ›PERLAN CHIEF PILOT JIM PAYNE

Herrie ten Cate shares an interview with Jim Payne from episode #6 of gliding podcast The Thermal

Jim Payne is chief pilot of the Perlan Project. Jim was awarded the 2001 Lilienthal Medal winner (highest award given by the FAI for gliding) and is a member of the Soaring Hall of Fame. He has set 17 world soaring records and over 95 national records.

**LAST YEAR THE WIND SPEEDS AT 65-70,000FT WERE RUNNING IN THE ORDER OF 150 KNOTS. THIS YEAR IT WAS MORE IN THE ORDER OF 90 OR 100 KNOTS**

IN EPISODE #1 of The Thermal, we heard from Perlan Project Chief Pilot Jim Payne about the work being done in southern Argentina, where they're exploring the Antarctic wave system. In 2018 the team smashed the world altitude record for gliders… getting to 76,124ft.

Their goal is to reach the edge of space and study how giant stratospheric mountain waves impact our planet's weather.

Mission 1 proved that the highest mountain waves could open the door to the edge of space for gliders.

Mission 2 wrapped up earlier this fall. I reached Jim Payne at his home in Minden, Nevada.

**HtC:** ***Hello Jim, Good to speak with you again. When we spoke in the spring, there were high expectations going into the 2019 season. How did things work out?***

**JP:** Well, everything worked out very well except for the weather.

**HtC:** ***Right…***

**JP:** The sailplane flew very well and, in fact, we came back without any mandatory upgrades on our shopping list. The polar night jet suffered something they call Sudden Atmospheric Warming. It happened in 2002 and a small one in 2010 in the Southern Hemisphere. Apparently, it happens on a regular basis in the Northern Hemisphere. But the effect is when the upper atmosphere warms… the polar night jet or the polar vortex that we need to create the strong winds in the stratosphere…

**HtC:** ***Right.***

**JP:** It causes the winds to die off. And when the winds die off, the wave doesn't propagate as well as it did, say, last year. We did fly to 65,000ft, which is the third highest glider flight ever. And in a normal campaign that would be considered an excellent success. But since we were trying to get higher than that for us it was… hate to use the word disappointment because everything went so well… we can't complain about the support the Argentines gave us, can't complain about the sailplane.

**HtC:** ***But it's not all about getting height records… you're also doing scientific research.***

**JP:** And actually, because of the sudden atmospheric warming, we gathered a lot of data that should be helpful to the scientists. We had weather balloons. We were able to launch 29 individual weather balloons, spaced out over a three-week period. And from these balloons we have temperature and wind profiles, humidity profiles at high altitude and that data should help scientists better understand this Sudden Atmospheric Warming phenomenon.

**HtC:** ***This is one of the few corners left in the meteorological world that the scientists and boffins don't understand… so this work is really helpful…?***

**JP:** Absolutely. In fact, there are very few weather observations that far south. The only landmass at 50 degrees south is basically Southern Argentina. And that's one problem with the models. All of the models that the scientists have developed for modelling the weather and the climate, they're all based on initial conditions. In the Northern Hemisphere, where there are many, many observations, the models – at least the weather models – have been very good. In the Southern Hemisphere we would look at the model data and compare it with the satellite pictures; one day the low-pressure system was 400nm different from what the model was showing based on the satellite photo.

**HtC:** ***Now this Sudden Atmospheric Warming… last year, the conditions were like a fast up elevator and this year it's an escalator. Is that a good analogy?***

**JP:** That's a very good analogy. And it doesn't go nearly as high. For instance, the flight to 65,000ft this year, it took us over four hours to get to 65,000ft. It was a very slow climb. Where last year, we were averaging 800ft to 1,000ft per minute. So, a huge difference and the big difference was the wind speed. Last year the wind speeds at 65-70,000ft were running in the order of 150 knots. This year it was more in the order of 90 or 100 knots.

**HtC:** ***Does that make it easier or more difficult to stay in the lift?***

**JP:** Well, our true airspeed goes up as we gain altitude, so we're still flying at a low indicated airspeed. In terms of climbing, I prefer the stronger winds because of the stronger lift.

**HtC:** ***You had a number of improvements made on the aircraft… how did those work out?***
**JP:** They were excellent. The biggest improvement was the instrumentation system. Last year, we were using a laptop to record our flight test data. And, at the most critical time, the laptop died on us.

**HtC:** ***I can't imagine re-booting at 70,000ft…***
**JP:** Exactly. This year we had an on-board recorder that recorded all the data that was on the data bus from start-up to landing. So, we captured a lot of data. There was one day where the winds were forecast to be nil all the way to 40,000ft. We actually took a tow on that day, so we could get glide performance data on the descent. And, all the way down, the winds were less than five knots. So, we gathered a whole bunch of great information on the performance of the airplane.

**HtC:** ***Now those minor winds in that part of the world… that's extremely rare?***
**JP:** Exactly, especially at altitude.

**HtC:** ***I read that you also have a new window defrosting system…***
**JP:** We modified the plenums. We call them the 'eye' window… the two windows on the front. Those are critical windows for take-off and landing. We basically have a plenum there, which is sealed off, and we have some small electrical heaters in there with small fans on them to circulate the air and that was another big success. We're now able to keep the windows on the front pretty well frost free.

**HtC:** ***I understand you now have a back-up camera on the main wheel as well?***
**JP:** Yes, although we don't really want to rely on the cameras. And we've always been able to clear the windows before landing so we didn't need to use the camera for landing, but it is nice to have it there. It gives us another view.

**HtC:** ***I saw a photo of a new air scoop that looks like a plastic water bottle. What's that all about?***
**JP:** It's kind of interesting. We dress so that we can stay warm at altitude and even though it may only be a few degrees above centigrade on the ground… because we're dressed warmly, we kind of overheat early in the flight. What we do is… we take-off unpressurised and we lower the rear hatch so that there's a small gap. And we put in this plastic water bottle which has been cut to form a scoop so that it circulates air in the cabin during climb out. At about 12,000ft what we do is we take the scoop out and push the rear hatch up. The front hatch is already sealed, and the air is just trapped in the cabin. That's our initial pressurisation. By the time we get to 14-15,000ft, we have a good differential between the inside and the outside. And then we just turn our pressurisation system on and, from then on, it keeps the cabin altitude where we want it.

**HtC:** ***But in the end, a cut-up plastic water bottle has helped you maintain the environment you want in the cockpit…***
**JP:** Absolutely. When it's cut right, I get a little breeze and it feels good when you're warm.

**HtC:** ***One of those little things, but it works…***
**JP:** Amen. You got it.

**HtC:** ***Is there a particular moment that stands out from this season?***
**JP:** I think our height flight when we got to 65,000ft just because it was a challenging flight and the lift wasn't very strong. So, it required good piloting technique and it required good cooperation with the folks on the ground. They're seeing satellite pictures and other information that we're not able to see in the cockpit.

**HtC:** ***What are the plans for next year (2020)?***
**JP:** well, for this next season we need to raise a little bit more money to cover all the costs, so it will really depend on funding. We will try some flights in the Sierras this year since the airplane won't be down for any upgrades. So, if we have a good day… probably down towards Indian Current, which is north of Mojave. We'll go down there and try a high flight. We wouldn't expect to get much above 50,000ft in that area just because the winds die off at that latitude once you get above the tropopause. But there would be potential to claim the North American altitude record.

**HtC:** *Fundraising… everyone is a volunteer with Perlan. What's the best way for people to donate?*
**JP:** Best way is to go to our website… *perlanproject.com* and there's a link in there where you can make a donation. And if someone wants to be a major sponsor… contact our CEO, Ed Warnock, and we'll be more than happy to work with them.

**HtC:** *Well Jim, safe flying and hopefully you can break that North American record… we'll be watching.*
**JP:** Thanks, Herrie.

American pilots Jim Payne (right) and Tim Gardner following the Perlan's 76,000ft flight in 2018

■ This interview featured in episode 6 of Herrie ten Cate's Thermal Podcast, in November 2019. The Thermal is a monthly podcast devoted to gliding. You'll hear about the latest cutting-edge sailplanes and technology. Plus gliding safety, instructing, gliding history, pilot interviews, towing, winching and a whole lot more. New podcasts will be released the first Saturday of every month. You can listen to past and upcoming podcasts at: *http://thethermalpodcast.libsyn.com*

# NEW SAILPLANE LICENSING RULES

BGA CEO Pete Stratten reports on a simpler approach to EASA pilot licensing

Wrekin's Geoff Matthews and student Jake Knowles. Instructing is an SPL add-on privilege

**THE SFCL RULES RESULT IN A SIMILAR STRUCTURE, LEADING TO A SAILPLANE PILOT LICENCE (SPL) WITH VARIOUS OPTIONAL ADD-ON PRIVILEGES**

SAILPLANE Flight Crew Licensing (SFCL) is the new, simpler EASA sailplane licensing ruleset which, for us, replaces the existing complex EASA FCL rules in April this year. What hasn't changed is that all qualified glider pilots flying EASA sailplanes (including powered sailplanes, which include TMGs) in the UK will need to have an EASA licence from 8 April 2021.

Even though the UK is leaving the EU, we will continue to operate under EASA rules: either EASA will be included in our deal with the EU, or the Government will copy/paste existing EASA rules into UK law. The UK law might be changed later, but don't hold your breath!

The new EASA rules are an improvement on the old ones and, while having to apply for a licence feels like a nuisance, after that it won't make much difference to most glider pilots.

Under the current self-regulated BGA systems, glider pilots are trained and assessed at clubs and issued with a pilot certificate with endorsements. The BGA Bronze and Cross Country Endorsement is equivalent to the ICAO glider pilot licence standard. Endorsements for cloud flying, aerobatics, etc, and instructor ratings can be added. Currency is expected. Medical fitness can be self-declared under the BGA system.

The SFCL rules result in a similar structure, leading to a Sailplane Pilot Licence (SPL) with various optional add-on privileges, including instructing. An SFCL SPL may include self-launching and TMG privileges. Currency is required. Note that there is no LAPL(S) under SFCL. SFCL SPL privileges can be used with either a LAPL medical or Class 2 medical. Discussions are ongoing regarding the retention of self-declaration medicals for recreational pilots operating in the UK.

**The timeline for SFCL implementation is as follows:**

- The BGA systems continue until 8 April 2021, even when operating an EASA sailplane.
- Until 8 April 2020, the CAA can continue to convert to the existing Part-FCL LAPL(S) and SPL.
- From the 8 April 2020, the CAA can issue Part-SFCL licences. Almost all will be conversions from both BGA and Part-FCL systems. Where flight and theoretical knowledge training is for licence privileges, the training must have been completed under Declared Training Organisation (DTO) rules.
- From 8 April 2021, all licences and training will be in accordance with SFCL and DTO requirements.

As previously reported, glider pilot licence conversions have been under way for some time. Pilots who meet the conversion requirement, ie hold the BGA Bronze with Cross Country Endorsement, need to convert to an SPL by 8 April 2021. While the BGA office will process your conversion application promptly, our experience is that the CAA licence processing can take time. Our strong recommendation to pilots is to complete the licence conversion process during 2020.

The BGA has been trialling use of DTO rules for some time. We will be engaging with clubs during 2020 to support a 'DTO transition', which will result in a differently structured approach to pilot training and the supervision of non-licensed pilots. DTO rules will have no impact on licensed pilots other than when they choose to undertake any further training to which the DTO rules apply.

We will be publishing full details about SFCL on our website as soon as the final text is available from EASA. Meanwhile, you can read more about pilot licensing, including licence conversion, at *https://members.gliding.co.uk/pilot-licensing/* Please keep an eye on *BGA news* for latest updates.

# WEATHER GODS SMILE ON AEROS

Fox, vertical down at Lasham Nationals

## National aerobatics coach Paul Conran reflects on a full season of competitions

THE weather was kind to us in 2019 and we were able to complete all three of our scheduled domestic competitions.

The **Dan Smith Memorial Trophy**, staged in April every year at LGC, Dunstable, was fought over by only four competitors, the lowest number in a competition for quite some time. The nature of this competition is designed so that everyone flies at the fairly basic level of Sports, regardless of the skill set of the more advanced pilots. The trophy cannot be won, however, by a pilot used to competing at a higher level.

A run of easterlies had given a lot of low cloud and some very strong winds on the few days prior to the competition, but on the Saturday, with a brisk north-easterly and good blue patches between showers, contest director Andy Cunningham managed to get the job done. Congratulations to Daniel Weston, who won the trophy and the Gold medal. Silver went to Symon Bartus (Lasham) and Bronze to Sally Walker (LGC).

The **Saltby Open Trophy** competition held in July is, as the name suggests, fought over at Saltby, courtesy of Buckminster GC. There were eight contestants over four levels in this competition. Again the weather was good on the Friday and, with a poor forecast for the following two days, all flights were completed on the one day.

Once again Dan Weston flying at Advanced proved supreme, with Paul Jennings flying at Sports the runner up. Julius Carter, now flying at Intermediate, came in third. Will Jones and Joel Hallewell flying in their first competition at Unlimited did well considering the inherent difficulties. Carl Cox said goodbye to Advanced level with a flawed performance, but now seems more comfortable at Unlimited, at which he did well at the subsequent nationals. Our thanks to BGC for their now famous hospitality.

The **Glider Aerobatic Nationals** was flown at Lasham for the first time. A field of nine pilots took up the challenge. The first day was a write-off on account of low cloud and generally poor weather, but the following two

days were blue and magically Mediterranean. Two long days, starting with a 7am breakfast and ending near sunset on the second day, gave us an exciting and full competition with 35 competition flights flown.

The contest centered on Unlimited, which produces the all-out British National Aerobatic Champion. In this class we were joined by Eric Lentz-Gauthier from America, someone who is not unused to the podium at World Championships and someone who has helped us during the year with our training. The class was won by Will Jones (now National Champion), with Eric as the runner-up. Carl Cox won the Bronze medal with a very creditable performance in his first comp at Unlimited. Joel Hallewell, unable to get in the practice on account of 'A' levels, etc, followed not far behind.

Three pilots competed at Advanced level, where Dan Weston was the hot favourite. In the event he was pipped at the post by Dave Gethin, flying for the first time at this level and for the first time in the Fox – an outstanding performance.

Bruce Cooper flew well at Intermediate as did Paul Jennings at Sports. Sam Stevens (14) flew remarkably well at Club Class and our eyes are on him for the future. Our thanks go to Lasham GS for their generous hospitality and forbearance. We hope to be welcomed back there in the future, notwithstanding the new airspace restrictions.

Looking forward to the 2020 season, it is anticipated that we will be able to send teams at both Unlimited and Advanced to the World Championships in Lezno, Poland.

■ **Our thanks go to our sponsors, LX Pilot Supplies, for their kind and continuing generosity and to Maz Makari for the generous loan of his MDM Fox.**

■ **Dates for 2020:**

- **Dan Smith, Dunstable, 4-5 April**
- **Saltby Open, 10-12 July**
- **Worlds – Poland, 22 July - 2 August**
- **Nationals, Saltby, 3-6 September**

*Facing page, left to right:*
Dan Weston at the Nationals

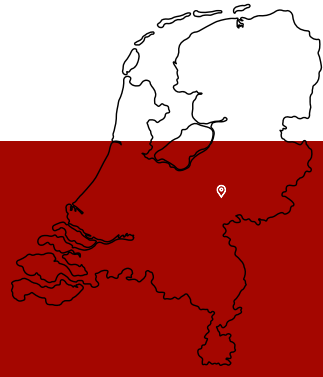
Quarter roll on the down line

*This page, left to right:*
Inverted

Unlimited team: Joel Hallewell, Carl Cox and Will Jones

**TWO LONG DAYS, STARTING WITH A 7AM BREAKFAST AND ENDING NEAR SUNSET ON THE SECOND DAY, GAVE US AN EXCITING AND FULL COMPETITION**





# PATH

## Supporting individual pathways was a key theme at the BGA Club Management Conference. Alison Randle reports

AT OUR wash-up meeting immediately after the event, one of the people facilitating a session said "you can't shut them up!". As ever, it was the bits in between the sessions that were the most valuable – 175 delegates from 45 clubs finding things out from other delegates and swapping ideas. This is the most rewarding aspect of this event that I'm fortunate to co-ordinate on behalf of the BGA Development Committee.

The perennial conundrum facing Bill Brittain, committee member of both the BGA Development and BGA Executive Committees, and I earlier this year as we began to plan the agenda for the 20th BGA Club Management Conference: how to cover all the topics and leave space for the chat? By melding ideas from clubs and BGA volunteers and staff, we eventually found a format for the annual conversation around participation and retention. In one of our irregular discussions, BGA Chairman Andy Perkins summed it up by saying "it's about developing a set of facilities the community needs, but more importantly, developing a sense of belonging – that's what brings people back together and helps them stay in the sport".

Much of the day was based on a concept that could be fundamental to understanding and supporting participation and retention: the 'pilot development pathway'. What does yours look like and where is it going? Have you talked to anyone about your aspirations? Go on, share some ideas and start a conversation.

Early in the day, Tim Freegarde, Mike Fox and I presented the evidence and benefits for supporting everyone with their individual pathways, and this formed a foundation for many sessions in the break-out forums and later in the day when all delegates reunited for a session on strategic planning. We wanted to encourage more clubs to stand back and take time to develop some practical strategic plans, and to develop their skills of shamelessly pinching ideas from other clubs.

Herefordshire, in their response to various setbacks, have been doing that to good effect over the past 10 years

# TO DEVELOP

## CLUB MANAGEMENT CONFERENCE 2019

and, in doing so, bagged the 2019 BGA Good Practice Award. Applications are open for the 2020 Award – see the BGA website for details.

In all, eight clubs stood up to share their experiences in the main conference room this year. Many more did so in the Juniors' Conference and the forum meetings for CFIs and treasurers, which with their smaller numbers are structured to facilitate information sharing and workshopping of ideas between peers. Gordon MacDonald ran a separate session for club technical officers.

Recently I spoke to one club delegate, a few months in to their first key club management role, about their club's future training needs. Discussion got round to life since the conference. The conference had given two things in particular: confirmation and optimism that they aren't alone and they are getting many things right, although some areas need attention. It was good to find out that their problems are shared by many other clubs and it very helpful to hear about other clubs' specific developments.

It was particularly useful to hear about the views of juniors and how they are keen to get involved with a wide range of ground-based gliding activities. This has since been confirmed at their AGM and new training is being put in place to support juniors in gaining new skills.

In Yorkshire, several clubs have been working on STEM community projects with local colleges and The Air League. Our guest speaker this year was Tiina Conacher, head of programme delivery at The Air League, who, together with Dave Latimer, described how the project had worked. Gliding clearly has many benefits for local education. It is too easy to forget what a valuable facility a gliding club can be for the local community. A well-structured project, with the right partners, can bring benefits to the gliding club too.

In addition to important updates from Tim Freegarde (safety) and Gordon MacDonald (airworthiness rule changes), there were a couple of sessions looking at reframing ideas in areas of latent potential. Pete Stratten discussed the concept that 'all glider pilots can be instructors…(?)' and Dave Latimer, together with input from Allen Cherry of Essex GC and Peter Joslin of Cambridge GC, discussed simulator developments.

Following the recent simulator symposium at Yorkshire GC, Dave Latimer has set up a Slack group to help clubs share ideas and developments for more effective simulator use. Please contact Dave to join it. These two areas, together with community partnership working and the ideas floated in the pilot development pathways session should prove fertile ground for our ever inventive clubs to get their teeth into.

No doubt their ideas will feed the development of corresponding BGA resources. We look forward to sharing the emerging ideas at next year's conference.

■ Postscript: several clubs have already been in touch with relevant parts of the BGA to ask questions and get support to help bring their ideas and plans to fruition. People holding club management roles should already have been given access the presentations and other materials – if you have missed that information, or have any other questions, please email *alison@gliding.co.uk*

**THANK YOU TO:**

■ For their support and contribution to the day: Bill Brittain, Paul Jessop, Stefan Bort, Mike Fox, Colin Sword, Helen Fraser, Pete Hibbard, Danny Richmond, Debbie Carr, Lizzie Pike, Luke Walker, Dave Latimer, Diana King, Alison Randle, Gordon MacDonald, Susan Newby and Pete Stratten.

■ Guest speaker Tiina Conacher from The Air League. The presenters and others behind the scenes, who have contributed information; many are already busy volunteers and, without them, the conference would not be possible.

■ Conference photographer Paul Morrison.

■ Finally – the delegates who gave up their time and contributed to the day.

■ The 2019 Club Management Conference was held on 17 November at de Vere Staverton Estate, Daventry.

### CLUBS REPRESENTED AT 2019 CONFERENCE

- Anglia
- Banbury
- Bath, Wilts & N Dorset
- Bidford
- Bognor
- Borders
- Bowland Forest
- Bristol & Gloucestershire
- Buckminster
- Burn
- Cambridge
- Cotswold
- Darlton
- Derby & Lancashire
- Devon & Somerset
- Dorset
- Dumfries & District
- East Sussex
- Essex & Suffolk
- Essex
- Herefordshire
- Kent
- Lasham
- London
- Mendip
- Midland
- Motorglide
- Nene Valley
- Norfolk
- North Wales
- Oxford
- Oxfordshire Sportflying
- Peterborough & Spalding
- Scottish Gliding Centre
- Shalbourne
- Shenington
- South Wales
- Staffordshire
- Stratford On Avon
- Surrey Hills
- The Gliding Centre
- Trent Valley
- Welland
- York
- Yorkshire

■ **TURN TO PAGE 50 FOR MORE CONFERENCE NEWS**

Buckminster CFI Lyn Ferguson-Dalling highlights how achievements have been revolutionised

## THE CFIs:

WITH the conference theme being 'pilot pathways', it was a pleasure to welcome the CFI of Buckminster, Lyn Ferguson-Dalling to chat about how responding to the individual pilots' needs have revolutionised the achievements at the club. Helen Fraser ran a session about how CFIs can identify, attract, develop and retain instructing talent. Colin Sword identified the lessons that can be learnt from a Red Arrows' accident report, including providing consistent, ongoing pilot development. Andy Miller chatted about developments in EASA examining and Tim Freegarde filled us in on hot safety topics, including supervision and aerotowing. Pete Hibbard popped in from the Juniors Forum to give, and listen to, some feedback and I filled in the gaps. A very full and interesting forum with plenty of lively debate and information flowing both ways. Thanks to all for a great conference and all our amazing CFIs. **Mike Fox**


The Air League's Tiina Conacher was guest speaker, highlighting STEM community project success stories (Pete Stratten)

## CONFERENCE PHOTOGRAPHY BY PAUL MORRISON

Forty-five clubs were represented at the conference

**I FOUND THE WHOLE DAY VERY INFORMATIVE AND WELL COORDINATED. I NEVER FELT MY ATTENTION WAVERING**

Joey Beard (left) chats with Liz Sparrow

Tim Freegarde points out important safety updates

Gordon MacDonald (left) briefs delegates on airworthiness rule changes

**AS EVER, VERY ENJOYABLE AND HIGHLY RELEVANT. MANY THANKS FOR ALL THE HARD WORK IN ORGANISING AND RUNNING. OUR JUNIOR REP CAME BACK BUZZING!**


Above and below: welcome opportunities to network

Andy Davis with BGA Chairman Andy Perkins

**GENERALLY EXCELLENT EVENT, AS USUAL. THANKS TO ALL WHO ORGANISED IT**


**OVERALL VERY GOOD AND GREAT TO GET TO MEET CONTEMPORARIES FROM THE GLIDING COMMUNITY**

Tim Freegarde presents evidence and benefits for supporting all glider pilots with their individual pathways

**FIRST TIME I'VE BEEN. I'LL DEFINITELY COME AGAIN, IF POSSIBLE**

## THE JUNIORS:

AT THIS year's conference we talked through the support and development framework from 2018 and then focused our discussions on the future of gliding and what the juniors wanted to get out of it. We had a lot of ideas come forward for STEM and careers events that people would like to see. We talked about the role juniors play within their clubs and that they would like to see this increase. For more information about junior gliding events, please see our Facebook page or email *ukjuniorgliding@gmail.com*

**Peter Hibbard**

Peter Hibbard leads discussions with UK juniors


*This page:*
❶ Flight safety starts at a young age at Cranwell Gliding Club. Alice Watson, aged 13 ½ months, takes a keen interest in safe launching (Miriam Watson)

❷ A new day for Cairngorm's Robin as she prepares her morning routine (Stewart Hills)

❸ G-BUFR, flown by Dave Unwin and Lucy Wootton during the Loughborough Students' Union Gliding Club Freshers' Weekend at Buckminster in October 2019 (David Edwards)

❹ Who nose what is going on here at Denbigh? Do send in your suggestions! (There may even be a prize for the best caption.)

*Facing page:*
❶ Wrekin's CFI Ian Gallacher and student Josh Flood make the most of a trip in wave over Shropshire

❷ A ghostly presence in the autumn mist near the Remembrance Memorial at Borders GC, formerly RAF Milfield and home to Fighter Training Units between 1941-1946

❸ Morning greetings from some friends on the road to Feshie (Jordan Thomson)

❹ A jubilant Alex O'Keefe, of Rattlesden, at the top of his Diamond height climb

❺ K-13 at Dartmoor Gliding Society (Ed Borlase)

❻ An 'emergency exercise' was recently set up by Booker CFI Richard Crockett in collaboration with the airfield safety officer. An amazing fake turbo was knocked up by Graham Saw out of an After Eight tin, a paper coffee cup and some other odds and ends, plus, of course, one of the smoke canisters from his aerobatic display kit (Richard Crockett)

■ Our thanks to all the photographers and to our *Club News* contributors for sending these in.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■ Kieran Hogan (centre) is pictured with Burn instructors Dave Bellamy (left) and Alastair Mackenzie after his first solo. Kieran, 24, has had an interest in flying since a very young age. He remembers his favourite part of holidays as being the flights. He recalls when he was invited onto the flight deck of a 747 to look around and talk to the pilots. That experience sparked his ambition to become a commercial pilot. He took up gliding as a first step to gain some basic flying experience and will be well on the way to fulfilling his ambition after completion of the Ryanair 16-month training programme he begins in February 2020.


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FEB/MARCH 20 _VOL71 NO1

# CLUB NEWS

**BANBURY (HINTON IN THE HEDGES)**
**WWW.BANBURYGLIDING.COM**
**5204355N 00118784W**
A SUCCESSFUL AGM was held on 9 November. Flying awards went to Josh South for Best Ab-initio, Simon Ducker for Best Attempted Cross-Country, Paul Waghorne for Most Promising Pilot, Dave Bramwell for the Fastest Flight from Hinton and Pete Nicholson for the Best Flight from Hinton. Club awards also went to Simon Ducker as the 'Unsung Hero' and Mick Boasman for his significant contribution in moving the club forward. We are looking forward to the new year with planned, multiple expeditions, soaring weeks in May and August, plus a dedicated friends and family day. There will also be planned weekday flying days in association with our trial lesson sessions and those triggered through our mid-week flying group.
**Peter Fincham**

**BANNERDOWN (RAF KEEVIL)**
**WWW.BANNERDOWN.CO.UK**
**511858N 0020631W**
MAX Gould, one of our newly-solo juniors, converted to the K-18. The winter maintenance programme began with the LS8 and K-21s getting first slots. The pub Christmas meal was well attended. Jon Arnold was part of the RAFGSA team at the 30th International Military Gliding Competition at the Brazilian Air Force Academy, finishing third with Capt Lery. Preparations continue for the 2020 Inter-services Regional Gliding Competition at the end of August, all welcome. As well as the 'hot ships' we are hoping for a larger training two-seater contingent this year, so if you have some pundit pilots in your club able to take some time to help some less experienced, come along!
**Alison Arnold**

**BATH, WILTS & NORTH DORSET (THE PARK)**
**WWW.BWND.CO.UK**
**510742N 0021445W**
DECEMBER arrived and, after much reduced flying in November due to persistent rain and a soggy field, we are attempting to recover lost ground with 24 winch launches midweek. The Pawnee tug is out of action for maintenance, so we are unable to aerotow until it is restored. Our Christmas dinner was very well received with our usual thanks going to John and Julie Hull. The open meeting in November considered new developments and proposals for the club, including thoughts about replacement aircraft. Our booking system was also considered in the light of some experience now and the committee have responded to concerns about shortages of manpower at the launch point.
**Chris Basham**

**BIDFORD (BIDFORD)**
**WWW.BIDFORDGLIDINGANDFLYING CLUB.CO.UK 520803N 0015103W**
THE atrocious weather over the last few months of 2019 resulted in our field being waterlogged and no flying being possible. Our club fleet of tugs and gliders have been prepared for the 2020 season. Our Christmas party was held on 7 December and was a great success, with some 50 members enjoying a superb dinner prepared by Annie and her team. A commemorative bench has been installed to remember Graham Wright, who did so much for the club and who sadly died of cancer. Our regionals competition will be held from 4-12 July and is fully subscribed.
**Mike Pope**

**BLACK MOUNTAINS (TALGARTH)**
**WWW.BLACKMOUNTAINSGLIDING.CO.UK**
**515848N 0031215W**
IT'S been a busy few months at Talgarth; driven by enthusiastic members working hard to improve the club. After a substantial rebuild, our faithful Pawnee G-AZPA is back online and looking great, complete with newly-refurbished engine and fresh paint! Our second Pawnee will also have an engine rebuild when funds permit. Construction of a dedicated tug hangar is largely complete. The doors will be hung in the spring. Seven-day-a-week operations recommence 2 March. Course dates are now published for 2020; please check our website for details. We hosted expeditions from seven BGA clubs in 2019. Groups and individuals are always welcome; why not pay us a visit?
**Mike Codd**

**BOOKER (WYCOMBE AIR PARK)**
**WWW.BOOKERGLIDING.CO.UK**
**513642N 0004830W**
THE annual expedition to Aboyne was blessed with good weather and plenty of flying. The two pre-solo members who came along racked up a number of 'firsts' and gained valuable new experience. Back at Booker, an 'emergency exercise' set up by CFI Richard Crockett in collaboration with the airfield safety officer was a useful review of the club's procedures. Professional input at the debrief was provided by two BA pilot members. Graham Saw's aerobatics courses continue over the winter for members to improve their handling skills and maybe prepare for our Easter Egg Cup aerobatics competition.
**Jane Moore**

**BORDERS (MILFIELD)**
**WWW.BORDERSGLIDING.CO.UK**
**553514N 0020510W**
THE wave weeks generated a few spectacular flights, with Adrian Loening and Trevor Dale (Diamond Height gain) going over FL230, and a Gold height claim by Bill Winthrop. Hall and Bennet (sound like lawyers) from Long Mynd managed a 16,510ft height gain, too. Us lesser mortals achieved a Silver height gain. We've had a few expeditions to Buckminster, Feshie and France, plus lots of visitors. The Eagle made a special appearance at our 50th anniversary celebrations. Alastair Fish finished instructing after many years and George Brown finished aerotowing after more than 13,000 launches. These gentlemen are heroes here. 2020 will be exciting, with our Competition Enterprise from 4-11 July. Please come and join us at sunny Milfield.
**Dave McCormick**

**BRISTOL & GLOS (NYMPSFIELD)**
**WWW.BGGC.CO.UK**
**514251N 0021701W**
THE club membership decided it didn't want a 120HP EuroFOX as the sole tug following a well-managed general meeting. The Pawnee will be maintained. Rumours of a second referendum should not be taken too seriously! A couple of late-season first solos: Peiman Morandi and Mark Dannatt, were achieved despite the efforts of the weather, whilst some 50 Bristol University Aerospace students saw the theory of flight in action. Planning for 2020 continues with the return of 'all-inclusive courses' to Nympsfield for the first time in at least 15 years, in addition to the 'dedicated learning weeks'. The aircraft ARC season continues, as do various Wednesday maintenance team projects.
**Greg O'Hagan**

**BUCKMINSTER (SALTBY)**
**WWW.BUCKMINSTERGC.CO.UK**
**524912N 04228W**
OUR Perkoz returned safely from its three-week holiday with lots more experience

(Left to right): **Burn**'s Eileen Scothern completes five-hour flight at Portmoak; Jim Paris (left), with Alastair Mackenzie, resolos at **Burn**; a thoughtful Greg Clark-Ward prepares to launch in an Astir at **BWND**; morning salute from **Cairngorm**'s fleet before December closes in (Jordan Thomson)




of flying in wave. We hosted a 75th Remembrance service for the Arnhem landings. There was a particularly good weekend with the annual freshers intake for LSUGC completing 100+ glider and motor glider trips. Following on from the AGM and instructor/tuggie meetings, plans are taking shape for 2020. We have workshops, courses and expeditions planned, with a few more activities pending. Our launch point trailer is in final fitment and testing, to be operating early in the new year. We have replaced our safety vehicle to add a bit more flexibility. Roy, our manager, celebrated 50 years as a P1 on 4 December: congratulations Roy.
**Danny Lamb**

**BURN (BURN)**
**WWW.BURNGLIDINGCLUB.CO.UK**
**534445N 0010504W**
THE last quarter of 2019 served up the poorest wet weather conditions we have experienced for a long time. On an unscheduled day, after a 50-year break, James Paris (Jim), flew solo again in a K-13. Jim is a retired CAA Flight Operations Training Inspector and a type rating examiner. On another ad hoc day, Kieran Hogan soloed in a K-13 into a fine and clear winter sky. He took up gliding to gain some basic flying experience and will be well on the way to fulfilling his ambition after completion of the Ryanair 16-month training programme he begins in February 2020. Congratulations also to member Eileen Scothern, who completed her five-hour endurance flight away from Burn at Portmoak.
**Neil Bale**

**CAIRNGORM (FESHIEBRIDGE)**
**WWW.GLIDING.ORG**
**570613N 0035330W**
A NEW state-of-the-art rangemaster has been installed to prepare for the incoming festive feasts and to retain our self-proclaimed status as the finest gliding club to feast at! A steady move into our winter flying at Feshiebridge, experiencing plenty of the good old hydraulic jump phenomenon during November. The winter has brought some fantastic scenery throughout our home valley and Grampians, snow-capping our mountains and making the corries, cliffs and rock faces we fly over/along look fiercer than ever. We have been visited by Strathclyde University Gliding Club over November/December, who we hope will visit more often. Happy New Year to all in the gliding community, from the CGC.
**Jordan Thomson**

**CAMBRIDGE (GRANSDEN LODGE)**
**WWW.CAMGLIDING.UK**
**521041N 0000653W**
AS winter makes itself felt, flying days have reduced to five a week and gliders are disappearing into the workshop for their annual check-ups. But intrepid members have continued the tradition of autumn expeditions, with Phil Atkin, Steve Edwards, George Knight and Peter Warner all achieving Diamond height flights at Aboyne in October. In November, the clubhouse was packed for the annual fireworks party and once again a spectacular show was put on by Jem Davies. Our new simulator went live, also in November, and is already being used for training on weathered-off days.
**Chris Davis**

**COTSWOLD (ASTON DOWN)**
**WWW.COTSWOLDGLIDING.CO.UK**
**514228N 0020750W**
OUR autumn expedition to Portmoak proved very successful in 2019, with most participants achieving up to 15 hours flying, with wave available on at least two days. Our new aircraft workshop now has a ground-source heating system allowing full use throughout the winter months and possibly air conditioning in summer. We are pleased to welcome back UWE student members and, so far, around 40 have enrolled, while Finn and Natalie have joined our cadet scheme and are working towards solo. We also welcome Sara in the office, who will be working with Gill, but specialising in the accounts. Finally, we wish speedy recoveries to Paul, Martin and David, who have all needed emergency hospital treatment this autumn.
**Frank Birlison**

**CRANWELL (RAF CRANWELL)**
**WWW.CRANWELLGC.CO.UK**
**530231N 0002936W**
THE flying weather has miserable due to all the rain we had in recent months and, given the amount of water that can been seen from the air, perhaps we should carry life jackets in case of landouts! However, the awards evening went well back in November with quite a number of members receiving trophies for their contributions to the club and personal attainments. As always, the hard work from all the members involved with aircraft maintenance, vehicles, winches, trailers, administration, etc, is appreciated. A big thank you, and let's hope by the time of publishing that the conditions have improved.
**Zeb Zamo**

**DARLTON (DARLTON)**
**WWW.DARLTONGLIDINGCLUB.CO.UK**
**531444N 0005132W**
THE wet weather meant no flying at all in November, a first for our club. Morning briefings have been dedicated to talks on safe aerotowing from our tug pilots/instructors. Our Super Cat winch has been loaned to our friends at Strubby, where it's performing well. The AGM was held in November with a good turnout. Bob Grant, our chairman, stood down after eight years and was presented with an inscribed whiskey decanter and glasses with our appreciation. A similar presentation was accepted by Andy Lucas for John Maddison, our ex-CFI and former committee member. The club would like to thank all the committee members that are standing down this year for their valued service to the club.
**Barry Patterson**

**DARTMOOR (BRENTOR)**
**WWW.DARTMOORGLIDING.CO.UK**
**503517N 0040850W**
A VERY wet November meant lectures and indoor work. Thanks to Scratch for replacing the log burning stove in the clubhouse; the problem is now nobody wants to venture outside! The new launch point (bus) project is progressing under John Smith's leadership (thank you). We have had a few wave days, but nothing as good as 2018 so far. Over the winter we've lost a few members, and gained a few members, but the upward trend of better site buildings and equipment at DGS continues. Thanks go to all the instructors, who week in, week out, rain or shine, come to ensure there are lectures or flying whenever possible. Great to see new members turning up through the winter.
**Richard Roberts**

**DEESIDE (ABOYNE)**
**WWW.DEESIDEGLIDINGCLUB.CO.UK**
**570430N 0025005W**
THE UK Mountain Soaring Championship was marred by poor conditions, but was won by Bob Bromwich. A busy wave season at Deeside GC: 1,128 launches, 66 Gold height flights, 10 Diamond heights and six 500km

(Left to right): presentation to **Darlton** chairman Bob Grant (right); **DSGC** juniors at Long Mynd; Duncan Gell solos at **Dumfries & District,** with instructor Iain Mciver; **Herefordshire** juniors: George Haddock, Max Griffiths, Andreas Jelden (scheme leader) and Peter Spencer (Phil King)



cross-countries, with visitors from across the UK and Europe. Guy Corbett made an 18,399ft climb, Andrew Watson flew to 22,778ft and Roy Wilson, John Williams and Jakub Hlavacek each made two 500km plus flights. Congratulations to Brian Crouch (Silver). Our thanks go to Glen Douglas, who stepped down from the committee after many years, and also Ruth Housden, stepping down from deputy CFI. We were saddened to hear Angus Patterson, former CFI and long-time member, passed away; our thoughts are with his family.
**Steve Kenyon-Roberts**

**DERBY & LANCS (CAMPHILL)**
**WWW.DLGC.ORG.UK**
**531818N 0014353W**
A HIGHLIGHT in 2019 was 10 first solos: three of the pilots under 16, and three resolos. Visitors please note the road to the club from Hathersage was recently washed away near Abney, so access is from Great Hucklow round our hairpin bend. The airfield has survived well, so flying is available as the weather improves. Over the past two years, the constitution has been revised and is up to modern standards. In October we hosted a training exercise for the Edale Mountain Rescue. Our AGM takes place a few days after this issue goes to press. We received the AAIB report of the otherwise inexplicable tragic accident to Nigel Howse in Snowdonia; the cause was medical.
**Dave Salmon**

**DEVON AND SOMERSET (NORTH HILL)**
**WWW.DSGC.CO.UK**
**505107N 0031639W**
OCTOBER expeditions provided some different soaring and gliding for members. A group of six junior members, with instructors and mentors, spent the half-term week at Midland Gliding Club in Shropshire. They took a DG-505 and the K-6 DRE single-seater. The more-experienced juniors, who had flown at Long Mynd last year, enjoyed some good flights in the K-6, whilst those visiting for the first time started to build their hours in the two-seater. Earlier in the month, members travelled to Denbigh GC and enjoyed some great wave to over 10,000ft, and on one exceptional day climbed to nearly 20,000ft. Others visited the Scottish Gliding Centre at Portmoak and flew most days. Our thanks to all hosts.
**Jill Harmer**

**DORSET (EYRES FIELD)**
**WWW.DORSETGLIDINGCLUB.CO.UK/DGC**
**504233N 0021310W**
THE club has appointed Jane Mead to take over as child protection officer (see p24). Junior membership has now increased, with James Peace setting an enthusiastic example. Andy Grant has completed his Bronze and Ian Simmonds is almost there. The club has decided to sell its EuroFOX and continue aerotow operations with its Super Cub. If you would like to buy G-ODGC, please contact Nick Barnes, chairman, on tel: 07793-203838 for more information. The club has been granted a further one-year lease for the airfield, which is part of an estate which is being sold.
**Allan Powell**

**DUMFRIES & DISTRICT (FALGUNZEON)**
**WWW.DUMFRIESANDDISTRICTGLIDING CLUB.CO.UK 545638N 0034424W**
A BIG congratulations to Duncan Gell, who went solo on 1 December after only 30 launches. We have been busy with aircraft and winch maintenance over the winter months and, with the advent of spring, our thoughts go to the ICL and hopefully a good season. With plenty of students, the club has a positive feel again.
**Iain McIver**

**EAST SUSSEX (RINGMER)**
**WWW.SUSSEXGLIDING.CO.UK**
**505423N 0000618E**
TO CLOSE 2019, we had rain, strong winds from the wrong direction, or a low cloudbase. The installation of our first new runway is complete, although grass hasn't fully established so we won't be using the runway until the spring. Throughout 2019 we were using the second half of our field but, at the end of the year, 200m at the western end became water-logged and unusable while access to the eastern end became almost inaccessible because of soft mud where the gliders would sink in while being taken to the launch point. On the brighter side, the new runway drainage is working well so we should have fewer problems. In 2020 contractors will work on the second runway.
**Mike Jeater**

**ESSEX (RIDGEWELL)**
**WWW.ESSEXGLIDING.COM**
**520253N 0003330E**
THE season ended, but thankfully we managed to move two gliders and our tug to winter quarters before the extended rainfall turned our airfield into a quagmire. Twenty tonnes of chippings and a working party have resurrected the worst parts, so we can use our training room and impressive new gliding simulator. Further improvements to our fleet, facilities and site security will be made during the winter and we are grateful to all involved. Winter lectures, a quiz night and (we hope) another of Allen's delicious curries will keep us occupied. Meanwhile we are enjoying the hospitality and facilities at Anglia, where flying will continue throughout the winter. Many thanks to Anglia for sharing their hangar and runway.
**Cathy Dellar**

**HEREFORDSHIRE (SHOBDON)**
**WWW.SHOBDONGLIDING.CO.UK**
**521429N 0025253W**
DESPITE the weather we have managed to get a reasonable amount of flying in, taking advantage of the decent flying days when we can. Training and development of our young members continues with a full programme of flying and ground school with Andreas Jelden, leader of the HGC Junior Scholarship Scheme. We are delighted to announce that Herefordshire Gliding Club is the 2019 winner of the BGA Club Good Practice Award. This positive news, together with an increased membership, a new hangar and other projects on the way, gave an optimistic note to the recent AGM. We are looking forward to a bright 2020.
**Nigel Snee**

**HIGHLAND (EASTERTON)**
**WWW.HIGHGLIDE.CO.UK**
**573508N 0031841W**
THE main route from Elgin to our site is closed near Glenlossie Distillery. It's unclear how long this will be the case. In the meantime, visitors should access the site via the A941 turn-off near Fogwatt, signposted 'Birnie' and 'Road Closed Ahead' (this route is not closed despite the sign!). Our K-21 is back after a lengthy maintenance period where several issues were resolved, including corrosion on the relatively new wing spigots. Thanks go to the Twin Astir syndicate for allowing the club to use their aircraft as a temporary K-21 replacement. A couple of our members discovered that trying to retrieve a LS7 (15m) with a LS8 (18m) trailer does not work.
**John Thomson**

(Left to right): short final for 09 at **Lasham** (Jordan Bridge); **Lincolnshire**'s Tom Robinson (left) receives his wings from Richard Walker; **Dunstable**'s clean-up day; Jared Chohan, 14, soloed at **Midland** on the same day as retired RAF Vulcan pilot Richard Head





**KENT (CHALLOCK)**
**WWW.KENT-GLIDING-CLUB.CO.UK**
**51123N 0004950E**
OUR 2019 fireworks event was held in the rain, but was still well attended. Well done to Oli and the team and to Karen and her team for the great sausages. The Christmas dinner and annual prizegiving in our clubhouse was a great success. Congratulations to all prize winners and thanks to Les and all that helped with the arrangements. The excessive rainfall was even too much for the chalk North Downs to soak up, causing some missed flying weekends as winter got into its stride, but our tough if somewhat weather-beaten pilots kept going. We look forward to the spring sunshine and warmer weather and to soaring once again over the beautiful Kent countryside and beyond.
**Mike Bowyer**

**KESTREL (RAF ODIHAM)**
**WWW.KESTREL-GLIDING.ORG.UK**
**511403N 0005634W**
CONGRATULATIONS to Paul Darton, Nico Riome, Kieran Pratt and Beany Corner for their first solo flights, while the club attained another Full Cat, with Brian Gough completing his course in December. With Farnborough airspace directly over Odiham, members are spending the winter working on RT training for their FRTOL and many took the opportunity to attend the Dunstable RT course in November, which all found extremely useful. The club has a new OIC, Wg Cdr Dave Hall, who is a returning service member. Dave is a glider and power pilot and is looking forward to the role and running Kestrel for Raf Odiham and the local service community.
**Neil Armstrong**

**LAKES (WALNEY)**
**WWW.LAKESGC.CO.UK**
**570752N 0031549W**
OUR new hangar houses our EuroFOX, with room for two gliders. The IS28b is making progress, thanks to Peter Seddon and Roy Jones. We had some wave and hill soaring early this year, over the Lake District and Morecombe Bay. Owen Bayliss flew John Burdett to West Water screes and Scarfell Pike via Black Combe. Members of the club enjoyed outings to Le Louroux in France and Portmoak in Scotland. John Burdett and Roger Copley flew their Janus to Blencathra, but had to land out near Cockermouth. We welcome members from Bowland Forest and Eden Soaring joining for winter. This provides an opportunity to aerotow from hard runways and experience landing on an island, approaching over the sea.
**Peter Craven**

**LASHAM (LASHAM)**
**WWW.LASHAMGLIDING.CO.UK**
**511112N 0010155W**
A WET autumn has ensued, but with the rain down south we had three good weeks at Aboyne in October, the middle week delivering a couple of fantastic Diamond height days. Our thanks to Deeside for hosting us! We've had a couple of ridge days here during the winter so far and we are looking forward to many more while the thermal season is away. Congratulations to David Saunders, Chris Golding, Steve Bailey and Shayan Hassanbigi on their Cross Country Endorsements, ready for their Silver attempts in the 2020 season! Finally, we wish every success to the British Gliding Team, who are competing at the Women's World Gliding Championships in Lake Keepit, Australia, in January.
**Jordan Bridge**

**LINCOLNSHIRE (STRUBBY)**
**WWW.LINCSGLIDING.ORG.UK**
**531836N 0001034E**
CONGRATULATIONS to Tom Robinson on first solo. Members have enjoyed expeditions to TSC at Pocklington and also Portmoak, where we realised that the earth is not flat. We have borrowed a Supacat winch from Darlton GC whist our old faithful Lewker winch has a long overdue winter service. Many thanks Darlton. We continue flying over the lakes of Lincolnshire, thanks to our hard runway.
**Dick Skerry**

**LONDON (DUNSTABLE)**
**WWW.LONDONGLIDINGCLUB.CO.UK**
**515200N 0003254W**
CONGRATULATIONS to members Isaac Allen (solo), David Lord (solo aerotow) and Pete Farrimond (K-23 conversion). Despite the conditions we've enjoyed some "sporty" ridge flying days and the occasional hint of wave. Free flying time for members lasts until the end of February. As spring approaches, we have repeated our Monty package, comprising a winch refresher, spin awareness training and a session in the motor glider for field selection and landing training. The winter programme continues with Bronze lectures and 'Winter Wednesday' monthly events. The calendar of flying activities starts in March with a pilot development course, then an expedition to Shobdon, and April brings the Dan Smith Aerobatics trophy and our Easter cross-country competition.
**Andrew Sampson**

**MENDIP (HALESLAND)**
**WWW.MENDIPGLIDINGCLUB.CO.UK**
**511544N 0024356W**
A MIXTURE of north-easterly winds, low cloudbase and rain have affected our flying. Our chairman, Rod Coombs, managed his 5-hour duration then went to Benalla, Australia, and encountered low cloud, wind and rain. He'd signed up for a mountain soaring course at Omarama so he headed to NZ and managed 18 hours of flying at heights up to 22,000ft in mountain wave. Then back here to 300ft cloudbase and rain! Nick Patterson and his team have taken advantage of the weather to replace the running tracks for the hangar doors. Peter Turner retired as tug master and Ron Perry has taken over. Many thanks to Peter and good luck to Ron.
**Barry Hogarth**

**MIDLAND (LONG MYND)**
**WWW.MIDLANDGLIDING.CLUB**
**523108N 0025233W**
OUR winter talks began well, with a very interesting and inspiring talk by Chris Gill from Denbigh. Attendance was a full house and afterwards we enjoyed a splendid meal. Our accommodation block has been improved and is now a great place to stay after such occasions. A recent members' evening provided an ideal occasion for the committee to update members on current issues and, in turn, for them to raise matters and make their suggestions. Congratulations to Jared Chohan on his first solo, aged just 14. Congratulations also to Richard Head, a retired RAF pilot, who resoloed on the same day. Both of them featured in a recent article in the *Shropshire Star.*
**Steven Gunn-Russell**

**NORFOLK (TIBENHAM)**
**WWW.NORFOLKGLIDINGCLUB.COM**
**522724N 0010915E**
WINTER has arrived, even in sunny Norfolk. We are grateful for our hard surface runways that enable us to carry on flying.

(Left to right): Gavin Dignam receives his wings at **Crowland**; Matt Rampley is sent solo by Kevin Western at **Rattlesden**; John Cockfield and Peter Harvey working on the ARC of **Seahawk**'s DG-505; **Southdown** junior Finlay Summers pictured after his first solo




Unfortunately, the annual flight reviews, which we all look forward to, are for the most part temporarily on hold as our Puchacz is out of commission at the moment. They will be resumed ASAP. The Scottish expeditions were more sightseeing trips than a flying success. Portmoak was wet, with the weather at Aboyne spectacular. The week at Aboyne was poor as well, but everyone at least had one good flight.
**Adrian and Barbara Prime**

**NORTH WALES (LLANTYSILIO)**
**WWW.NWGC.ORG.UK**
**530239N 0031315W**
WE have some good soaring days, but more flying cancelled due to rain. With the success of our three BIs, they're about to start Bronze lectures. A big thank you to Simon Adlard and team from Seighford for our instructor training. Because our hangar can only accommodate two gliders, it's home for our K-13s. Our PW6 is rigged and left outside, with covers becoming ragged. So, we approached Air Covers Ltd, who have made covers for our PW6 at a very competitive price. As we have two qualified aircraft engineers and one in training, they're carrying out our annuals here. They do a top-notch job. Our new website should be released in January.
**Ian Masson**

**OXFORD (RAF WESTON ON THE GREEN)**
**WWW.OXFORD-GLIDING-CLUB.CO.UK**
**515249N 0011311W**
AT our 2019 AGM, we welcomed Ben Vickars to his second stint on the committee and expressed our grateful thanks to Paul Morrison, who has stepped down after 12 years. Thanks to a generous benefactor and several club members, we have started refurbishing our winch. On one of the largest grass airfields in the country we look forward to seeing what improvement in already impressive launch heights the move to Dynema will bring us. Unfortunately, the threat of the loss of local airspace due to the London Oxford and RAF Brize Norton ACPs persists and club representatives have attended several consultation events.
**Norman G Nome**

**PETERBOROUGH & SPALDING (CROWLAND)**
**WWW.PSGC.CO.UK**
**524233N 0000834W**
THERE has been a reduction in flying due to a boggy airfield. On the days we did manage to fly, Gavin Dignam soloed; well done and many congratulations. Our neighbours from Lyveden have based their K-13 at PSGC for the winter, to increase their opportunity to fly (although we can't control the weather!). Our Christmas dinner was well attended and everyone appeared to enjoy the evening. Looking ahead, our 2020 open weekends have been scheduled for 30-31 May and 12-13 September, with the fantastic BBMF supplying, hopefully, a Lancaster, Spitfire or Hurricane. Let's hope the weather improves and the February/March thermals arrive here sooner rather than later.
**Roland Pitch**

**RATTLESDEN (RATTLESDEN)**
**WWW.RATTLESDENGLIDING.COM**
**521001N 0005216E**
WE'VE managed some flying and a good runway repair day at the end of the season. A lot of members helped, making things much easier. Congratulations to Alex O'Keefe (Diamond height at Denbigh) and to Paul Ogram (Bronze Cross Country Endorsement). We welcomed a new addition to our fleet with the purchase of a Motor Falke. This has been very well received and will be a big asset. We attended a Christmas fayre to promote the club and to sell experience flights, etc. We had a lot of interest and sold a lot of flights over the four-day period; this was down to the dedicated members, who tirelessly manned the stand in all weathers.
**Gary Western**

**SCOTTISH GLIDING CENTRE (PORTMOAK)**
**WWW.SCOTTISHGLIDINGCENTRE.CO.UK**
**561121N 0031945W**
CONGRATULATIONS to Rory Smith, Dominic Newton and Gordon Jack (solo). We welcome new BIs Matt Stickland and Andy Barr. The weather was kind for the Juniors Winter Series, unfortunately not so for many of our autumn visitors, but everyone seemed to enjoy themselves. Local pilots managed several long cross-country flights and a clutch of badge claims. Investigations into the low power of our new 120hp EuroFOX tug are ongoing, but hopefully it'll be online by the time you read this. Shortly we shall order a brand new Perkoz glider. Plans are under way for a third glider storage shed (aka hangar) to be constructed in the summer.
**Chris Robinson**

**SEAHAWK (RNAS CULDROSE)**
**WWW.SEAHAWKGLIDING.CO.UK**
**500509N 051520W**
AFTER a busy few months, activity has slowed somewhat due, in the main, to some not very good soaring weather. Nonetheless, we have had one or two good days on which to concentrate on getting club members airborne, which they have made very good use of. Now, as we approach the winter with cold winds, soggy grass and no lift, our attention moves towards work in the hangar to complete the ARCs for our fleet, routine maintenance of the bus, truck and quad bike and all those little jobs that should have been done but flying got in the way! All in preparation for a great soaring season in 2020.
**Chris Byning**

**SHALBOURNE (RIVAR HILL)**
**WWW.SHALBOURNEGLIDING.CO.UK**
**512014N 0013239W**
WE have been capitalising on every opportunity, testing the theory that the brighter your Ozee suit, the longer you stay airborne. Various members made the October migration north to enjoy the Scottish wave. No Diamonds this time, but much fun was had by all. SUGC continues keeping our instructors busy with the latest crop of students. Congratulations to Sergi for converting to the K-8. In other news, our second new-and-improved 'skybrid' winch has arrived. A huge thank you to all involved, not only in the rebuild, but also for arranging for the loan of an RAFGSA Skylaunch. As always, many thanks to everyone whose hard work helps keep our club running smoothly.
**Claire Willson**

**SHENINGTON (EDGEHILL)**
**WWW.SHENINGTON-GLIDING.CO.UK**
**520507N 0012828W**
WE'LL be glad to move on from 2019, a sad year for the club. We have lost three good friends to illness, with the deaths of members Mick Furseden, Keith Marchant and Dave Gould. Our congratulations go to Paul Mucha (Gold height at Aboyne). We're pleased to have our Skylaunch winch back up and running after some tlc from Sean. The shower block is continuing to progress, and our favourite K-13 is bright and shiny following some new cockpit fabric. We're hosting the juniors in April for their Winter Series. We'll be flying on the better days midweek during

(Left to right): Kevin Beale is congratulated after first solo at **Southdown**; **Staffordshire**'s Alistair Hackshall is sent solo by Chris Fox; **Wrekin**'s Norm and Sally Potts make it a family trip in the club's motor glider; **York**'s new BI Richard Slater



the winter. Visitors welcome, but check the office or webcams to see if we're active.
**Tess Whiting**

**SOUTHDOWN (PARHAM)**
**WWW.SOUTHDOWNGLIDING.CO.UK**
**505532N 0002828W**
THE winter started with some northerly winds, but they were too weak even for the resident seagulls to stay aloft. Andrew Vine set a fine example of lateral thinking, finding a source of thermals on a rare sunny day which kept him airborne for five hours. Then, a week later, the rains came to Parham in abundance. Nevertheless, between scattered showers juniors Finlay Summers and Bjorn Collins went solo, as did Kevin Beale. Visitors to Parham will no doubt be impressed by the new huge aerodynamic trailer now on display. This will enable the vintage gliding group to fulfil its long-held ambition of taking the T-21 cross-country.
**Peter J. Holloway**

**SOUTH WALES (USK)**
**WWW.USKGC.CO.UK**
**514306N 0025101W**
THE good news is we've acquired a new tug, a EuroFOX Edge 120. The plan is to lay up our Pawnee for a period and see how much money we save on running costs, as well as how many (if any) days aerotowing we might lose in unfavourable conditions on our modestly-sized, tree-lined grass airfield. The bad news is bad weather and soggy grounds have stopped us flying our shiny new toy or pretty much anything else. We have been very grateful once again to our good friends at Aston Down, who have let us keep our Grob two-seater over there and enjoy some stratospheric winch launches from their lovely, long Tarmac runway.
**Stuart Edinborough**

**STAFFORDSHIRE (SEIGHFORD)**
**WWW.STAFFORDSHIREGLIDING.CO.UK**
**524940N 0021212W**
LOADS has been achieved here. Congratulations to Dave Shepherd (Silver height) followed by Alistair Hackshall (solo), and Tiago Oliveira (Silver/Gold duration). There were some expeditions throughout the year, including Millfield where our CFI Paul Whitters got his Gold height in a flight to 18,000ft and Chris Jones did his first wave flight to 12,000ft. Pauline Larner did her first solo at that site having been solo many times elsewhere. A brace of club members also attended the Pocklington two-seater competition, with another visit to Denbigh also giving members some very interesting flying along with a very interesting visit by some of the members to the Glider Heritage Centre at Lasham. Phew... it's been busy!
**Graham Stanford**

**STRATFORD ON AVON (SNITTERFIELD)**
**WWW.STRATFORDGLIDING.CO.UK**
**521406N 0014310W**
THE heavy rains have waterlogged the fields, but we've been creative with our set ups to get as much flying as possible. Some members went on a mini expedition to Denbigh, with achievements such as Andy Balkwill achieving his first wave 300km. The club held its AGM and awards, a good opportunity to celebrate members achievements. Some of the recipients of awards included junior pilot Ben Lyth, who collected the badge ladder trophy; John Rae, who achieved the award for the most progress; and Mike Coffee, who won the trophy for the cross-country ladder. Fingers crossed the weather conditions improve over the winter and we can look forward to some spring soaring!
**Peter Capron**

**SURREY HILLS (KENLEY)**
**WWW.SURREYHILLSGLIDING.CO.UK**
**511820N 0000537W**
WITH winter well and truly here we are making good use of our Tarmac runways, which allow us to keep most members current, although flight times are often short. We are delighted to have a new technical officer, Jon Hill. He is already getting stuck in to the job and the planning to get the fleet through their annual checks is well under way. We are also in the process of installing a new computerised admin system and massive thanks go to Mark Kidd, who has been instrumental in setting this up and training members in its use – we will really reap the benefits over the coming months.
**Chris Leggett**

**WREKIN (RAF COSFORD)**
**WWW.WREKINGLIDINGCLUB.CO.UK**
**523824N 0021820W**
ALTHOUGH there is no set timeframe, planning continues for the move from RAF Cosford to RAF Shawbury. So, whilst we remain at Cosford we make the most of flying on Fridays. Like others, the wet weather has curtailed actually flying the flying programme to some extent, but it has allowed us time to focus on those inevitable domestic tasks that come around each autumn. Looking forward, we are at the early stages of planning our Easter expedition in conjunction with the Midland Gliding Club. This sees the clubs make a welcome return to Llanbedr, a great location with good facilities and some challenging flying in and around Snowdonia.
**Geoff Catling**

**YORK (RUFFORTH)**
**WWW.YORKGLIDINGCENTRE.CO.UK**
**5357100N 00111332W**
WHILST the soaring season has been somewhat indifferent, we've had some highlights. Huge congratulations to Richard Slater (BI). In October we had a fantastic lecture on the use of parachutes. A huge thank you to 'Mac' McDermott from Burn for an informative and enjoyable presentation, which could literally be a life-saver. In the same month we said farewell to our back-up Pawneee, on its way to Talgarth for spares to help in the rebuilding of their own aircraft. We're already preparing for next season – the dates for our Bronze ground school have been published, along with the timetable for our series of winter lectures. These are excellent lectures and well attended.
**Andy Carden**

**YORKSHIRE (SUTTON BANK)**
**WWW.YGC.CO.UK**
**541338N 0011249W**
USING our best endeavours, we flew 75 per cent of days in October, often ridge soaring and weak wave. Thereafter, a very wet low cloud November significantly curtailed flying, but our spirits were raised by our ever-popular bonfire night. This event featured a goodbye and thank you to CFI Andy Parish, who has served us so well for 13 years. John Carter has taken over and is supported by Bruce Gain, who joined us as summer Instructor. Time for our first winter lecture, which featured parachutes! A big turnout heard "Mac" McDermott, a parachutist turned glider pilot and safety officer at Burn Gliding Club, give a very useful presentation on their care and use.
**Ken Arkley**

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

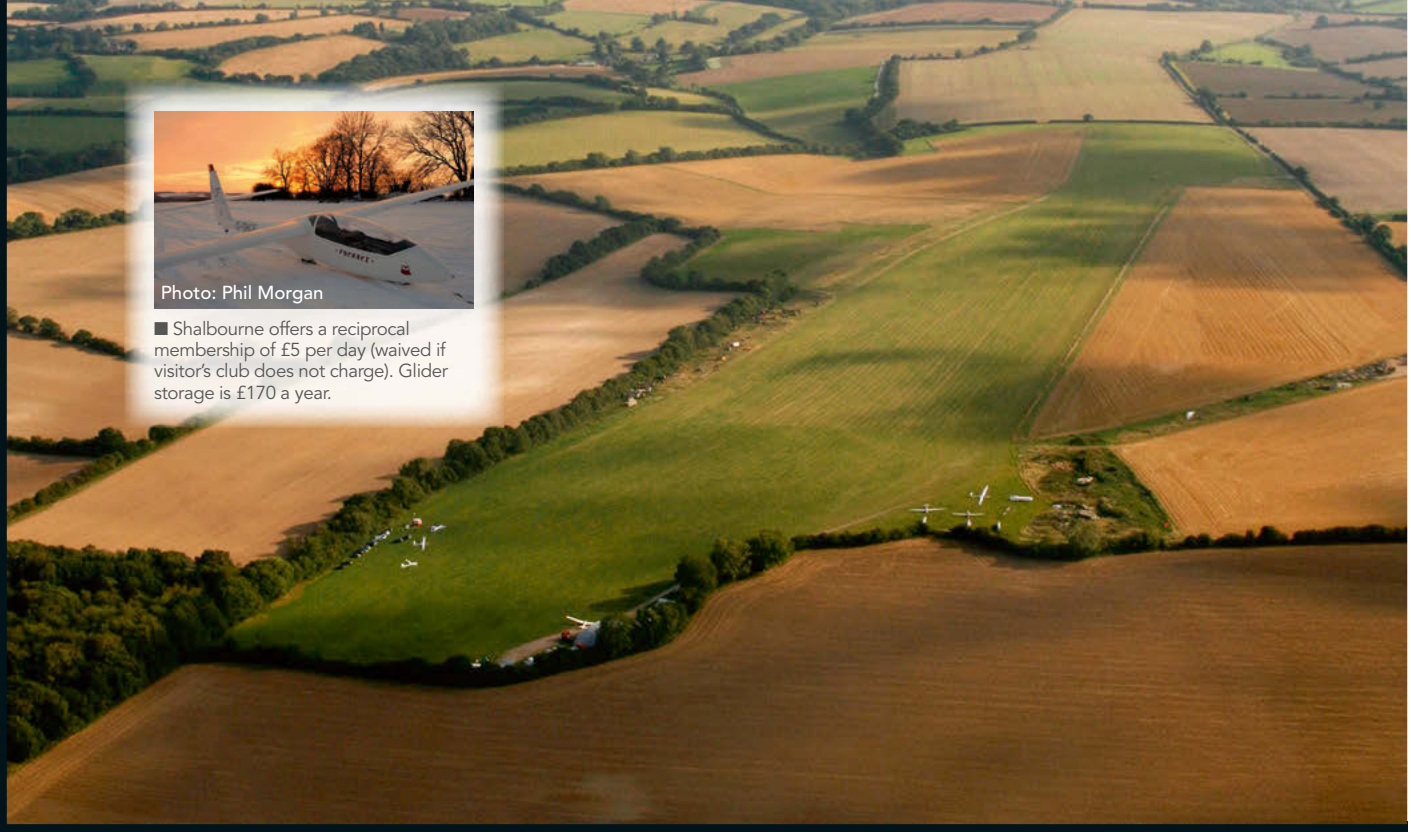



Photo: Phil Morgan

■ Shalbourne offers a reciprocal membership of £5 per day (waived if visitor's club does not charge). Glider storage is £170 a year.

# › CLUB FOCUS

## SHALBOURNE



### AT A GLANCE

**Membership:**
Full: £335pa
Junior: £65pa
Family: £385 (Up to 2 adults and 2 children <18 all living at the same address)

**Launch type:**
Winch: £9 (£7 juniors), 35p a minute (27p Juniors). £750 for all flying in first 12 months (excluding membership).

**Club fleet:**
2 x Puchacz, K-13, K-8, Sport Vega

**Instructors/Members:**
19/61 (+ SUGC)

**Types of lift:**
Wave and ridge

**Operates:**
Weekends, Bank Holidays and midweek (day moves dependent on weather)

**Contact:**
Tel: 01488 504966
Launch point: 07884 220573
Email: *contact@shalbournegliding.co.uk*
*www.shalbournegliding.co.uk*

**Long and Lat:**
512014N 0013239W

**Radio:**
129.98 (Power movements not permitted.)

LOCATION, location, location! While the skies around Southern England grow ever busier, Rivar Hill Airfield is perfectly placed to avoid most pitfalls. Untroubled by local airspace, sadly becoming a bit of a rarity in the south, there are good task options in most directions catering to all experience levels.

Nestled on the Hampshire-Berkshire-Wiltshire borders on fast draining chalk downland, the gently-sloping, mile-long airfield is almost always serviceable. The lowland location provides for safe field landings, so it is particularly suited to inexperienced pilots spreading their wings for the first time, with plenty of local pubs in which to celebrate!

We proudly host the Southampton University Gliding Club whose steady stream of hard-working students keep our instructors entertained. In the past year, CFI Phil Morgan and ex-CFI Martin Hoskins have worked their socks off developing a new generation of Basic Instructors, all of whom have now qualified and whose number includes a member of SUGC.

Wonderfully off-grid, our "green" facilities include a hangar housing the club fleet, CAA certified workshop, clubhouse (with generated power and solar powered battery charging) and clean rainwater storage in abundance for the toilets, washing kit and for ballast.

Of course, being in an area of outstanding natural beauty does mean that we don't have those noisy (and expensive) aerotows, but when a 1,400ft winch launch is considered to be 'average' and 3,700ft amsl is not unknown – where's the problem? With the recent arrival of our second new-and-improved "Skybrid" winch you can always be sure of a launch. Our winch launches are probably the best value you will ever get for £9, and the third one on a day is even free (for full members)!

Shalbourne Gliding caters to all tastes, ages and aspirations. Whether you just want to potter around locally, go cross-country, "drop in" or just be sociable, visitors and new members are always welcome, so do come see us soon!

**Claire Willson and Colin Baines**

VGC President Andrew Jarvis reports on a memorable event

# VGC MEDAL FOR A SPECIAL MAN

READERS may remember my report from the hugely enjoyable 2018 Vintage Glider Club Rendezvous, which was held at the eastern German city of Anklam (*Rendezvous*, p42, Oct/Nov 18).

Through the initiative of Reginald (Richi) Kasubeck, the VGC was recently able to make a significant contribution to an important event in Anklam. Richi is a manager and instructor at Anklam's gliding club. The occasion was the retirement of Dr Berndt Lukasch, director of the Otto Lilienthal Museum in Anklam since 1992. Under his leadership, the museum has received several international awards and is now recognised as the world's leading resource for everything relating to Otto Lilienthal, 'the father of gliding'.

The retirement ceremony, which took place at the museum on Friday 6 December, was opened by Winfried Halle, a great-grandson of Lilienthal. Presentations were made by the mayor and by representatives of Germany's dynamic aerospace industry. The VGC's moment came when Richi Kasubeck presented Dr Lukasch with a special medal and a beautiful certificate prepared by Jan Forster, and this was greeted with much applause.

Once again, we are very grateful to Richi for alerting the VGC to this special occasion. All of us who fly historic – or modern – gliders should remember the sacrifices made by the pioneers, of whom Lilienthal was foremost. We also give our personal thanks to Dr Lukasch for creating such an inspiring museum.

If you 'happen to be passing', you should pop into the Lilienthal Museum. You'll find Anklam just after Hamburg – well, 298km actually. For any aviation enthusiast, the trip is very rewarding. You will love the museum, and then a scenic 40-minute drive takes you on to the seaside resort of Heringsdorf. Here there's an amazing private institution called Hangar 10 – a sort of mini-Duxford. Currently, Hangar 10 hosts two Messerschmitt Bf109Gs, a Focke-Wulf 190A-8, and much else, in flying condition. Lastly, if you have time and energy left, historic Peenemunde (where the V2 rocket was developed) is in easy reach.

- ***www.vintagegliderclub.org***
- ***www.lilienthal-museum.de***
- ***www.hangar10.de***

Beautiful Lilienthal replicas, almost flying in the sunlit museum (Andrew Jarvis)

Above: Richi Kasubeck presents the VGC's medal to Dr Berndt Lukasch (centre)

Below: one of two airworthy Messerschmitt Bf 109s at Hangar 10, Heringsdorf

## VINTAGE EVENTS FOR 2020

- Park and Glide Rally, The Park, 8 May
- VGC National Rally, Long Mynd, 23-30 May
- Southdown90 (to coincide with Southdown's 90th anniversary celebrations), 8-12 June
- 25th Camphill Vintage Rally and 10th Capstan Reunion, 19-26 June
- Olympian Week, Long Mynd, 13-17 July
- Wooden Wings Week, Snitterfield, 19-25 July
- VGC Rendezvous, Nordhorn, Germany, and 48th International Rally at Achmer, 25 July – 9 August
- Slingsby Week, Sutton Bank, 29 August – 5 September

# A CLOSE FINISH

Chris Luton looks back at the 2019 Inter-club League finals – a fun event for all involved

NOTORIOUSLY referred to in some UK gliding circles as "Inter-scrub", the 2019 final again bucked the trend and proved that the Inter-club League event is still very popular, increasing in scope and membership, and as exciting as unpredictable as ever. Although many UK clubs were again troubled with poor weather in the early part of the season (meaning 'regions' had to be innovative in how they came up with a club qualified for the final), six 'regions' were able to find a suitably qualified club. Additionally, the 2019 ICL Rules permitted the club hosting the final to provide a team to compete.

Selecting a location for the final is as troublesome as running the event itself, as most clubs are unwilling to offer facilities at club rates (as is anticipated in the rules) and selecting the date for a final needs to be at the end of the season, often clashing with the normal national/regional events, unfortunately meaning end of season Bank Holidays are all taken up.

After a lot of effort to find a taker, Cambridge (GRL) agreed to take on the final and the date selected was the 30 August-1 September weekend, meaning ICL needed a suitable competition day within a two-day window; not an easy feat at the end of the season. Chris Lewis of GRL agreed to act as director and we simply waited, fingers crossed, for some good weather. Tugs were going to be a bit of a problem, as GRL was short and it was difficult to find tugs with the appropriate engine noise reduction engines/props, as GRL has strict local constraints on engine noise levels. Also, renting in aircraft is not cheap and most clubs need (to keep their committee happy) to at least "break even"!

On the evening of Friday 30th it was starting to look half OK for the weekend with the possibility of at least one day! Pilots started to turn up on the Friday evening and report in to the organisers. At this stage it was almost impossible to know (apart from rough figures) how many clubs might turn up and whether the teams were full or not. The aim was to fly three pilots per team in the usual novice, intermediate and pundit class format. The director was keen to use DHTs (Distance Handicap Tasks) and was hoping the spread of handicaps was not too large in each class.

Cambridge GC was host to the 2019 ICL finals

**Day 1**

Briefing was at 10am and seven clubs/regions turned up: GRL (hosts), BIC, NYM, TIB, HUS, LAS and finally MEN (Mendip).

Pilots were briefed and team captains listed their pilots and aircraft. Distances were set: novice – 119km: Intermediate – 145km; Pundit – 233km. As usual, it was a non-held start although pilots were gridded in classes so there was no real advantage available for slightly early launches. A couple of pilots opted for a winch launch, meaning they were not held in a queue. Although there was obvious rivalry, everyone helped one another in very "team-like" approach.

A thick east-west cloudbank approached the club from the north as we waited around noon, and local club gliders were struggling to stay airborne. Was there a small window to get a novice or intermediate past point X to make it a scoring day? Finally all intermediates were launched, but all struggled to stay up and most returned within a short time. That said, one intrepid pilot, Dougal Crisp of HUS, decided to start and reached a field just west of St Neots. However, the distance was too short to trigger a competition day.

**Day 2**

The weather was looked decidedly better and tasks were set in a north-westerly direction, then heading east towards King's Lynn, with a final westerly leg to mean a straight southerly run to GRL. Approximate task distances (DHTs) were around novice 170km, intermediate 250km, and pundit 330km. Again teams were gridded with intermediates launched first, then novices and, finally, pundits. Pilots were required to report their start times so positions/scoring could be monitored.

All ground crews then rushed to GRL clubhouse where a large screen showed the positions of all the gliders. The weather was looking better and better as the day progressed and the only point requiring some pilot skill and patience was the second leg to near King's Lynn, where a few pilots struggled.

The pundits were being led by Derren Francis, closely followed by Andy Davis and Russell Cheetham. Steve Jones had decided to fly the Arcus T in pundit class, which held up very well with the quick 18m Class gliders and is the first time a two-seater has been flown in the ICL for many years. However, with DHTs, the overall positioning of each pilot is only relative to their start time, so a pilot's final score is dictated by their actual time from start to finish. Each class was very competitive and speeds were good.

Winner of novice class was Jason Eccles of HUS in 1hr 37 minutes; intermediates, James Loveland of TIB in a ASW 20C in 2hrs 38 minutes; and pundit Andy Davis of NYM in a JS1 at 2hrs 18minutes, beating Russell Cheetham by six seconds over 330km! Final scores on the ICL points system saw NYM, HUS and TIB with 11 points, which meant ICL Rules had to be examined in detail to determine the winner, ending up (after two upheld complaints) with TIB winning due to the most winning places in the novice and intermediate class category.

Special thanks go to Chris Lewis, who took on the task of weatherman, task-setter, scorer and director – no mean feat. A special prize went to young Katie Stokes of Lasham flying an Astir CS, who (supported well by her parents watching her every move on the large clubhouse screen) completed the 172km flight in 3hrs and 45 minutes – her first successful cross-country flight! Finally, we must not forget to thank the sponsors for the prizes – Forbes Insurance.


(Above) Lasham's Katie Stokes received a special prize after completing a 172km first cross-country flight

■ **Arrangements are now under way to find a willing club to host the 2020 event, preferably in central England somewhere. Anyone wanting to find out more please look on the BGA webpages or the Facebook account at: BGA InterClub League. Alternatively, come along and see us at at the ICL display stand at the BGA Conference. It is further hoped, as last year, a separate meeting will take place at the BGA Conference so, if you are interested in participating or becoming involved, please come along as all views/ideas are welcomed.**


'How I dunnit' – pundit Andy Davis of Bristol & Gloucestershire GC (left)

# STOP THE DROP

## The BGA safety team looks at preventing cartwheel accidents

FOR decades until 2006, winch launch accidents killed over one glider pilot a year and seriously injured two more; and eight gliders a year were destroyed or substantially damaged. A new study of winch launch mechanics and a thorough analysis of our accident records then showed that almost all accidents resulted from just a few different causes, which seemed to be solvable. The BGA introduced its Safe Winch Launching initiative [1], revising training and promoting the revised techniques, and the rate of fatal or serious injury fell by a factor of 5.

The improvement was largely due to

Photograph by Mark Layton


a tenfold reduction in the number of serious accidents involving a stall or spin. A more measured rotation into the full climb prevented loss of control during the launch, while a focus upon ensuring adequate manoeuvring speed addressed the hazard during recovery from a launch failure. If you took up gliding after 2005 and were taught the revised techniques from the start, you might not know what a big deal it was.

We had less success, though, addressing two further causes. Pilots continue to crash after a demanding circuit following a launch failure, writing off gliders but generally escaping without serious injury. And, cartwheel accidents – the subject of this article – continue to cause serious injuries and fatalities.

**PREVIOUS 'FLY RIGHT' ARTICLES**

*The Perils of Distraction* (Apr/May 19)
*Keeping Safe in Thermals* (June/July 19)
*Why It Is Good to Think Ahead* (Aug/Sep 19)
*The Effects of Wind Gradient* (Oct/Nov 19)
*A Fun but Safe Introduction* (Dec 19/Jan 20)

■ Clubs can obtain printed copies of Safety Briefings from the BGA Office.

### Cartwheel accidents

A cartwheel accident begins when a wingtip touches the ground. A 'wing drop' such as this is usually benign, the pilot recovers and a normal launch ensues. Sometimes, when the grass is long, the ground soft or rough, or the wingtip shape particularly susceptible, the glider pivots about the wingtip causing a groundloop that can damage the glider. If the cable is released promptly or the launch is stopped, the pilot is not hurt. Occasionally, however, if the launch continues, the glider rotates violently, and the combination of low airspeed and winch power causes the free wing alone to lift: the fuselage leaves the ground and the glider performs a cartwheel.

What happens next is down to chance: roughly speaking, if the glider finishes the right way up, the pilot is seriously injured; if the glider ends up inverted, it could well be a fatality.

### Wingdrop causes

For a wing to drop, there must be an imbalance between the forces on the two wings. There are several possible causes:

- Crosswind: a crosswind will tend to raise the upwind wing; it will also cause a moving glider to weathercock into wind, speeding up the downwind wing.
- Offset cable: as the winch hook is forward of the mainwheel, any sideways pull will cause the glider to yaw towards the cable.
- Offset hook: the winch will tend to straighten any offset of the winch hook from the glider axis, causing the glider to swing away from the hook side.
- Wing runner: if the wingtip is held back, the glider will swing towards the runner.
- Water ballast: if the wings are not held level, water movement in ballast tanks can cause the lower wing to drop.
- Turbulence: the wind strength may differ between the two wings.
- Ailerons: if the wings are not held level, the pilot may subconsciously try to raise the lower wing.

A number of people contribute to making the launch safer by preventing wingdrops:

***Launch crew*** – The first line of wingdrop prevention is the launch crew, who should ensure that the glider and cable layout suit the airfield conditions. This begins with the choice of launch run, avoiding long grass and soft or rough ground, and correct positioning of the glider, which should be lined up with the cable and bows in the cable eliminated.

***Wing runner*** – It's clear from accident reports that most wingdrops begin as soon as the wing is released. The wing runner's first job is to hold the wings level and STOP THE LAUNCH if there is an up or down force at the tip. A quick word with the pilot could sort out the imbalance. As the launch starts, the wing runner should run with the wingtip as the pilot gains control authority.

The wingtip should in general be supported without applying any lateral force, but a small correction from the wing runner can help keep the glider straight. This is a safety-critical job, and deserves proper training.

When choosing which wing to hold, the wing runner should take account of any crosswind or remaining cable bow, but be sure to avoid any other cables on the airfield.

***Pilot*** – The pilot should insist that the glider is correctly lined up and any bow taken out of the cable. If this isn't possible, the glider should be moved. Once the cable has been attached, the pilot should keep a hand on the cable release and monitor the angle between the wings and the ground – it may be necessary to look sideways, especially in gliders with long or low wings. There isn't time to adjust the flap setting, so flaps should be left in a suitable position throughout.

It's important to have a firm hold of the cable release. Gloves can slip, so remove them for the launch unless you're sure they provide a good grip. You might wish to fit your cable release with a T-handle [3] and, if the release knob doesn't come easily to hand, an extended cable sleeve.

If it's not possible to keep the wings level, the pilot must RELEASE THE CABLE immediately, well before the wingtip touches the ground. Cartwheels develop rapidly, and remaining attached to a powerful winch while the wingtip is on the ground means being a passenger on a ride that could end very unhappily.

***Signaller and winch driver*** – The final barriers to a cartwheel accident are the signaller and winch driver, who can STOP THE LAUNCH in response to the wing runner or when it is apparent that the wingtip can't be kept clear of the ground. The signaller must have a good view and act immediately without waiting to see whether the pilot can pick up the wing. The winch driver must respond promptly to the STOP signal.

The reason for stopping the launch is to prevent the fatalities and serious injuries that occur when a glider cartwheels. The aim is to stop the launch before the glider becomes airborne, but there could be occasions when the glider has taken off before the power is cut, leaving the pilot to handle an ultra-low launch failure. This is something that all pilots are trained to handle. Low-level launch failure accidents can damage gliders, but any injuries are almost invariably minor – and we believe that even if every incidence of a wingdrop were converted into a low-level launch failure, the serious accident rate would still be modest.

**Signalling equipment**

To stop the launch before the glider is airborne, a means of quick communication is essential. Bats and flashing signal lights are too slow.

Walkie-talkie radios are more immediate: it doesn't take long to say 'STOP STOP', but the radio must be audible in the cab during the launch, and the command mustn't be muffled by wind noise. Beware also that many walkie-talkies send an identification code before opening the audio channel: to avoid this delay, keep the transmit button pressed until the glider is in the air.

Better still are direct radio links that drive lights and sirens in the winch cab. At least two clubs (Stratford and Kent) have developed excellent systems that alert the winch driver instantly: in one test, the glider had stopped before the radio 'STOP' message began. Skylaunch [4] is currently trialling a commercial version which should be available very shortly. Clubs have found that safety-related equipment makes a great case for grant funding – the BGA Development Team can offer advice if required.

Dropping a wing during the winch launch ground run is not uncommon; the pilot usually recovers, and it's easy to become complacent and assume this will happen every time. Cartwheels are rare, and most people will never witness one. But they're nasty accidents, so you really don't want to. Stopping the launch will, at worst, leave the pilot with a low-level launch failure to handle. Once a cartwheel begins, the pilot is just a passenger.

**Tim Freegarde and the BGA safety team**

**REMAINING ATTACHED TO A POWERFUL WINCH MEANS BEING A PASSENGER ON A RIDE THAT COULD END VERY UNHAPPILY**

■ For more information, see the Safe Winch Launching website [1] and section 4-16 of the BGA Instructor Manual [2].

[1] BGA Safe Winch Launching *https://tinyurl.com/flyright2001*
[2] BGA Instructor Manual, section 4-16 *https://tinyurl.com/flyright2002*
[3] EASA CS-22 Amendment 2, AMC 22.781 (2018) *https://tinyurl.com/flyright2003*
[4] Skylaunch Ltd *www.skylaunch.com*

# BGA accident/incident summaries

| AIRCRAFT | | | | PILOT | |
|---|---|---|---|---|---|
| **Ref** | **Type** | **Damage** | **Date, time** | **Injury** | **P1 hours** |
| 94 | K-21 | minor | 25/05/19, 12:45 | none/none | 690 |

Winch parachute hit the wing. The instructor briefed the student for a ultra low level launch failure demonstration; the winch driver was briefed to cut the power immediately after the glider lifted off. The instructor felt the power failure just as he started to rotate, he lowered the nose only to see the parachute open just in front of and to one side of the glider. The parachute hit the wing and draped over the top surface until after the glider landed. One of the fixtures punctured a 2cm hole in the outer skin. The report suggests that the gusty wind may have contributed to the parachute inflating and recommends that winch drivers use the brakes to stop the drums rotating.

95 ASW 19 destroyed 01/06/19, 13:50 none 308

Pilot tried to operate the airbrakes with the undercarriage lever. The visiting pilot had flown a check flight earlier in the week, been cleared to fly the host club gliders and had a two-hour soaring flight in a Discus a few days prior. Witnesses report watching the glider fly a fast approach with the airbrakes closed and the undercarriage cycling up and down. The glider flew past the end of the airfield with the airbrakes still shut and the undercarriage retracted, across the next field, underneath some power lines and it was only as he crossed a second field that the pilot realised his mistake, lowered the wheel and opened the airbrakes. As the glider touched down, one wing caught on the ground, the glider groundlooped and went backwards into a dry stone wall, breaking the fuselage, damaging the tail and rudder as well as a wing and aileron. The duty instructor cannot recall the exact conversation but was under the impression that the pilot was current on the ASW 19 when the pilot asked to fly it; in fact his last flight in it was during a previous visit a year earlier.

97 LAK 19 minor 03/06/19, 17:00 none 315

Wheel-up landing caused minor damage to the underside of the glider.

98 Grob 102 minor 05/06/19, 12:00 none not reported

Glider tipped onto its nose. The first touchdown was bounced, after the subsequent landing the pilot applied full airbrake and wheel brake, tipping the glider forward. There were some abrasion marks and missing gel coat under the nose.

99 DG-500 minor 05/06/19, 12:30 none/none 1,360

Front canopy came open in flight. The trial flight instructor watched a club member close the canopy and then watched the P2 lock the canopy shut. The launch point helper reports that the canopy seemed closed and locked as he attached the aerotow rope. Some time after releasing at 3,000ft, while the P2 was handling, the canopy came open and quickly shut again, leaving a crack in the canopy. The P2 locked it shut again and the flight continued as normal.

100 ASH 25 substantial 06/06/19, 13:40 none 636

Wheel-up landing caused severe scratching and scuffing to the underside of the fuselage. The pilot had lowered the wheel when starting the circuit. On final approach, after setting landing flap and airbrake he became convinced that he had forgotten the undercarriage so he moved the gear handle, retracting the wheel. The landing ground run passed across a Tarmac runway, increasing the severity of the damage. The glider was fitted with a gear warning system but it was u/s at the time of the flight.

102 Libelle substantial 07/06/19, 11:10 none 394

Glider hit launch point vehicle. A witness reports watching the glider fly a multiple bounce landing and then, during the ground run, the glider hit a tractor parked at the launchpoint, damaging a wing and the nose. No pilot report.

104 Puchacz minor 15/06/19, 15:50 none/none not reported

Burst tail wheel tyre. The instructor had to verbally coach the student round the circuit, he also had to remind the student to maintain the approach speed a couple of times on final approach. When the P2 opened the airbrakes he let go of the handle and the airflow held the brakes fully open, the instructor asked the student to keep hold of the airbrake handle. As the glider approached round out, the airspeed was still 15 knots less than the agreed approach speed, but the instructor thought that the situation was manageable. The P2 made no attempt to round out so the instructor took control, shut the airbrakes and pulled back on the stick. Although the touchdown on the main wheel was gentle, the tail wheel hit the runway hard, bursting the tyre and damaging a rudder hinge.

105 Vega substantial 09/06/19, 14:15 minor 363

Field landing in crop. The pilot arrived at the field at about 900ft agl, noting that it was large, flat, grass-coloured and without visible tramlines. After circling to lose height he joined the circuit on a base leg and made a normal approach and round out, thinking that he was landing in a grass field. As the glider settled into the 3ft high rapeseed crop it came to a very rapid stop in the space of three or four metres. The pilot suffered some minor whiplash as his head was thrown forward, the main wing pin was bent. The battery, which had been secured into its mounting by an elastic strap, came loose in the impact and struck the pilot's head a glancing blow before breaking through the canopy.

109 Grob 102 minor 02/07/19, 14:30 none 38

Field landing damage. The pilot landed in a recently ploughed field and the underside of a wing and aileron were damaged by large flint stones.

# BGA accident/incident summaries *continued*

| AIRCRAFT Ref | Type | Damage | Date, time | PILOT Injury | P1 hours |
|---|---|---|---|---|---|
| 110 | PA 25 | substantial | 26/06/19, 13:30 | none | not reported |

Tug hit hangar. The tug had landed 'downwind' in the light and variable wind and was in the ground run when the pilot applied the wheel brake. The starboard brake failed and the tug veered to the left and hit the side of a hangar. One wing was damaged and the engine shock loaded.

113 DG-1000 substantial 30/06/19, 16:05 none/none 6,390
Undercarriage collapsed during field landing. The pilot started the turbo and the glider climbed away. However, after a few minutes the engine lost power and then stopped so the pilot set up a circuit into what appeared to be a suitable field. It wasn't until rounding out that the pilot noticed that he would be landing across some undulations in the field. The wheel retracted on touchdown, damaging the undercarriage, doors and the underside of the nose.

114 Cirrus substantial 06/07/19, 14:20 minor 178
Hit fence during field landing. The pilot flew an approach and landing into what seemed to be a suitable field. It wasn't until the ground run that he noticed the wire mesh fence, supported by steel wire held up by angle iron posts across his landing run. The mesh fence separated but the supporting wires rode up over the nose, smashing the canopy, hurting the pilot and trapping him in the glider. The pilot was able to call his retrieve crew, but was trapped for 90 minutes before his crew were able to extract him. He suffered some minor cuts from the broken perspex, the glider had damage to the nose, undercarriage doors and both wings. The CFI reports that there was no noticeable colour difference in the field surface either side of the wire fence.

115 Grob Astir substantial 08/07/19, 12:55 serious 127
Heavy landing. The glider was seen to fly straight into the ground with little or no round out. After two bounces it eventually landed and then groundlooped at the end of the ground run. The pilot reported back pain and remained in the cockpit until extracted by paramedics. While waiting, the pilot reported that he realised on short final that he had forgotten to lower the wheel and had to take his right hand off the control column to lower the wheel. The pilot had broken a vertebra, there was no energy absorbing cushion fitted to the glider. The canopy was broken during the landing and later a crack was found in the bottom of the fuselage.

117 SF 25C substantial 11/07/19, 12:00 none/none 53
TMG landed on the runway with left rudder applied. The TMG veered off the runway into the adjacent crop field, leading to a prop strike.

119 DG-300 substantial 25/05/19, 17:00 none 323
Competition landout. The pilot was low with a group of other gliders downwind of a grass airfield. He pushed into wind but was unable to find lift so elected to land on the airfield. Too low to fly a circuit and land into wind he chose to land downwind. Faced with a downwind, slightly downhill landing into a short airfield the pilot flew a relatively slow approach. When he tried to round out, the glider's attitude remained unchanged and the glider landed heavily, collapsing the main wheel.

120 Carman JP 15 destroyed 12/07/19, 16:05 minor 450
Field landing accident. Getting low, the pilot picked a field and, thinking that he was lower than he was, he flew towards it and started his circuit. In his rush to land he had misjudged the wind direction and set up a downwind landing. High and fast on approach, he touched down more than halfway into the field and ran into the far hedge at speed. The pilot managed to extract himself from the glider, despite the barbed wire strand that came to rest across the cockpit. He suffered some cuts to his head. The glider fuselage was broken, the wings damaged and the canopy also broken.

121 PA 18 minor 15/07/19, 15:00 none 1,900
Bolt on the tug tail wheel sheared on landing. The tail wheel was pushed into and damaged the bottom of the rudder.

123 Ventus substantial 12/07/19, – minor not reported
Competition crop field landing. The engine failed to start and the glider landed wheel up in a crop field before groundlooping. The pilot bruised his back. No pilot report.

**Incidents**

96 ASH 25 substantial May 19, – – –
Rudder damaged in trailer. The tailboom securing strap broke at some point as the glider was being towed back from France, allowing the fuselage to move backwards and breaking the rudder trailing edge. The strap had shown no signs of wear, but was thought to be nearly 30 years old.

101 DG-800 – 06/06/19, 12:00 – –
After starting the engine and getting ready to taxi the pilot noticed that a winglet was loose.

103 ASW 20 none 01/06/19, 14:20 none 850
Left aileron not connected. The glider had an independent rigging check and positive control checks during the DI. During the second flight of the day the pilot noticed that the handling and stick position were unusual. After landing, a second control inspection with the help of the previous owner found the disconnected l'Hotellier.

***Continued on p68***

# BGA accident/incident summaries *continued*

| AIRCRAFT Ref | Type | Damage | Date, time | PILOT Injury | P1 hours |
|---|---|---|---|---|---|
| 106 | Grob 109 | minor | 20/06/19, 15:00 | – | – |

A headset had been left on top of the instrument panel and when the one piece, front-hinged canopy was lowered, the headset cracked the canopy.

| | | | | | |
|---|---|---|---|---|---|
| 107 | Duo Discus | minor | 24/06/19, 11:00 | – | – |

While reversing the club tow car back towards the glider to attach the tow bar, the driver misjudged the distance and the car hit the glider, damaging the trailing edge of the rudder.

| | | | | | |
|---|---|---|---|---|---|
| 108 | Ventus | minor | 29/06/19, 17:30 | – | – |

A Pawnee tug was being pushed backwards in the hangar, between gliders, when a wingtip hit the canopy of the Ventus, cracking the canopy.

| | | | | | |
|---|---|---|---|---|---|
| 111 | Discus | none | 27/06/19, 13:20 | none | 150 |

Undercarriage retracted during landing. The pilot thinks that it may not have been properly locked down.

| | | | | | |
|---|---|---|---|---|---|
| 112 | LS 10 | none | 27/06/19, 16:00 | none | 639 |

Undercarriage retracted during landing. The pilot had operated the handle in the normal way and could not explain why the wheel had not been properly locked down.

| | | | | | |
|---|---|---|---|---|---|
| 116 | EuroFOX | none | 08/07/19, 12:35 | none | 19,500 |

Tug upset. The tug pilot reports waving the glider off at competition release height and then seeing the glider pitch up. The tug rapidly pitched to a steep nose down attitude before the pilot cut the rope. The glider pilot reports pulling the 'release' and then starting a climbing turn before verifying that the rope had released. In the event, he had pulled the gear extend knob instead of the release knob.

| | | | | | |
|---|---|---|---|---|---|
| 118 | K-13 | none | 10/07/19, 11:10 | none | 34 |

Glider landed in undershoot field. The pilot set up a long final approach and opened the airbrakes. Halfway down the approach he realised that he was undershooting and reduced the airbrakes. Realising that he was still undershooting, the pilot opened full airbrake and landed in the undershoot field.

| | | | | | |
|---|---|---|---|---|---|
| 122 | PA 25 | minor | 11/07/19, 19:00 | none | 1,875 |

An exhaust mount bracket had failed, allowing a coupling sheath to slide out of position. Hot exhaust gas was able to vent out of the gap onto the inside of the cowling, burning a hole into it.

**During BGA Club Safety Officer seminars it was proposed that, to further encourage reporting, it would be a good idea to remove site names from summaries. This has been reflected in the summaries on these pages. Edward Lockhart continues to provide a little extra detail, where available, in these listings. We would also like to publish (anonymously) your stories of particular flights that have taught you a valuable flying lesson. Please send details to *editor@sailplaneandgliding.co.uk* or by post to the address on p3.**

# BGA BADGES

| No. | Pilot | Club (place of flight) | Date |
|---|---|---|---|
| **Diamond Badge** | | | |
| 848 | George Knight | Cambridge | 11/10/2019 |
| **Diamond Distance** | | | |
| 1-1300 | Przemyslaw Urbanski | London | 03/07/2019 |
| **Diamond Goal** | | | |
| 2-2636 | Szymon Bartus | Lasham | 03/06/2018 |
| 2-2637 | Jason Eccles | Anglia (Husbands Bosworth) | 12/05/2019 |
| **Diamond Height** | | | |
| 3-1867 | Trevor Dale | Borders | 08/10/2019 |
| 3-1868 | Stephen Edwards | Cambridge (Aboyne) | 11/10/2019 |
| 3-1869 | George Knight | Cambridge (Aboyne) | 11/10/2019 |
| 3-1870 | Derek Staff | Bicester (Aboyne) | 11/10/2019 |
| 3-1871 | Robert Pye | Anglia (Aboyne) | 11/10/2019 |
| 3-1872 | Peter Warner | Cambridge (Aboyne) | 11/10/2019 |
| 3-1873 | Philip Atkin | Cambridge (Aboyne) | 11/10/2019 |
| 3-1874 | Adrian Docherty | Cairngorm/SGU (Aboyne) | 10/10/2019 |
| **Gold Badge** | | | |
| Andrew Balkwill | | Stratford On Avon | 11/09/2019 |
| Basil Vickerman | | SGU | 02/10/2019 |
| Robert Pye | | Anglia | 11/10/2019 |
| Simon Norman | | Lasham/ Southdown | 11/10/2019 |
| Richard Brickwood | | Cambridge | 11/10/2019 |
| Liam Lyons | | Lasham | 11/10/2019 |
| Peter Warner | | Cambridge | 11/10/2019 |
| Adrian Docherty | | Cairngorm/SGU | 27/10/2019 |
| Oliver Summerell | | Bristol & Glos | 01/11/2019 |
| **Gold Distance** | | | |
| Szymon Bartus | | Lasham | 03/06/2018 |
| Jason Eccles | | Anglia (Husbands Bosworth) | 12/05/2019 |
| Adrian Docherty | | Cairngorm/ SGU (Portmoak) | 27/10/2019 |
| Przemyslaw Urbanski | | London | 03/07/2019 |
| **Gold Height** | | | |
| Andrew Balkwill | | Stratford On Avon (Sutton Bank) | 11/09/2019 |
| Paul Mucha | | Shenington (Aboyne) | 10/10/2019 |
| James Walters | | Shalbourne (Milfield) | 12/10/2019 |
| Basil Vickerman | | SGU | 02/10/2019 |
| Robert Pye | | Anglia (Aboyne) | 11/10/2019 |
| Simon Norman | | Lasham/ Southdown (Aboyne) | 11/10/2019 |
| Richard Brickwood | | Cambridge (Aboyne) | 11/10/2019 |
| Liam Lyons | | Lasham (Aboyne) | 11/10/2019 |

## ROGER GRETTON (1951–2019)

IT IS with great sadness that I have to announce the death of Roger Gretton. Roger was a stalwart of Peterborough & Spalding GC for over 30 years, spending two years as chairman and many years as both an instructor and tug pilot.

He'd been fighting prostate cancer for the past six years, but, unfortunately, succumbed in October. Roger's easy going nature made him a popular individual and he had many friends from around the country, whether he was competing in the Inter-club League, taking part in club expeditions or in his perseverance chasing that elusive Diamond height, which he eventually conquered, making him the first pilot from PSGC to achieve all three Diamonds.

Roger was a determined glider pilot and liked nothing better than planning a long cross-country in his Kestrel 22 and, once launched, wouldn't return until the end of the day, a big satisfied smile on his face having completed hundreds of kilometres. However, he was just as happy imparting his knowledge (especially the soaring skills) to the student pilots he was instructing.

His love of flying started when he was a youngster growing up in the Fens of Cambridgeshire, joining the ATC and eventually passing selection for RAF fast jet pilot until a medical issue stopped all that in its tracks! So Roger decided to join the Metropolitan Police, where he became the youngest pursuit driver ever. After several years, he knew he wanted to fly so resigned and joined BOAC, a job he thoroughly enjoyed and travelled the world.

Eventually he returned back to the Met, but after a short while recognised that he wanted to be the boss of his own business, so he bought himself a coach, learnt to drive (coaches), passed all the exams and tests and never looked back. His company now has a fleet of coaches all proudly showing the silhouette of his glider emblazoned on the sides, so if you're sat behind one in the traffic now you know the link.

When Roger wasn't flying gliders or driving coaches, he loved to fly his Siai Marchetti S205R in which he travelled around Europe, travelling as far as Corsica, Portugal and Spain with his family and friends.

Roger leaves a wife, Linda, and children Keith, Jo, Vicki and Ali, who we send our sincere condolences. Roger, it was a pleasure knowing you, we had many great times both socially and flying, be it gliders or on many our trips around Europe in G-EH. May you rest in peace.

**Kevin Fear, Peterborough & Spalding GC**

## DAVE GOULD (1941-2019)

IT IS with great sadness that I report the recent death of long-term member Dave Gould. Dave joined the club in the 1990s and was known for his cheery manner and willingness to help, especially with the tug and anything mechanical. He was always full of stories in the bar, especially about when he drove the underground trains.

Dave came into gliding from model flying and was apparently big in the model flying world, winning quite a few major

competitions in his time. He saw an advert in a magazine for "learn to fly in a week" when Mike Cuming was running his flying school at Shenington, and the rest is history!

After solo, Dave was, for a time, a member of an Astir syndicate and following that he had a share in a Skylark syndicate. He got into tugging after gaining his Motor Glider licence, having had his arm twisted as we were short of a tug pilot mid-week! In recent years Dave rarely flew gliders, but was a regular tug pilot on club days and for the occasional competition.

In 'civilian' life Dave had been an 'engine man' working on steam engines (despite his relative youth) and classic cars engines. He then spent many years as a London Underground Tube driver. He assisted with driving the 'Sir Nigel Greasley' (a very famous steam locomotive) out of London because they needed someone to act as a 'pilot' to get the locomotive on to the main line. The tube driving gave him the shift patterns that allowed him to fly across weekdays and weekends and stay on site for many days at a time in his trusty blue van.

As well as being an expert model flyer, Dave was also a keen cyclist. He enjoyed cycling expeditions abroad with friends, as well as speeding round the airfield and local countryside, putting the rest of us to shame. He had recently bought an electric bike, as the local hills were beginning to feel a bit too steep after a training session.

Dave had some health problems, but it was still a shock when he was taken ill again this summer. In true Dave spirit, he left his body to medical science. We will miss him greatly and send our condolences to his wife, Rosie, and the rest of his family.

**Tess Whiting, Shenington GC**

# BGA BADGES

| No. | Pilot | Club (place of flight) | Date |
|---|---|---|---|
| **Gold Height cont'd** | | | |
| | Peter Warner | Cambridge | 11/10/2019 |
| | Geoffrey Moody | Wyvern (Aboyne) | 10/10/2019 |
| | Daniel Harber | Anglia (Aboyne) | 08/10/2019 |
| | Oliver Summerell (Lleweni Parc) | Bristol & Glos | 01/11/2019 |
| | Thomas Clark | Wyvern (Aboyne) | 08/10/2019 |
| | Michael Keeley | SGU | 27/10/2019 |
| | Christopher Scutt | Banbury/ Bound Trust (Aboyne) | 08/10/2019 |
| | William Winthrop | Borders | 23/10/2019 |
| **Silver Badge** | | | |
| | Andrew Lomas | Derby & Lancs | 17/5/2018 |
| | Gilad Myerson | London | 08/09/2019 |
| | Brian Crouch | Deeside | 15/09/2019 |
| | Edward Newland-Smith | London | 10/09/2019 |
| | Luke Walker | Buckminster | 27/10/2019 |
| | Przemyslaw Urbanski | London | 03/07/2019 |
| | Deborah Mockford | Lasham | 29/08/2019 |
| | Roderick Coombs | Mendip | 10/10/2019 |
| **Silver Distance** | | | |
| | Gilad Myerson | London | 23/08/2019 |
| | Brian Crouch | Deeside | 15/09/2019 |
| | Richard Skuse | Dorset | 21/08/2019 |
| | Damon Williams | Kent (Shenington) | 29/07/2019 |
| | Peter Milligan | London | 05/09/2019 |
| | Edward Newland-Smith | London | 12/05/2019 |
| | Przemyslaw Urbanski | London | 03/07/2019 |
| | Deborah Mockford | Lasham | 29/08/2019 |
| **Silver Duration** | | | |
| | Gilad Myerson | London | 19/08/2019 |
| | Gregory Weeks | Chilterns | 06/10/2019 |
| | Edward Newland-Smith | London (Llanbedr) | 10/09/2019 |
| | Luke Walker | Buckminster (Portmoak) | 27/10/2019 |
| | Geoffrey Moody | Wyvern (Aboyne) | 09/10/2019 |
| | Daniel Harber | Anglia (Aboyne) | 09/10/2019 |
| **Silver Duration cont'd** | | | |
| | Roderick Coombs | Mendip | 10/10/2019 |
| | Holly Harris | Midland | 13/08/2019 |
| **Silver Height** | | | |
| | Ethan Harrison | Bicester | 08/09/2019 |
| | Gilad Myerson | London | 08/09/2019 |
| | David Shirley | East Sussex | 08/09/2019 |
| | William Fulton | SGU | 16/09/2019 |
| | Christian Fowler | East Sussex | 01/09/2019 |
| | Edward Newland-Smith | London | 12/05/2019 |
| | Paul Waghorne | Banbury | 12/05/2019 |
| | Robert Holloway | Banbury | 20/08/2019 |
| | Geoffrey Moody | Wyvern (Aboyne) | 10/10/2019 |
| | Daniel Harber | Anglia (Aboyne) | 08/10/2019 |
| | Przemyslaw Urbanski | London | 03/07/2019 |
| | Damien Murray | Bath, Wilts & N Dorset | 21/05/2019 |
| | Ben Wightman | Cranwell | 08/09/2019 |
| | David Shepherd | Staffordshire | 03/07/2019 |
| **100k Diploma Part 1 & 2** | | | |
| | Szymon Bartus | Lasham (Nympsfield) | 05/08/2018 |
| **Cross Country Endorsement** | | | |
| | Robert Grady | Mendip | 18/10/2019 |
| | Christopher Golding | Lasham | 06/11/2019 |
| | Jordan Thomson | Cairngorm | 24/10/2019 |
| | David Saunders | Lasham | 12/11/2019 |
| | Shayan Hassanbigi | Surrey Hills | 19/11/2019 |
| | Nikolay Smirnov | Lasham | 16/11/2019 |

# INSTRUCTOR RATINGS

| | | | |
|---|---|---|---|
| **Basic** | | | |
| | Andrew Barr | SGU | 25/10/2019 |
| | Matthew Stickland | SGU | 25/10/2019 |
| | David Lambert | Gliding Centre | 25/10/2019 |
| | Richard Slater | York | 31/10/2019 |
| | Stephen Kenyon-Roberts | Deeside | 18/11/2019 |
| | James Fleming | Southdown | 29/11/2019 |
| | James King | Gliding Centre | 29/11/2019 |
| | Stephen Jones | Essex & Suffolk | 04/12/2019 |
| | Graham Smith | Southdown | 13/12/2019 |
| **Assistant** | | | |
| | Jamie Steel | Wyvern/ Portsmouth Naval | 22/11/2019 |
| | Jonathon Morris | Gliding Centre | 31/10/2019 |
| **Full** | | | |
| | John Whiting | Shenington | 31/10/2019 |
| | Richard Grain | Yorkshire | 08/11/2019 |
| | Timothy Beasley | Buckminster | 15/11/2019 |
| | Alan Gillanders | SGU | 15/11/2019 |
| | Bryan Harvey | Chiltern | 04/12/2019 |
| | Brian Gough | Kestrel | 04/12/2019 |

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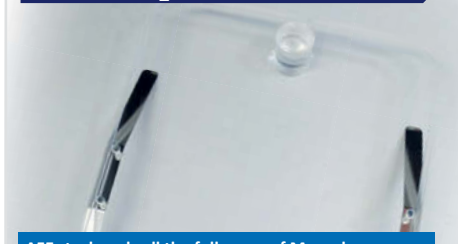

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