

AUG / SEPT 2018

SAILPLANE & GLIDING

VOL. 69 NO.4

**WEATHER APPS
FOR DUMMIES**

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MEMBER OF THE ROYAL AERO CLUB AND THE
FEDERATION AERONAUTIQUE INTERNATIONALE



**THE MAGAZINE OF
THE BRITISH GLIDING
ASSOCIATION**

AUG/SEPT 18 VOLUME 69 No 4

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COVER STORY
Taken in the South Alps after passing Pas de la Cavale (Orcières on the left, Chaillol on the right...in the cloud...) heading south. See pages 38-41 to read how Bob Symons got his first taste of mountain flying, Aiming Higher in the Alps (Sophie Mahieu)

DEADLINES

Oct/Nov 18

Articles, Letters, Club News:
Display advertisements:
Classifieds:

7 Aug
21 Aug
6 Sept

Dec 18/Jan 19

Articles, Letters, Club News:
Display advertisements:
Classifieds:

5 Oct
19 Oct
6 Nov

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PUBLISHER

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Park, Leicester LE19 1RJ
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➤ Competition Enterprise 2018 was won by Trevor Stuart (ASG 29), second place went to Doug Gardner (LS3a) and Mike Armstrong (Ventus 2ct) was third. The Blunt Nails trophy was awarded to Team BBB (John Burrow and friends), which also picked up the award for Most Enterprising Flight for its incredible performance in the Eagle. Built in the 1950s, the Eagle beat all the modern glass fibre machines to become Day 2 winner.

➤ Nine UK pilots competed in the Club Class at the 43rd International Issoudun in France, 8-14 July. Congratulations to Olly Metcalfe (Discus 2) on winning the class.

➤ As we go to press, bad weather has been affecting the 2018 World Championships in Ostrow, Poland. UK pilots competing are: Standard Class – Howard Jones (Discus 2a) and David Bromley (LS8); 15m Class – Tim Scott (ASG 29) and Derren Francis (Ventus 3); Club Class – Tim Fletcher (Std Libelle) and G Dale (Std Libelle).

➤ Congratulations to Peter Harvey, 18m champion for 2018, flying his JS1 Revelation at Hus Bos (7-15 July). Garry Coppin flew his Arcus to first place in the 20m Class, also held at Hus Bos.

➤ The official opening of the second Gliding Heritage Centre hangar at Lasham will take place on 25 August. Sir John Allison will perform the official opening at 5pm. www.glidingheritage.org.uk

➤ The CAA has opened a new funding period to assist general aviation pilots, who still need to buy an 8.33kHz radio for their aircraft, and will be accepting new applications until 30 September 2018. www.caa.co.uk/General-aviation/Aircraft-ownership-and-maintenance/8-33-kHz-funding-application/

➤ The BGA Development Committee is reviewing funding opportunities to assist with re-equipment of club base radios.

➤ T-61f motor gliders are being transferred from EASA to non-EASA status. A process update is available at <https://members.gliding.co.uk/2018/06/22/t61-national-c-of-a/>

➤ BGA motor glider guidance has recently been updated. See <https://members.gliding.co.uk/pilot-resources-flying-training/motorgliding/>

➤ **STOP PRESS:** Schleicher has followed the launch of its AS 33 (see p7) with the announcement of a new version of its successful trainer, the K-21. For more information on the K-21 B see: www.alexander-schleicher.de/en/neu-b-version-der-ask-21/



■ Four 1,000km flights were achieved in the UK on 21 June, along with many other impressive flights (see pages 12-17). The 1,000km pilots met up at the Hus Bos nationals in July: (left to right, back) Andy Aveling, Russell Cheetham and Tim Jenkinson, (front) Richard Browne and Garry Coppin.

CAA DECISION ON TAG FARNBOROUGH ACP

ON 11 July, the CAA announced its decision to approve the TAG Farnborough airspace change proposal (ACP) with some changes, including large areas of CTR (Controlled Traffic Region) and CTAs (Control Areas) classified as Class D controlled airspace and CTAs that will be classified as Class E controlled airspace requiring transponder equipage.

TAG Farnborough and its NATS partners developed their airspace change proposal using the now superseded CAP725 process. The CAA has stated that, given the increase in business aviation at Farnborough Airport, there was a material safety case for introducing controlled airspace around the airport. The CAA has also said that the new airspace, which will become operational in 2019, is the minimum necessary to

contain the international requirements for new performance-based navigation flight procedures being introduced at Farnborough Airport.

Despite clear evidence that demonstrates why the restrictions are unnecessary, the CAA has chosen to hand over a large part of UK airspace for the sole benefit of a commercial organisation. As a result, the majority of other airspace users will suffer from significant safety, operational and economic impacts.

The BGA, alongside clubs and other GA organisations, is carefully considering options and will provide more information in due course. The CAA decision to approve TAG Farnborough's airspace change proposal is detailed at www.caa.co.uk/cap1678

DATES

NATIONALS, REGIONALS AND OTHERS

Worlds	Pribram	28/7-11/8/18
Open, 18m and 20m multi-seat Classes (Czech Rep)		
Club Class Nationals	Dunstable	4-12/8/18
Open Class Nationals	Aston Down	18-26/8/18
Standard Class Nationals	Aston Down	18-26/8/18
15m Class Nationals	Aston Down	18-26/8/18
Junior Nationals	Lasham	18-26/8/18
Two-seater comp	Pocklington	19-26/8/18
UK Mountain Soaring Champs	Aboyne	2-8/9/18
Glider aerobatic competitions		
World Glider Aerobatic Champs	Zbraslavice, Czech	2-12/8/18
Aerobatic Nationals	Saltby	23-26/8/18

BICESTER REGIONALS

21-29/7/17

BOOKER REGIONALS

21-29/7/18

HUS BOS CHALLENGE CUP

28/7-5/8/18

INTER-SERVICES REGIONALS

4-12/8/18

NORTHERN REGIONALS

12-18/8/18

LASHAM REGIONALS

18-26/8/18

■ **BGA Club Management Conference, Sunday 28 October 2018 at Highgate House, Northampton**
■ **BGA Conference and AGM, 2 March 2019 at the Belfry Hotel, Nottingham**



■ The maiden self-launch and flight of the GP 15 SE JETA took place at its home airfield in Krosno, Poland, on 19 May. Test flights continued through June with pilots Tomas Kuzmickas, Sebastian Kawa and Piotr Grzebien. A Certificate of Airworthiness was issued by Slovak Federation of UltraLights, with 525 kg MTOM www.gpgliders.com

BRITISH TEAM AWARDED PRINCE OF WALES CUP

CONGRATULATIONS to the many glider pilots whose contribution to aviation has been recognised with Royal Aero Club Awards, presented by the Duke of York at London's RAF Club in May.

The Prince of Wales Cup was awarded to the British Team. The RAeC Diploma was awarded to David Roberts, with a Silver medal awarded to Justin Wills. Bronze medals were received by: Andy Miller, Derek Wilson, Don Irving, John Williams, Mark Evans and Michael Muir. RAeC Certificate of Merits were presented to John Stark, Steve Longland, Kevin Atkinson and Tony Cronshaw.



David Roberts receives RAeC Diploma



Justin Wills Derek Wilson Andy Miller



S&G dream team: illustrator Steve Longland, with Aim Higher's Kevin Atkinson and Tony Cronshaw



The 2017 British team was awarded the Prince of Wales Cup (photographs by Martin Gammon)

■ Josh Reid, 17, (pictured right) has completed his training and is now Portmoak's youngest Assistant Instructor. Well done, Josh.



Drama continues at gliding clubs

COMING of age drama, *Airborne*, directed by UK Junior Gliding (UKJG) Media Producer Joey Beard, 'wrapped' principal photography in June, filming at both Bristol & Glos and Cotswold gliding clubs. Starring UKJG's Freddie Turner, a successful flying scene was shot in Aston Down's K-21 (LRT) in which the lead actress experienced her first glider flight. Expletives aside, Alina Foster Flaherty's reactions for camera were as hoped – mimicking the famous DG sequence from blockbuster *50 Shades of Grey*.

The air-to-air photography in Slingsby Venture 'Verity' is yet to take place and looks set to shoot later this summer.

A film crew of around 17 descended on Nympsfield and Aston Down in early June to shoot the drama, depicting a young woman learning to fly. Nympsfield provided the perfect cinematic backdrop with most of the photography taking place near the South Hangar, but some scenes being shot in the club members area and in The Old Flying Club Café.

Whilst the majority of the filming is complete, the film is looking to raise an additional £2,000 to see it through post-production and fund professional air-to-air photography and music licences. The film is aimed at encouraging more young people and women to learn how to fly.

You can find out more and donate directly via www.airbornethemovie.co.uk



UK junior Freddie Turner with Alina Foster Flaherty during filming of *Airborne*

STRENGTH IS TESTAMENT TO VOLUNTEERS

BGA Chairman **Andy Perkins** reflects on a superb flying day and outlines the three core areas that the BGA Executive Committee is focusing on to safeguard and evolve the sport from a strategic viewpoint



A

DAY to

remember – 21 June 2018 saw four 1,000km flights on the Ladder. In addition, Sant Cervantes smashed the UK open distance record with a flight over 1,200km, doing 2.5 laps of a 500km task in wave. The day saw glider pilots clock up 68,000km on the Ladder – the equivalent of flying more than 1.5 times around the globe! An awesome demonstration of how, despite a hideously long, wet winter, some superb flying can be achieved in the UK. I only hope that this change in weather fortunes continues for the rest of the summer.

Days like 21 June, 2018, highlight how important infrastructure and people are to our sport. Our ex-chairman Pete Harvey passed on an active association that is engaged in tackling a number of key issues with volunteers at the heart of making it all happen. The strength of the sport is testament to the volunteers that assist across everything from regulation to running the launchpoint. All of these crucial people ensure that gliding thrives. In terms of the BGA board, this fortune continues and I am honoured to work closely with glider pilots from across the country and, together as the Executive Committee, we endeavour to safeguard and evolve the sport from a strategic viewpoint.

There are three core areas in my opinion:

- Airfields/facilities
- Airspace
- Participation

Airfields/facilities: If you can't take off then gliding does become rather tricky as a sport! We are fortunate to have a great structure of airfields across the UK. However, a lot of these are facing pressure from the relentless calls for more development and the insatiable rise in land value across the UK.

The status of ownership of many clubs means that what seems

like a secure situation can actually change very quickly. This can have many ramifications from a steep rise in rent, or lack of security, meaning the club feels unable to invest in facilities. This is being acutely felt in the Thames Valley region.

Resolving this is not a quick solution and engagement with the All-Party Parliamentary Group on General Aviation and other political angles will play a part in resolving these challenges.

Airspace: The pressure on this resource is well documented. We are incredibly lucky to have a team of volunteers across the country that devote their energy to ensure that proportionate, safe and appropriate points of view regarding airspace are put forward to the CAA and other groups.

The requirement for this engagement will continue to be great over the years ahead and I know we will have to call on you all, and the wider GA community, to play a part in shaping that future. Therefore, please be ready to act again when the call for your support comes again. Engagement by us all and negotiation with other airspace users will be essential to ensuring an effective evolution that enables us to maintain our freedoms in the air.

THE STRENGTH OF THE SPORT IS TESTAMENT TO THE VOLUNTEERS THAT ASSIST ACROSS EVERYTHING FROM REGULATION TO RUNNING THE LAUNCHPOINT

Participation: How do we engage people that have such busy lives? This can be a tough one. That said, there are green shoots across the country in terms of methods that are encouraging more people to go gliding. I am sure that by sharing ideas and experience we will be able to innovate and ensure that, ultimately, more people become active glider pilots.

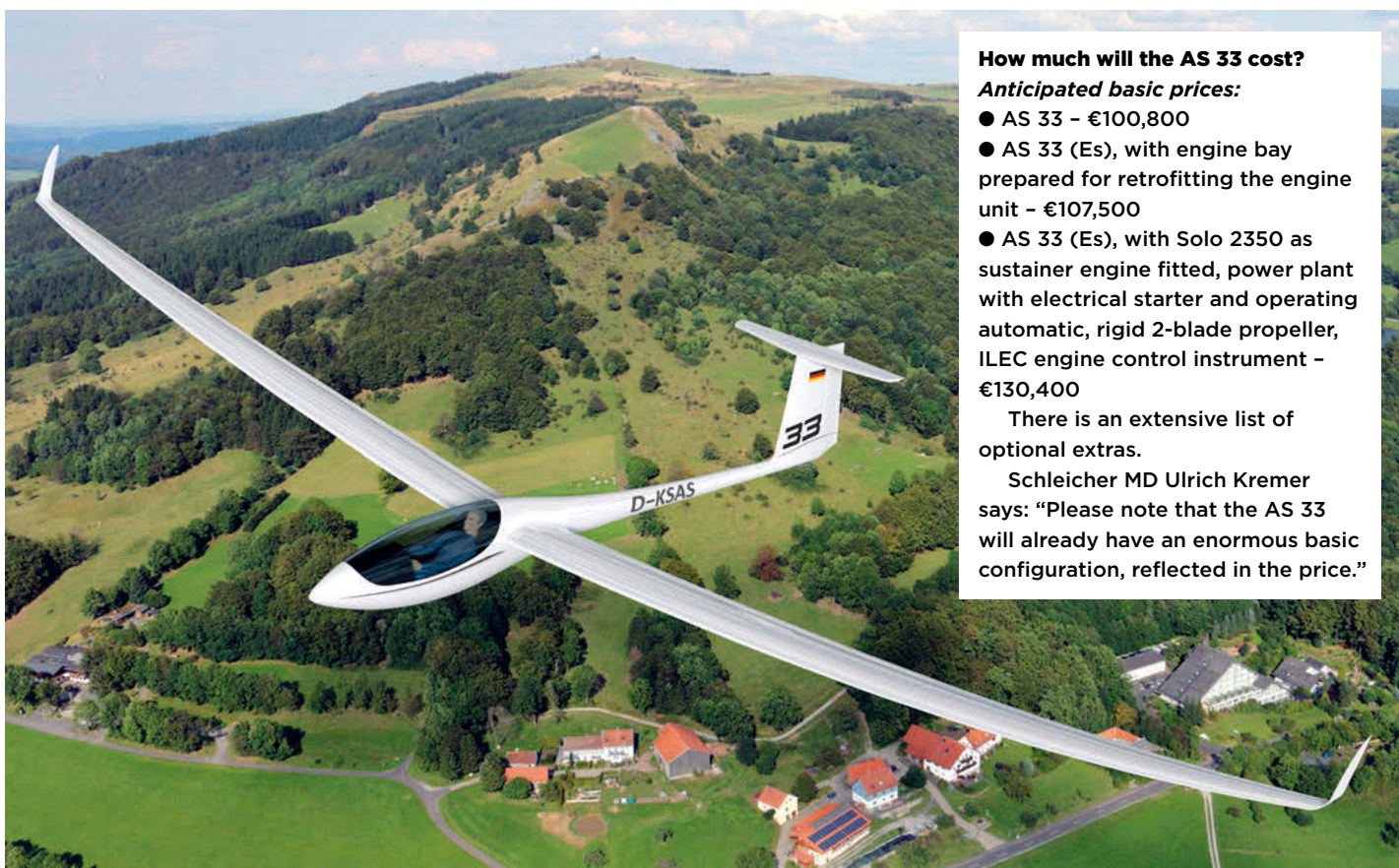
Glide Britain, for example, has been a huge project and highly successful. Building on this activity, and through online engagement, is part of the solution. Making sure that we connect to people and that we welcome them into the sport is key to them becoming hooked on gliding like the rest of us.

I also think that reaching out to the local community has a part to play in this evolution. There is a huge opportunity to integrate other recreational activities at our clubs in ways that will provide income, members and volunteers. People are fascinated by flying and we need to use this to our advantage.

Hopefully, that high-level view of what the challenges are gives a taste of where the BGA Exec is focused. Over the next year, different members of 'the Exec' will be giving you an insight to their involvement on the Executive Committee from their perspective. I hope this gives an insight into the inner workings.

Happy landings.

Andy Perkins
Chairman,
British Gliding Association



How much will the AS 33 cost?

Anticipated basic prices:

- AS 33 – €100,800
- AS 33 (Es), with engine bay prepared for retrofitting the engine unit – €107,500
- AS 33 (Es), with Solo 2350 as sustainer engine fitted, power plant with electrical starter and operating automatic, rigid 2-blade propeller, ILEC engine control instrument – €130,400

There is an extensive list of optional extras.

Schleicher MD Ulrich Kremer says: "Please note that the AS 33 will already have an enormous basic configuration, reflected in the price."

INTRODUCING SCHLEICHER'S AS 33

SCHLEICHER has announced the AS 33, a successor to its ASG 29, which had its first flight almost 13 years ago.

The continuously improved ASG 29 is still a fully competitive 15/18m sailplane in the competition scene. Nevertheless, Schleicher decided on a new design as the latest innovations in the area of aerodynamic simulations show that additional and decisive performance improvements can be achieved. Using a commercial CFD program over countless hours, Schleicher engineers were, among other things, able to optimise the 3D airflow around the fuselage/wing intersection and at the wingtip.

By combining the many years of experience in sailplane construction and the fully developed features of its predecessor, Schleicher says it has created a completely new standard in the 15/18m class.

An entirely new wing of only 10 sq. meters (18m) permits a very high wing loading, thereby achieving maximum performance in the high speed spectrum.

New wing profiles based on the latest aerodynamic findings were developed and tested in the wind tunnel. This ensures that the profiles have all the characteristics of modern laminar profiles: very low drag combined with even higher lift while circling and pleasant handling. Together with the proven Schleicher-typical harmonised aileron and flap interaction, excellent climb performance is assured, even in turbulent thermals.

In addition to the 18m version, it will also be possible to fly in the FAI racing class with 15m span. Because of the further inboard half span position at 5m, it was also possible to achieve a performance optimal wing planform with

the smaller wingspan version.

The reliable and continually further developed 'Es' propulsion system with electric start capability and simple operating controls will also be available for the AS 33. Many other features of modern sailplanes, for example the safety cockpit, will be integrated into this latest design. Other refinements, such as a retractable tail wheel, will be available as options.

Schleicher's joint MD Ulrich Kremer said: "We plan the maiden flight of the AS 33 in the middle of 2019, and to start serial production in 2020."

www.alexander-schleicher.de
www.zuluglasstek.co.uk

TECHNICAL DATA

		18m		15m
Wing area	10m ²	628lbs	8.8m ²	94.7 sqft
Aspect ratio		32.4		25.6
Empty weight (sailplane)	285kg	628lbs	275kg	606lbs
Empty weight (motorglider)	330kg	728lbs	320kg	705lbs
Max flying weight	600kg	1322lbs	550kg	1213lbs
Min wing loading	36kg/m ²	7.4lb/sqft	40kg/m ²	8.2lb/spft
Max wing loading	60kg/m ²	12.3lb/sqft	62.5kg/m ²	12.8lb/sqft

Spell it out

IN PHIL Swallow's letter (p9, June/July 18), there is no explanation of what the DBS acronym is.

In Scotland our child protection governance is administered through Disclosure Scotland.

Presumably other UK countries use a different process?

E Robert Dunthorn, Deeside GC

The editor replies: *Apologies for not spelling out DBS - Disclosure and Barring Service checks. The checking process used in England and Wales is indeed similar to Disclosure Scotland, and to Access Northern Ireland. The way each one works is very slightly different.*

See the BGA website for advice on child protection policies, or contact the BGA Child Protection lead Karon Matton - Karon@gliding.co.uk

Similar train of thought

I FOUND Alison Randle's article on bite-sized gliding very interesting (p50, *Development News*, June/July 18). Here at Kingaroy Soaring Club in Queensland, Australia, we have been discussing the problem of lack of instructors and are following the same line of thinking. The point being that there are (say) four hours of useful instructing (7am until 11am) before any decent cross-country becomes possible. So why not have the cross-country boys instructing in the morning and those who are less keen (and there lots of those, unbelievably!) doing so in the afternoon? Or just not offer instruction in the afternoons. I think gliding as an activity has to be dragged kicking and screaming into the 21st century. The phrase 'everyone wants improvement, but nobody wants change' has never been truer!

Mark Dalton, Paddington, Australia

The editor replies: *Alison continues to explore how clubs might benefit from bite-size gliding in this issue's Development News, on p50.*

Sky high prices

ON 21 June, there were 132 BGA Ladder entries. Many were relatively cheap (?) Club Class gliders, but there was also a significant number of super-ships. Many other gliders would have flown that did not feature on the Ladder.

My calculation - admittedly hardly of the accuracy level to survive an audit - arrives at a total of some £15 million to £20 million worth of gliders in the air over UK on 21 June.
Jack Harrison, Nairn, Scotland

THE ROOT CAUSE OF ACCIDENTS

I HAVE received a copy of the pamphlet entitled 'Safety Briefing - Accident Review 2017', for which I thank the BGA.

Of course, every accident, no matter the outcome, is cause for reflection and I find the pamphlet useful in this regard. The part that inevitably interests me the most is the cause of past accidents, but I am not sure that the BGA is getting to the bottom of the root causes. There is nothing in this report that I and, I believe, all other glider pilots do not know. I do not know a glider pilot who believes launching with an incompletely rigged glider is a good idea. I do not know a glider pilot who would argue against good lookout. And yet accidents continue to happen. Why?

There must be other and deeper issues at play than those that we choose to acknowledge. I have no idea what these may be but, from my experience of uncomfortable situations, not just in the air, they are probably personal. I am thinking of such factors as: not current on said glider, recovering from that party last night, ignoring doctor's advice, fiddling with a shiny new moving map on aerotow, rushing to rig because the traffic delayed arrival at the airfield, missing the daily

briefing, forgetting to check NOTAMS, etc.

If we want to minimise and ideally prevent all accidents, we also need to improve the honesty of our reporting system and hence our own personal integrity. Within the control of the BGA are some of the best tools to address safety - leadership, training, monitoring and supervision. To best deploy these skills, we also need to identify the 'most at risk' sub-groups within our gliding fraternity (for example, by pilot age, flying hours, club, glider type, etc) in order that they may receive the best advice and assistance. With a few unique exceptions, such as cable launching, this is not currently a standard practice.

This subject of safety concerns us all and, every day I age, it worries me more.
Mark Hope, Deeside Gliding Club

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 7 August

BGA Chief Executive Pete Stratten comments: *Appropriately deep analysis of gliding accidents and causal factors is very important. Our work in this area has had some great success. For example, the data makes it very clear there has been a sustained improvement in winch launching safety. In other areas, we have yet to achieve a similar level of success. Analysis remains a key element of our work and informs our safety education efforts. Having measured that the average age of glider pilots will continue to increase, we're working with others and the data to identify whether gliding needs to adjust to take into consideration an ageing pilot population. Mark refers to 'personal' issues. I think he means human factors. Anyone who has attended a recent inspector seminar or instructor course will understand that mitigating for human factors is an increasingly taught aspect of risk management in our sport. Our safety advice provides good practice mitigation with the inherent limitations of humans very much in mind. Of course, it can always be improved. Over time, we anticipate that pilots will accept that regardless of how expert they are, we are only human.*

INSPIRED PAINTING

I WAS interested to see Robbie Robertson's excellent-looking painting in the June/July issue (p6, *News*) of Ralph Jones' Nimbus finishing low and fast at a Nympsfield Regionals in the 1980s.

I remember that finish well as the trees on the north ridge at the Nympsfield airfield entrance were almost absent compared with today, allowing the big wing to shoot the gap between the adjacent woodland.

The occasion was captured on camera (pre-digital) by the late Ray Brown of Cotswold GC (Ray was my crew at Open Nationals in the 70s and 80s) and I have an original large print of the photo – somewhere – in a box in my study.

The photo was also the backdrop on the wall behind the Lasham bar for many

years; I do not know if that picture is still there. But I trust Robbie will credit Ray for the inspiration behind his painting. Unless, of course, it was another occasion as Ralph performed such finishes several times at Nympsfield.

David Roberts, Vice-President, BGA

Robbie Robertson replies: *I remember watching several of Ralph's finishes at Nympsfield, standing in the car park across the road from the club entrance on the north ridge. There was usually quite a crowd there, all with cameras, including myself, and Ralph never failed to impress us with those immense bendy wings.*

I am not sure if I ever met Ray Brown as I only visited Aston Down a few times and certainly was not aware that he had

taken any photos of Ralph finishing. Re the photo in the Lasham bar, the only time I was ever there was in the early seventies when I did my instructors course with Bill Scull and Brian Spreckley, who had joined Bill Scull the week before!



Robbie Robertson's *Ralph's Racing Finish* is one of three of his paintings displayed in the 2018 Guild of Aviation Artist's exhibition at London's Mall Galleries in July. See also www.theartofsoaring.net

A square on the hypotenuse

AT THE risk of seeming a nerd or anorak, may I request a little help from S&G's more mathematically inclined readers?

Our particular problem of mental arithmetic concerns a 104km 28 per cent FAI racing triangle that we have established at Llewenni Parc, which can be flown without turning.

Our favoured strategy is to start high (say 4,000ft) at Prestatyn (PYS), then run the sea breeze convergence to Conway (CWY), followed by a leg to the south end of our home ridge at Llandegla (DRS) before tazzing north in the ridge lift to the finish at PYS. We assume, say, a 20kt wind north of west.

The hypotenuse leg (43km CWS-DRS) has non-continuous lift, and the puzzle

is whether to fly the leg direct in a "dirty dive" to the ridge lift at DRS, or whether to self penalise with extra distance by cutting the corner back to the ridge lift during the journey south from Conway.

No doubt a formula can be worked out to give the optimum trade of distance and speed.

I suppose one can assume still air on the hypotenuse leg, Conway to Llandegla, although the reality is usually lift of some sort in the Vale of Clwyd.

I think these sort of calculations are what we do all the time intuitively when we are racing, but it would be interesting to see if a clever brain out there can put some maths to the thinking!

Rod Witter, Denbigh Gliding Club

SAILPLANE & GLIDING



Andy Davis
Competition flying



Paul Whitehead
SLMG



Howard Torode
Airworthiness



Derren Francis
Tugging



Mike Fox
Instructing



Dr Peter Saundby
Medical



Andy Holmes
Winch operating



John Williams
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

BGA initiative for acquiring and improving soaring and cross-country skills

#1 BANKING ON A FAST CLIMB?



Tony Cronshaw talks to Kevin Atkinson, lead coach of the BGA Aim Higher initiative, about coaching tips for developing pilots

■ In the first of a new series on Aim Higher Coaching, Tony Cronshaw, Ass Cat at Cambridge GC, asks Kevin Atkinson, lead coach of the award winning Aim Higher initiative, for tips on how to climb quickly in thermals – or should we say in THERMIDS [1]?

MAXIMISING climb rate when thermalling is one of the key skills needed for successful cross-country flying, but what angle of bank will achieve this?

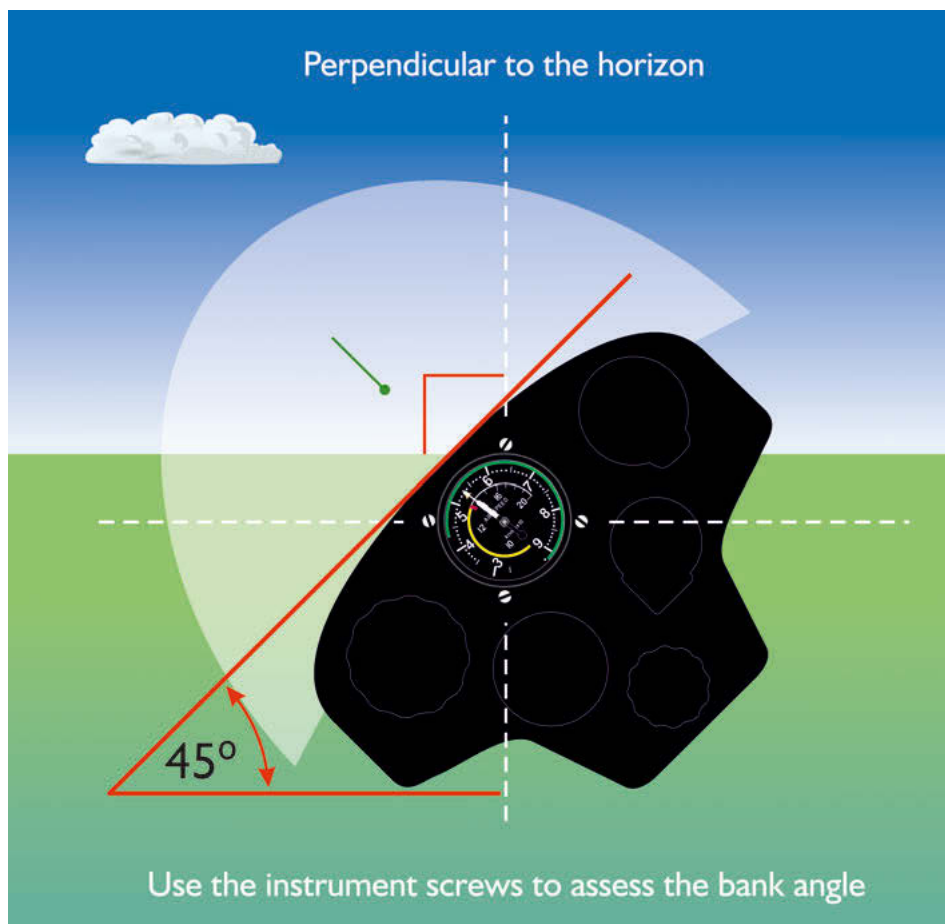
TONY: A previous Ask the Coach article (Thermalling: the secrets of success, pp8-13, Oct/Nov 2013) highlighted how

circling at too shallow an angle of bank means that we will fly around the core and work weak lift. On the other hand, an angle of bank too steep for our thermal is also detrimental to our rate of climb due to the significantly higher sink rate of our glider. For example, 30° angle of bank requires lift 1.15 times the weight of the glider. If bank is increased to 45°, the wings need to produce 1.41 times the amount of lift compared to level flight. And in order to fly at an angle of bank of 60° we need to generate lift equal to twice the weight of the glider. Also that the stall speed increases by 8 per cent at 30°, 20 per cent at 45°, and 40 per cent at 60°. Given these factors, what bank angle should we use?

KEVIN: Can I say straight away that it's very valuable to study the theory as explained in the previous article – or on Aim Higher courses – to understand how to trade off angle of bank, airspeed and diameter of circling. Useful lift in a thermal is typically just 200m in diameter and the stronger core is narrower than this. We have to select airspeed and bank very carefully to stay in the core.

TONY: Let's imagine a day with thermals >3kts (a good day in the UK!) where theory and experience suggests we need 40-45° to climb quickly in the core. A simple way of knowing our bank angle is to use the diagonal screws of an instrument (see figure, left): The screws will be perpendicular to the horizon for 45° bank, or proportionately less to indicate 30° bank. Once we're in the core, what's our best strategy to maintain the climb?

KEVIN: Very few thermals allow us to simply maintain a fixed bank angle and corkscrew our way up. We have to spot small changes in the vario audio, feel changes in vertical surges (perhaps pushing under one wing), and observe gusts on the ASI along with deflections on the yaw string: Any of these factors indicates we are not perfectly



centred. It could be that the thermal is snaking, or more likely we are snaking! Either way, we need to use the ailerons to resist being thrown out of the thermal, and to change the bank angle momentarily to nudge the circle towards the core. We also need to make small adjustments to the elevator to maintain a constant attitude (pitch) and therefore maintain an overall constant airspeed: Note that gusts on the ASI (from outward flows from the thermal) will cause the ASI to jump, but these are transitory and must not cause us to chase the ASI.

TONY: *When learning to fly in wooden gliders, I remember being advised to thermal just above the stall buffet, which meant the circle diameter was always minimised for a given bank angle.*

KEVIN: Modern glass gliders are, of course, very different in terms of buffet (much less obvious) so we need to understand their polars to know where we are. One problem with flying slowly is that the controls become less responsive: A slow/sluggish ship won't respond quickly when we want to re-centre, and obviously we don't want to stall or spin. Even if we're safely above the stall, we may still suffer a higher sink rate in that part of the polar compared with a few kts higher.

The real answer is to get to know your glider and find out what speeds keep it responsive and climbing well at different bank angles. Combine your findings from practical experimentation with data from the glider manual, including polar and circling polars.

TONY: *Here is a rule of thumb to find your glider's thermalling speed: Factor the min sink (eg Discus b min sink 42kt) by 1.08 for 30° and 1.2 for 45°, hence thermalling speeds would be 45kts and 50kts respectively.*

What strategy would you recommend if the thermal weakens during the climb, but we believe it's still there?

KEVIN: If we lose the core momentarily, there are a number of methods to reconnect. One of the simplest methods is to adopt a more gentle angle of bank, eg 30°, and continue to circle in the reduced lift. A perfect circle will bring us back to the core. When we intercept the stronger lift again we can once again bank more steeply [2].

TONY: *What angle of bank should we use if*

a thermal is fundamentally weak?

KEVIN: On days with a humid air mass (eg warm sector) when all thermals will be weak, we have to forget steep banking and bank more gently, say around 30°, and select an airspeed to match this. Gentle bank is also appropriate if you're trying to work weak lift low down from an embryonic thermal that's yet to strengthen into a strong vortex – or weak lift rising from a forest late in the afternoon. As always, we must continually strive to re-centre, be patient, and avoid major changes of circle position that would risk losing the lift.

TONY: *The whole process of thermalling involves a lot of multi-tasking: observing clues on centring, rapid decisions on how to re-centre, timely control inputs. And let's not forget a good lookout, maintaining separation from other gliders and planning where to go next!*

KEVIN: Which is why thermalling is incredibly challenging and feels so rewarding when we get it right and maximise our climb rate.



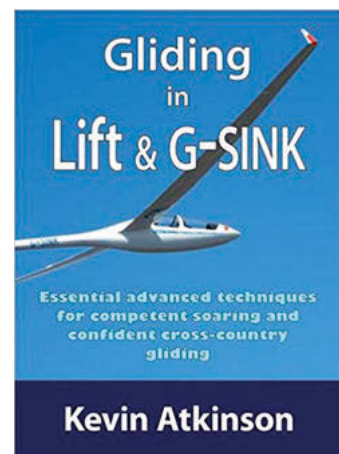
■ Scan this QR code to read the full article *Thermalling: the secrets of success* from S&G Oct/Nov 2013, or visit www.sailplaneandgliding.co.uk/current-issue

■ Aim Higher courses are held at clubs by arrangement, run either by Kevin or by club coaches briefed on the training materials and S&G articles developed by Kevin and Tony (jointly awarded Royal Aero Club Certificates of Merit in May 2018).

Please contact kratkinson@yahoo.com if you, or your club, would like to participate in future Aim Higher courses.

[1] *Physics is not just hot air*, S&G June/July 2018, pp14-16

[2] *Core Basics (Dig-the-wing-in centring method)* S&G, Feb/Mar 2017, pp8-11. See also BGA instructor manual



■ Kevin's book *Gliding in Lift and G-SINK* is available at www.bgashop.co.uk or direct from kratkinson@yahoo.com

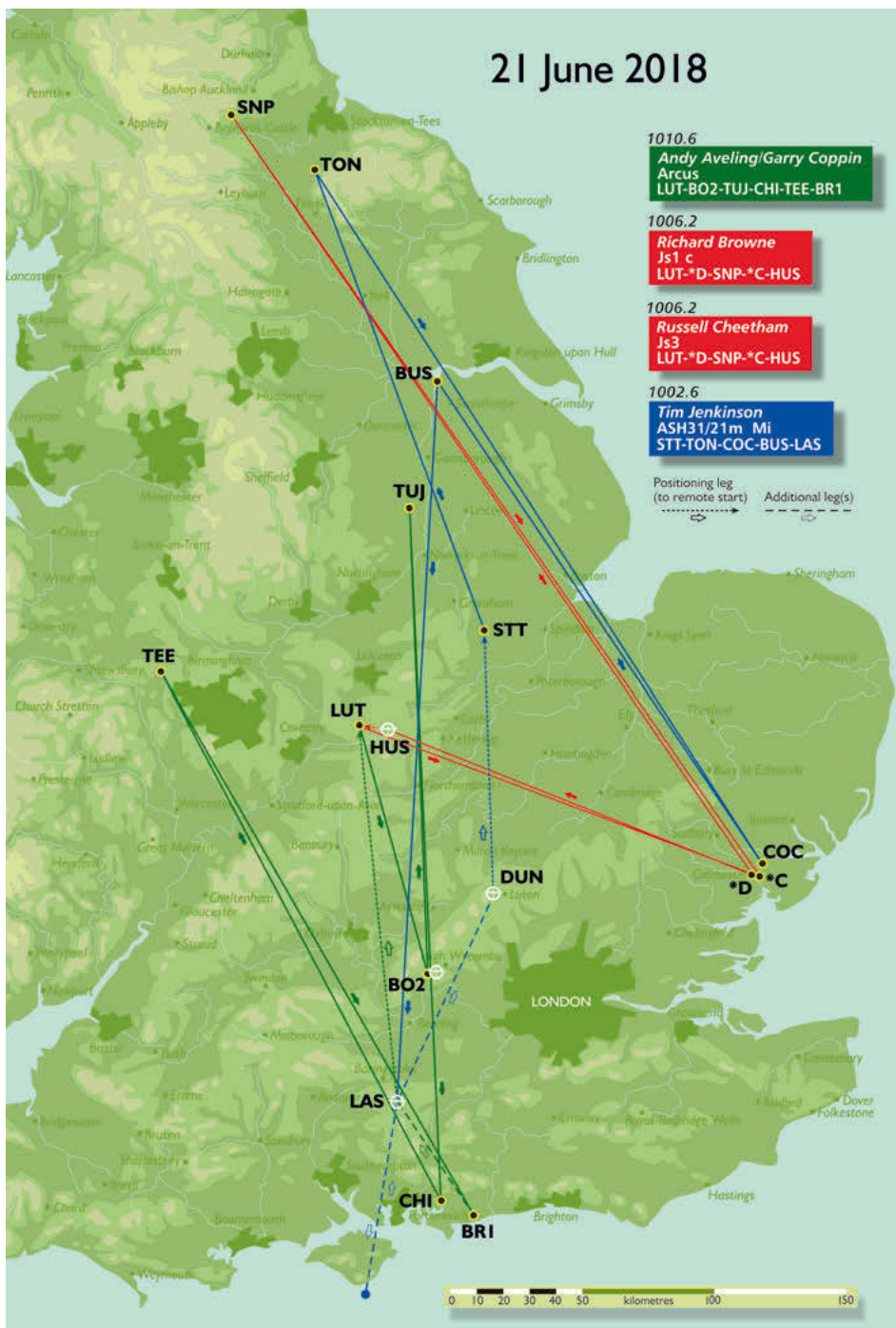
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Photograph courtesy of glidingsport.com

IN THE SKIES ON EPIC THURSDAY



Among the exceptional achievements in the UK on Thursday 21 June were four 1,000km flights (Illustration by Steve Longland)

It was the best UK soaring day in 14 years and saw 76,645km logged on the BGA Ladder, including four 1,000km flights

AN IMPRESSIVE 1,000km in thermal? To the best of my knowledge this had only been done twice in the UK, by Chris Rollings and Russell Cheetham, *writes Tim Jenkinson*. But Epic Thursday, 21 June 2018, would change that with four 1,000km flights on the national Ladder in one day, doubling the previous total!

I first flew 750km four years ago and since then have had my eye on completing a 1,000km flight. So it was with some excitement that a few days before 21 June the forecasts started to indicate a really big day. The usual pattern in these situations is that we all get really excited only to watch the forecast fall apart a day or two before. However, unusually, this forecast 'stuck' and on the evening before pretty much everything pointed towards a really big day with prodigious distances predicted.

Off I went up to the gliding club, prepped the glider, watered up, arranged the plumbing(!) and put a north south double out-and-return into the LX. As this task would take me through Doncaster Class D and close to Scampton, phone calls were made to both to optimise my chances of a straightforward transit. Mercifully there were no NOTAMs to affect me!

My main concern at this point was the strength of the wind. Forecasts at flying height were for a 15-20kt NNW easing to 10-15kt later in the day. As all cross-country pilots know, wind always hurts as you spend a longer time going into wind than

downwind. Assuming an average cross-country speed in still air over the whole day of around 100km/h, this would mean a ground speed of around 70km/h into wind and 130km/h downwind. So the 500km into wind portion of the task would take just over seven hours and the 500km downwind portion just under four hours, a total of 11 hours, which is very marginal even on the longest day.

However, I then had a lightbulb moment after looking at the rules for a 1,000km diploma. You can use only three turn points, but it does not have to be a closed course. So I reset the task as STT-TON-COL-BUS-LAS 1002.6km finishing south of where I started, which would, to a great extent, neutralise the wind. It also gave the added bonus of being able to drift off downwind afterwards and see how much further I could go.

An early start on the day saw me airborne just before 8am to motor to STT for the start. During the transit I was pleased to see convection starting nicely and felt some quite strong bubbles even at this time.

I went through the start line just before 9am at 5,500ft and was somewhat depressed to see the wind was over 30kts. However, 15 minutes later, after a gentle glide down into the convective layer, the wind was pretty much as forecast – 18kts right on the nose. Once into the convective layer there was already some good streeting and I able to keep the wings level and just pick my way along the streets. They weren't perfectly aligned on track, but I found it easy to jump between them without a big loss of height and then climb up again along the next one.

After 30 minutes without turning I was thinking conditions were pretty good. After an hour without turning I was sure they were excellent. Doncaster ATC let me straight through (thank you) and even the controller asked how it was I was gliding without turning or losing height. Quite astonishingly, two hours after the start I turned TON without turning once, having achieved 96km/h into a 33km/h headwind with an achieved L/D of 339:1. By now I knew this was a quite exceptional day and it was definitely game on.

I was now going downwind and the speed was quickly racking up. Finally, after 2hrs 25 mins and 256km on task I took my first thermal! Extraordinary! Conditions were now really strong and I pushed hard. It wasn't quite the same wings-level experience of the first leg, but I still needed to circle for only



Tim Jenkinson in his ASH 31Mi

18 per cent of the time with regular strong climbs achieving 139km/h downwind to COL. One factor which made the conditions so good was what I would describe as honest thermals. If a cloud looked like it had a good thermal underneath, by and large it did. As we all know, so often that just simply is not the case.

At just gone 1pm, I was half way round with an average speed of just under 120km/h. On my previous closest attempt at 1,000km I was half way round at 3pm and still nearly made it (970km). So I was nearly two hours ahead of that, on the longest day of the year, with around six hours soaring left to achieve 500km in quite exceptional conditions. Provided I made no stupid mistakes, this was definitely on and I did not need to push so hard.

The next leg was not as good for continuous energy lines as previously, plus I was doing my best to reduce risk by taking some weaker climbs than I otherwise would have accepted to prevent any risk of a low point. So the circling percentage started to creep up and the speed started to fall a bit, but all still very manageable. Unfortunately, I arrived just south of Scampton just as the Red Arrows were starting a practice and had to route around R313 and, needless to say, there was a beautiful street straight through. However, I was treated to a free display. I rounded BUS just before 4pm with the task speed having dropped to 103km/h, but now I had just 275km to go – all downwind.

All I remember on this leg was telling myself to not push too hard and blow it. I climbed regularly enjoying the 6,000ft+ cloudbases, never going below 3,000ft again. Up to this point the flight had gone in a flash, but now time seemed to slow as I

JOHN BRIDGE, BGA NATIONAL LADDER STEWARD, COMMENTS:

IT WAS a very good day! I postponed my Sisteron trip to take advantage of the excellent forecast. At the time of writing, I see the following flights from 21 June:

- There were 162 flights, 76,645km, giving an average distance of 473km per flight, which is unusually high. Good days in the UK normally present an average around 300km per flight.

- There were four 1,000km flights – Tim Jenkinson, after finishing his task, carried on to the Isle of Wight, adding another 60+ km to the south of St Catherine's Point (en-route to France?)

Others included:

- >800km (3)
- >750km (14)
- >600km (23)
- >500km (35)
- >400km (27)
- >300km (35)

- One notable flight was made by Sant Cervantes from Portmoak: he declared a 534km task, planning to fly three laps. He nearly succeeded, failing the last lap after 485km. That made 1,553km in one flight; launching at 5am BST and landing 15 hours later!

MORE MEN HAVE WALKED ON THE MOON THAN HAVE COMPLETED 1,000KM IN THERMAL IN THE UK



Tim Jenkinson flies Boeing 777s for a living. His first gliding lesson was in 1980 at Durham University/Northumbria Gliding Club, based at Currock Hill. Tim now flies at London Gliding Club. He has approx 1,700 hours, all three Diamonds and a UK 750km

✎ closed in on the finish.

Finally, at 6pm, I knew I had made it and decided I would just keep going and try to set a new UK 3TP free distance record. I actually drifted through the LAS finish line for the 1,000km at 5,000ft in a late afternoon thermal. I allowed myself a brief fist pump and then carried on. Southampton were helpful and let me through their Class D and I crossed the south coast and potted out over the Isle of Wight. I capped out my last climb over St Catherine's Point at 6,500ft, just after 7pm. My plan was to glide out to

sea and turn back when I was 1,000ft over glide to get back to the Island. However, ATC informed me of a danger area and I had to turn back at 4,900ft.

I eventually landed back after a long motor back to Dunstable at 8.30pm after 12 and a half hours in the glider, a definite violation of EASA flight and duty time limits! Thanks to Ryan Berry for providing me with a beer on landing and putting the glider away as I was knackered.

I completed the 1,000km in 9hrs 25mins at 106.4km/h. I took 34 thermals at an average of 3.5kts and my mean glide length was 30km at an average L/D of 91:1. I went on to set a new 3TP free distance record of 1,095km (subject to ratification). My plan with the wind worked almost perfectly as I spent 4hrs 45mins flying into wind and 4hrs 40mins flying downwind.

As I said on the Ladder on the day, I feel

very lucky to have been able to fly on this most extraordinary of days and I feel a great deal of sympathy for those glider pilots not able to do so. Days like this don't come very often and the previous 1,000km in thermal was in 2004.

I also feel very lucky to own and operate the fabulous ASH 31Mi with all the flexibility it gives in task setting.

My congratulations to Andy Aveling/ Garry Coppin, Russell Cheetham and Richard Browne for all completing 1,000kms on the day. Particular congratulations must go to Russell, who did it (for the second time), but in an 18m glider on a closed course task. A terrific flight and it makes you wonder what might ultimately be possible – 1,250km next?

As a friend and fellow London GC member informed me... more men have walked on the moon than have completed 1,000km in thermal in the UK.

YeeeeHaaaah!!!!!!!!!!!!!!

Russell Cheetham: 1,000km in JS3 (LUT-*D-SNP-*C-HUS)

☞ I'M STILL looking to fly on the perfect day and have been waiting 14 years for this one to turn up since I last contemplated 1,000km in UK.

This one was way better, with uniform conditions over most of the task area, but I cannot help thinking that with a wind exceeding 20kts and relatively low cloudbase, even late afternoon, we will one day see a day that's much better still.

Back to the waiting game, but not another 14 years please! ☞

David Masson: weather forecast on Wednesday evening, 20 June

A MEGA day, but rather windy and a veil of top cover over half of the country for half the day.

Cons:

- Windy – winds initially NNW/20-22kts, lessening to NNW-N/14-17kts by mid-afternoon.
- A veil of top cover through the morning, stretching Anglesey to Southend, thicker in the south. With upper winds WNW, this only slides slowly across the country and doesn't really clear until afternoon. We will have to put up with it!
- Perhaps some overdevelopment, most likely in NE England? We will have to risk it!

Pros:

- Good, or extremely good, air with gentle, progressive cold air advection over much of the country making for strong thermals.
- An early start with cumulus base 3,000ft+ by 10am over much of the country.
- By early afternoon strong thermals and good cumulus base 3,500-4,000ft+ over much of the country.
- Mid-afternoon strong thermals and good cumulus base 4,000-4,500ft+ over much of the country, but could be 5,000-5,500ft+ in area from East Anglia to Humber/York and on the south coast (Sussex, etc).

The best areas are likely to be:

- NE England (eg, south of York/ Humber) with stronger thermals and higher bases, but the wind PM is NW/18kts there, and there is likely to be some Pennine wave interference and also a risk of overdevelopment.
- The SE later when the top cover clears.
- On balance, maybe the best bit will be south of Humber, East Midlands into East Anglia?

■ David did site forecasts and suggested tasks for "first 750km people" at Lasham, Gransden Lodge, Parham, Nympsfield and Lleweni Park. Quite a few 750kms were achieved from all of those sites.

PLANNING AND FLYING A 1,000KM FLIGHT IN THE UK

IT'S 7.30pm and we've just pulled in to a steady 2kt climb some 40km from Lasham, our home airfield, **writes Andy Aveling.**

Garry Coppin and I finished our declared 1,010km task in the Arcus 15 minutes ago. Now there is time to reflect on the past 12 hours of flying, as well as the preceding days of careful planning. It's been quite a remarkable period.

I believe most glider pilots are driven by one sort of passion or another. Some like speed, others the cut and thrust of competition flying and, for a few, the pleasure of aerobatics. For me, I get well and truly revved up at the prospect of maximising the flying day, mainly because the UK is a tricky place to fly, both from a weather and an airspace perspective. Good days are few and exceptional days are rare, so the chance to enjoy these occasions should be embraced at full throttle. Furthermore, our green and pleasant land presents a stunning backdrop and the Arcus is an amazingly privileged vantage point from which to enjoy it.

My normal flight planning routine entails at least an hour of information gathering, reviewing of data and then deciding on a task to fit the conditions. I frequently update the task as the data changes, often right up to launch time. The process is facilitated by powerful tools such as SeeYou and Topmeteo, but the reality is that gut feeling plays a significant part in the last-minute fine-tuning of any task.

For this particular flight, I started paying attention five days ahead when Topmeteo was flagging big potential flight distances. Twenty-four hours before the day, I was getting really focused, especially when Dave Masson released a very upbeat forecast.

From my perspective, we needed an 11-hour soaring window with significant downwind components incorporated into the task in order to facilitate a sensible average speed during the critical first and last hours of the window. Additionally, I wanted to avoid any large track deviations around airspace in order to make every kilometre flown count towards the task distance. Lastly,

I wanted to plan the tracks to make good use of any streeting.

I'd originally selected a closed loop flight starting and finishing at Oxford. This looked good until the night before, but then the weather predictions changed. It looked like the clearing cold front would leave significant cirrus over the southern part of the task area. At 6am on the morning of the flight this was confirmed by the satellite images, so I shifted the task further north to avoid it.

Meanwhile, my syndicate partner, Garry, had been busy preparing the glider. As ever, he ensured it was in tip top shape for a long flight.

Thus at 7.30am, Garry and I were ready to set off from Lasham on our way to Lutterworth, our start point located some 150km to the north. The 30kt headwind had been accounted for in the planning, but we were still somewhat daunted by the prospect of an hour and a quarter on aerotow at 90kts.

Hats off to my airfield neighbour, Ian McKillop, for agreeing to get out of bed so early to tow us and then put up with our radio instructions as we guided him to our start point. I'm sure he was pleased to see the back of us at Lutterworth.

We'd not anticipated the sight of a JS3 diving away at full speed under us as it started its own task from the same area. We later learned that Russell Cheetham and Richard Browne had also completed 🐦



Andy Aveling started gliding at 14. He has completed 6,000 hours in gliders since then. Andy is also a tug pilot, instructor and examiner, flying from Lasham



Garry Coppin started gliding in 1992. He has 4,000 hours and is a tug and motor glider pilot. Garry flies from Lasham

Sant Cervantes: 1,553km over 15 hours in Discus

COM-EDZ-CRI-EDZ-CRI-COM (x3):

ENTERING the clubhouse following the flight a friend complimented me, but thought I was a nutcase. Personally, I don't think I'm nutty; the day was there and I made the most of it, what's nutty about that?

Wave days out of Portmoak have been like hen's teeth this year and the intention was to use the day to its maximum.

As for the day itself, it produced a kaleidoscope of images and experiences that at times touched the soul.

The worst bit, organising a launch. The best bit, climbing back into the wave using the rotor after falling out on my last attempt to turn Edzell.

Maybe nutty, but a brilliant day. **Read the full story of Santiago's epic flight in the next issue of S&G.**

AS OUR SPEED AND TASK FINISH TIME IMPROVED ON THE SOUTH- BOUND LEG TO CHICHESTER, SO DID OUR RESOLVE



✎ exceptional flights that day. None of us knew that, by pure coincidence, we'd nominated the same start point.

The leg back south to Booker was planned at an average of 120km/h so I was a little concerned when, despite our combined best efforts, we averaged only just over 100km/h. Approaching the turn, it looked like the cumulus extended south, but for only 30km, so I was feeling particularly pleased about the last minute changes I'd made to our task before launch. Turning north from Booker, we started to gain speed into the headwind which was very encouraging.

This is where the two-seat Arcus really came into its own. Apart from sharing the flying equitably, Garry and I have attempted to build a real insight into what needs to be done and how to achieve that goal as a team. That means we don't always chatter, but simple comments or observations really help to keep the show on the road.

At Tuxford, our northern most turn, I was regretting not tasking further north, but as our speed and task finish time improved on the south-bound leg to Chichester, so did our resolve. Passing Lasham, the cumulus started to fade and the last 20km in to and out of

At the start of an epic flight and (inset) on tow to Lutterworth (Andy Aveling)

Chichester was under small wisps. Again, I was feeling good about the last-minute change of task. Garry was encouraging us to stay high and we soon connected with better air heading north towards Lasham. We had anticipated a decision point south of Brize Norton, where we would either have to go around the airspace to the east or through it with a clearance. I called Brize when we were 20 minutes away from the boundary and was relieved to get an unrestricted clearance through. Thank you Brize ATC and let's hope the Airspace Consultation Proposal never sees the light of day. In the event, we overflew all but the last bit of the zone.

The run up to Telford just got better and better. A friendly street right along the western edge of the Birmingham CTR really helped, and it delivered for us again on the way south. From Bidford, we saw a nice cumulus at Little Rissington and hoped that a high climb and the tailwind would allow us to overfly Brize without having to call them again. This proved to be the case and was fortunate too. We saw two transport-category aircraft in the overhead and I think another unfettered clearance would have been unlikely.

By the time we passed Lasham for the third time, we knew the job was complete. I'd chosen the Bognor Gliding Club to finish purely as a precaution. The logic was that if the engine wouldn't start, a genuine field landing after 12 hours of flying may be a higher than normal risk. It would also mean that we could easily get a tow home if the need arose.

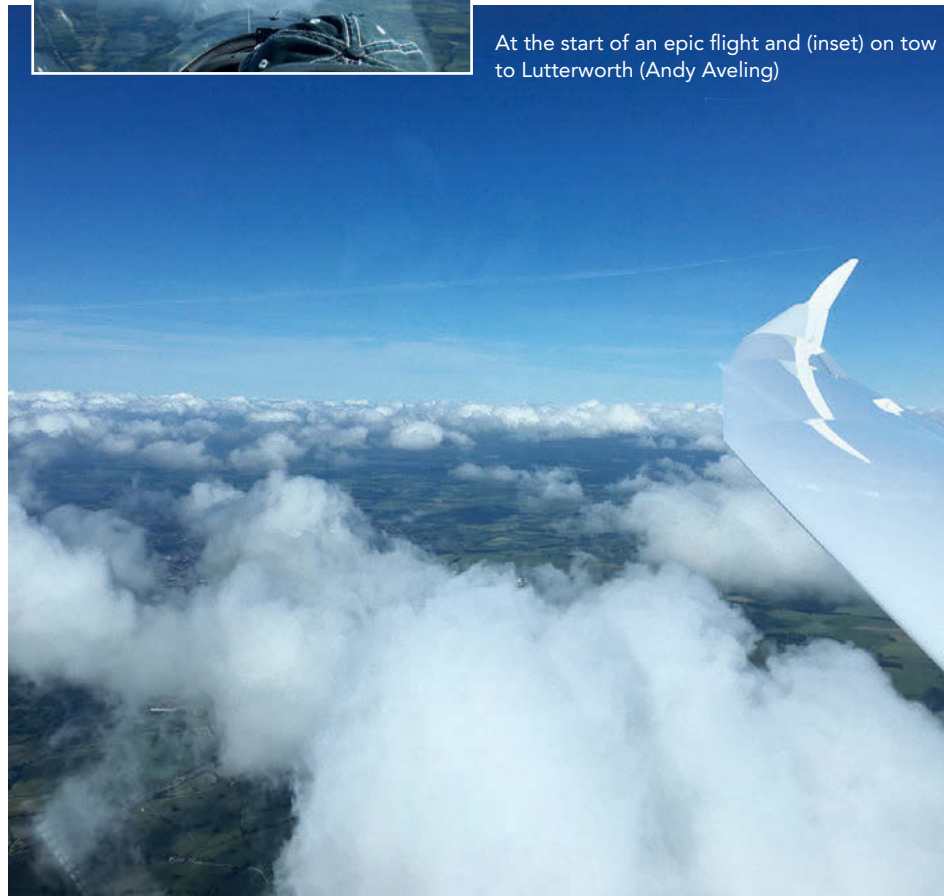
As it was, the conditions were still good and, having finished the task, we were confident that we could soar home. Thus at 7.30pm we found ourselves in our steady 2kt climb. Sadly, the thermal slowly died and the next climb was at the limit of our range, so we elected to set off towards Lasham and had to start the engine near Liss airstrip.

Garry had the foresight to advise Lasham of our achievement, which allowed them to assemble a substantial welcome party on the patio.

At our request, Lasham very graciously allowed us to finish the flight in classic style.

And that was it. For those who like statistics, we covered a declared distance of 1,010km in 10 hours and 25 mins at an average of 97km/h and were airborne for a total of 12 hours and 30 minutes.

I firmly believe that a 1,000 km flight starting and ending at Lasham is achievable, but it's going to require exceptional weather.



John Williams: 623km in Antares, and back before breakfast! (FOD-DAM-FOD-CRI-FOD)

☪ NORTH of the border we've had a surprisingly good start to the thermal season, but have almost forgotten about other forms of lift; my last wave flight was early October 2017. But the need for speed never really goes away and a launch at 4.10am, soaring 95km to the remote start, a run around a 623km task and then 95km back had me back on the ground, after covering 800km, by 10.20am, just in time for a late breakfast. Sadly, the hoped-for afternoon thermal task didn't materialise – but that bacon roll did taste good! ☪

Richard Browne: 1,000km in JS1 C, (HUS-GRA-GRL-SBY-HUS)

☪ THIS was the second Thursday this year that I'd cleared my diary for an attempt at the Epic flight; the previous Thursday dawned with a late clearing front hanging over Norfolk so I went to work. This time the forecast got better and the actual conditions improved.

Having shared task options with Russell Cheetham he could not resist the opportunity so we both went to the club and finessed the task the night before.

Launching just after 8.45am the glide out from start to the first climb was tense, but proved straightforward. The glide back from the last climb into sun and into wind and a dead sky was equally tense and straightforward, but the same could not be said for the proceeding hour, which had produced a couple of steady, but welcome, last climbs.

The middle 700km was a breeze – very breezy! Russell blasted off from the first turn like a scalded cat into wind in his full JS3 so



Richard Browne was focused on finishing the task in hand during his 1,000km flight from Hus Bos on 21 June, but took these two photographs after landing

Chris Gill: first 750km out of Wales and back and the furthest a DG-1000 has flown in the UK



☪ THE DAYS leading to the flight we knew it was going to be good, mainly due to Dave Masson's enthusiasm!

He suggested I start remotely south of Llewenni (I'm glad he did otherwise I wouldn't have got away) then go to Oxford, up to Gainsborough, down to Oxford again then back to Corwen.

The first 10km or so was spent gliding through cloud to a hill that I knew would be working in the brisk north-westerly, so I could wait to climb away.

I cored 4kts to 3,700ft and the rest was straightforward. Strong climbs were to be had, with good cloudbases.

I was back home for 5.30pm, and the sky had two hours left in the day... I should have declared another 150km!

That was my first 750km – and was the first 750km out of Wales and back. I'm looking forward to doing bigger flights (plans are being made!) using other forms of lift... ☪

■ Photo shows Chris' glider after landing

was no help. My wing loading was at least 8kg/m² lower, which proved to be my biggest mistake of the day!

The paths of all four 1,000km flights crossed during the day – I was confused to see 66 (Arcus flown by Andy Aveling and Garry Coppin) on FLARM at Lutterworth, saw Tim Jenkinson's ASH 31Mi twice in Lincolnshire, and shared the first leg with E1 (JS3 flown by Russell Cheetham)... well done chaps. ☪

#	Date	Takeoff	Landing	Duration	Engine
1	21.06.18	08:47	19:46	10:59	00'00"
Task dist.: 1004km, Speed 93kmh, OLC dist.: 1020km					
2	03.06.18	11:27	17:18	05:51	00'00"
3	20.05.18	11:58	17:29	05:31	00'00"
4	19.05.18	11:57	18:26	06:29	00'00"
5	13.05.18	18:16	18:17	00:01	00'00"
6	13.05.18	12:24	17:03	04:39	00'00"
7	05.05.18	12:00	15:39	03:39	00'00"
8	21.04.18	14:13	15:10	00:57	00'00"
9	25.03.18	13:01	16:35	03:34	00'00"
10	02.09.17	13:17	17:16	03:59	00'00"
11	20.08.17	11:17	15:21	04:04	00'00"

Mark Kidd: LS4, first 300km from Kenley going all the way around Gatwick (KEN-ASS-RIN-MIC-KEN)

☪ EPIC Thursday gave me an opportunity to fly my first 300km – and from Kenley. The doubters said no chance. But, even though I had to fly the first 30km and last 35km below 1,900ft QFE, I managed it in just under five hours! It was obviously the best day in many years. I almost did not make it as I was down to 300ft at Paddock Wood on the way out, but found a climb over a solar farm. ☪

Ben Watkins commented on the Ladder entry: "This 300km was flown beneath the busiest airspace in the world. Mark would have been below 2,000ft AGL for a significant proportion of the flight. For me, this is probably one of the biggest achievements of the past few days."

HOW TO BUILD A GLIDER SIM

David Innes shares top tips for clubs on building an inexpensive (but capable) simulator



Approaching Ballater, gap not visible from pupil position

■ After the previous article (*The effective teaching tool*, pp30-32, June/July 18) on possible means of providing more effective training by use of a simulator, David Innes describes how he (and his team) developed a simulator for Deeside Gliding Club, all the false paths, and provides some hints to help other clubs. The simulator is already in use and recently moved to a dedicated Portakabin closer to the clubhouse, its final home.

OUR chairman asked me to develop a glider simulator for Deeside Gliding Club about two years ago. Simulators have been a frequent, but peripheral, aspect of my career starting with an “out of hours charge around the sky” in an RAF Nimrod sim, c1977. Then, more recently, as manager of the Software Integration Team on the Eurofighter Simulator (ESS – Eurofighter Simulation Systems).

My first professional involvement was in 1978, on the RAF Harrier. Being ‘Mr Avionics’ (my company supplied c80 per cent of the navigation/attack system for said plane), I got a call saying the Harrier simulator was hard to fly: “Lumpy in pitch”. In those days simulator scenery was provided by flying a tiny camera over a physical scale model and VR referred to a certain female Monarch. We took our equipment off the sim, had the techs check it and everything was fine, of course. Indeed, my professional philosophy was normally (and justifiably): “Our kit is fine, let me help you understand the problems with your aircraft.”

I got back down to the sim building, and had a look and a fly-about. Yes, the lumpy/jumpy attitude display was there, even with new, tested equipment. It is also a challenge to fly straight when you have a simulated bomb hanging on one wing and not the other. (A joker in the control room.)

Anyway, having ditched that virtual bomb, out comes my ‘thinking hat’ and, over the intercom, I ask: “Hey guys, lower the cloudbase.” So now I am flying IMC. Suddenly the visual ‘lumpiness’ is gone. “Aha!” from the cockpit. “????” from the control room.

I exploit the next few minutes of free flight ending up in my first ever (rolling) vertical landing (weight is supported by the engine thrust, but the aircraft is moving forward at walking pace to ensure the landing area was clear by blowing debris aft). I take the

gentlemen from the instructors’ station with me to the model room, while placing someone in the cockpit to fly the aircraft.

“Pitch the aircraft up and down smoothly,” which they do. Me: “Look at the camera flying over the model.” The gears which controlled the camera movement in pitch were sticking. The ‘lumpiness’ was due to the outside-view model world through the camera not following the ‘aircraft’ movements. Lowering the virtual cloud and flying without the outside view showed ‘our’ instruments worked correctly, and “quelle surprise” it was the ‘aircraft’.

My task

So my task was to define and build a glider simulator for our club, and then to propose how to operate and integrate it into our training programme. Our efforts to buy from the French pre-built glider simulator fuselage programme came to nothing, so we had to find our own two-seater fuselage.

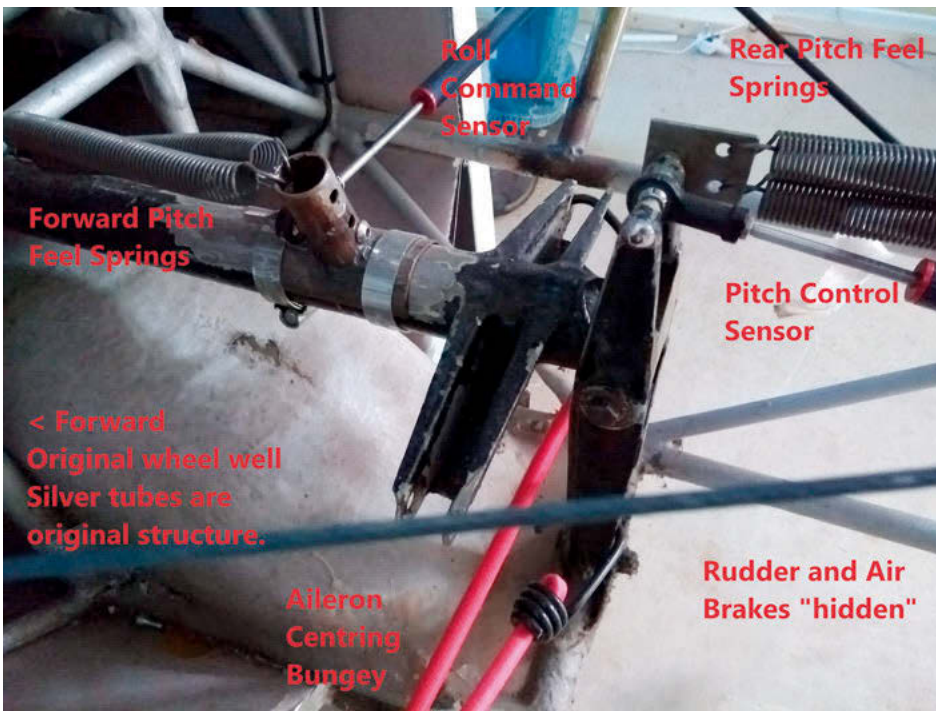
To me, a tandem dual control two-seater was essential for training, so both pilots could see the same picture and the pupil could follow the instructor’s verbal and physical inputs, and vice versa. It would also make transition to our training aircraft easier. The ability of others to observe and learn in parallel was also important.

So the plan was:

- Build and mount a cockpit and add control position sensors: pitch, roll, yaw, airbrake and cable release. All easy, but adding pitch trim was a challenge, see below.
- Integrate the flight controls into the host PC.
- Assess the visual display options and, finally,
- Assess the various software, specifically Condor (and later Condor 2), Silent Wings, X Plane and MS FSX. These last two tasks were rather ‘interwoven’.

Now the boring details

We had a crashed Puchacz fuselage in the hangar, but it was needed for spares, dammit.



The control input sensors (all photographs David Innes)

Fortunately for my project, but sadly for Tom the owner, a K-7 had just failed its wood glue test, and was well beyond economic repair. So, while not ideal – not much room in the front seat, a less than modern cockpit (metal tubes and fabric anyone?) and trim control mounted on the wrong (right) side – but it was available, on site and, in the best Scots tradition, free. The wings also gave off a nice heat when burned.

Iain Donnelly led the task, making the support frame and mounting position sensors on the shortened fuselage – we cut it just aft of the trailing edge – terminated the control runs, with bungees for ‘feel’ and made a mobile mounting frame to keep the fuselage upright. My contribution to this part was the wooden entry steps/stadium seating, with removable handles to help lift our aged instructor bodies in and out. They were removable, so they didn’t interfere or cast shadows on the projected outside world. I also sorted the projector fields of view and their mountings.

First experiments were with a single projector/screen stolen from the clubhouse, mounted in our wooden workshop and driven by Condor 1. It was OK, but it was rather like a very big video game due to the lack of peripheral vision. We tried a head tracker (which moves the picture to emulate looking sideways), but there were two issues.

Firstly, the display followed every twitch

of P2’s head, making the instructor quite uncomfortable (= airsick), since the world was moving for no apparent reason.

Secondly, the display moved far more than the pupil’s head, discouraging a proper lookout technique. Remember, training must be representative or it is negative training, which is discouraged.

We then tried a VR headset, driven by the X plane program (thanks to Edd Hessen and his hugely expensive PC) with the following results. Great field of view and good local scenery when you point your head anywhere, even behind, when wearing the headset, but with several drawbacks:

- Wearing a headset was like flying an aircraft through a periscope, since there was no peripheral vision.
- It was also strange to look into the virtual cockpit and see controls and virtual hands moving, but they were not your hands, spooky.
- The instructor had not a clue what was going on since, at first, there was no second display so all he could see was the pupil’s head movement.

Later, when we connected up a slave display, that display was also following the pupil’s head, so rapid airsickness was induced in the instructor since he (or she) again saw motion on their screen with any clues as to why – the displays followed the pupil’s head movement as the design.

We then tried a big, projected display ➤

■ I did manage to glide the Eurofighter sim once. It has a magnificent field of view, with a complete upper visual hemisphere, which also displayed a fair bit below the horizon. This amazing field of view factor stuck in my mind while designing the Aboyne sim.

After business hours the test pilots went home, but our development work did not stop, so Muggins sometimes flew test points while others tinkered with the software modules. We were validating one-engine-out operations, and I was flying out of Malaga, our non-classified virtual area of operations.

I was tracking SW/NE to and from Gibraltar, round the Rock and back again and, at the end of our test points I flew back to Malaga. On the approach, I was quite high, fortunately. Some joker then failed the second engine, and, well I can’t say what systems I lost, but I was now in a pretty poor glider. Speed to best glide was a bit faster than most true glider’s V_{NE} and, using the reference point technique, I could see I would land a bit just short, but, dammit, let’s keep going – it’s hard to kill yourself in a sim.

(For the uninitiated, if you crash a sim, the whole cockpit goes black, indeed some will draw a coffin shape on the display to drive home the point, and you have to ask to be revived, ie lights set on again, instruments and visuals re-powered. The resurrection ‘fee’ usually involves beer.)

I am progressing down my glide path, no need for extra drag, and can see I will hit the approach lights. As I get close, I start to flare and then, miracle, that big delta wing gets into ground effect and I float over the lights, converting my speed to a bit more lift and plonk down on the Tarmac, to the amazement of all watching. Could I repeat that? Probably never.

■ One point which may affect many who convert in real aircraft vs just using PC 'joysticks' as the control inputs. Obviously, for training, linking front and rear joysticks is a real challenge. It is hard to find attachment points for control position sensors in pitch and roll, so that the two control axes do not interact, unless the aircraft design keeps them separate at all time.

For example, on the K-7, fore and aft movement of a tube controls pitch, while rotation of the same tube controls roll. So, if the position sensors have one end fixed to the airframe, there is cross coupling and in our case that makes landings – when really fine movement is needed, cause a disturbance in other axes (we pretend it is

✎ with a VR headset, with the headset video still following the front-seater's head pointing angle, while the big display showed the outside world relative to the aircraft for the instructor and others. This was great for the instructor since the outside world now followed flight controls inputs, but the pupil still felt they were flying via a periscope.

So VR was a nice idea, but not practical for training. For solo flying, perhaps OK.

Software

We freely admit we had a bias towards Condor, and every program was compared with Condor.

Glider flight dynamics were poor using X Plane. X plane was also appallingly slow on the PC we used for Condor 1 (two or three fps (frames per second) vs 30 to 50 fps for Condor 1) – 30 fps plus is good enough for a good flight sensation (low latency), but two fps is like flying through thick treacle). So, had we gone down the X plane route, we would have to budget about £700 for the PC alone. Our PC was a donation, an old model, but good enough for Condor.

MS Flight Sim X was less demanding in PC power – OK, but nowhere near as good as Condor or Silent Wings.

Silent Wings was OK, the instructor could steer the tug (hint to Condor), but, left to its own devices, the tug would tow you into hills – without crashing – but you could not see the tug since you were now underground. The 'cartoon' graphics also degraded the experience.

More developments

The next trial was when Alistair C loaned his fancy PC, with three video outputs, ie making one very wide screen. We bought two new projectors (£320 each), some cheap video adapters (£30 total) and with some borrowed screens we lashed up a three-screen 'wrap around', with about

150 degrees forward field of view, centred on dead-ahead.

Wow! Everyone was impressed, even though in this 'lash up' there was a lot of optical distortion on the side displays. Just seeing the outside world move to match your control movements, both ahead and in

your peripheral vision, absolutely 'sold' this concept to all. And that is the design path we took – a bit more complex and expensive, needs more space, but far more realistic.

To me gliding is primarily visual flying, we need to encourage lookout and having a wide field of view (FOV) – our projected area is now about a 14-foot wraparound, four feet high – can only help. The Portakabin does limit lateral FOV a bit, so we chose a perfect 'overlay' forward with any residual distortion only at the extremes of lateral vision.

So the final design is as follows

PC initially running Condor 1, and now Condor 2 for general flying, with HD scenery of Scotland from Condor club (free again!). Condor 1 Scotland scenery is better for take-offs and landings, specifically the round out height, due to better ground cues – life-size cars, fences, clubhouse and hangar, as our airfield layout, until we can build some 3D buildings in C2. Surface and scenery texture is, however, poor.

Condor 2, with Scotland HD3 scenery, when viewed from above 500ft AGL is genuinely photo-realistic. I showed my wife our garden. We are in contact with the scenery 'maker' to see how to add buildings – the technique in Condor 1 sadly no longer applies.

Silent Wings is used for teaching aerotow since you can vary the rope length, you can bow the rope and the tug will jerk the glider as the bow tightens. Condor 2 now lets you vary aerotow rope length, and there is a tug wake effect, but not the other effects.

Graphics and glider handling isn't as good in Silent Wings as Condor, but it is still useable, and I regularly soar over the mountains south of Luzern where I used to live.

Details of the final design

There are three projectors, all overhead, behind the instructor's head: two firing diagonally across the fuselage, but avoiding the flight crew heads, with images merged by adjusting the zoom, projector distance and pointing angles. The middle projector points straight ahead and down over the pupil's head.

Projector distance and screen orientation are set to minimise optical distortion and maximise 'immersion' as viewed from the front seat. We don't care so much about the fidelity of view from the instructor's position, but it still works.

Field of view is still 150 degrees from the



Wooden entry steps/stadium seating, with removable handles to help lift our aged instructor bodies in and out. They are removable, so they don't interfere or cast shadows on the projected outside world. The gaps are now filled



Aboyne from south east, heading south west

front seat – a real ‘wrap around’. More would be better.

Computing details

The computer is a retired I3 PC, with a decent 1GB video card.

We used a Matrox ‘Triplehead to Go’ video splitter to drive the three projectors, which worked just as intended, straight out of the box. The model chosen is future proof – at least for next 10 years, since it has both VGA and DVI inputs, and VGA and DVI/(HDMI via an adapter) outputs.

There are other methods, especially with Condors 2.0.3, see later in the text, but at the time this was a no risk, future proof solution.

The best bit of luck was that we found an integrated circuit package, about £25 from a company called Leo Bodnar, which took all our control positions and various switch inputs. It converted them to USB, straight into the PC – no software, no drivers. It even took its power from the USB port on the PC it was plugged in to, so the simulator appeared like a joystick to the PC – no incompatibilities. It, too, worked 30 minutes after opening the box and assembling the wires. Magic!

There is a mouse and keyboard on a small desk, and I created a simple instructor panel with switches and knobs to do the following:

- A knob to set the pitch trim – the existing mechanical arrangement worked over too small a range to be useable, was imprecise due to the bungee ‘control loading’ and it was on the ‘wrong’, ie right-hand side of the cockpit on the K-7, so making training counter productive – all our fleet have trimmers on the left.
- A switch to change the point of view of the displayed scene – ie to peek around the corner of the projected scenery, such as looking back at the whole runway when

downwind (although you can do the same with the mouse in Condor).

- A switch to operate the cable release without giving the cue of the pupil seeing the yellow knob being moved. We had retained the original ‘two yellow knobs in series’ arrangement of the K-7, so if the instructor pulls the yellow knob, P2 can see the knob in the front move.

Being a K-7, the instructor’s left heel can hit the release mechanism, but we discourage that, since the release sensor was by the hook mechanism and we have already replaced it once. Not difficult, but it does require hanging upside down over the cockpit edge.

- Visual zoom, to have a close look at the instrument panel (at least until we have dedicated instrument panels) (and two spare inputs for growth).

Finally, for an extra sense of ‘immersion’, we retained the capability of fitting and closing the canopy for the front seat only. We also have a dummy parachute, four-point harnesses and complete checklists.

In spring 2018, our Portakabin arrived. Iain D did a magnificent job with a ‘JCB’ to remove hundreds of tons of rubble behind the clubhouse, and we moved the sim from the workshop.

Tasks to be done

There are still a few items on my shopping list:

- Test the value of stereo or surround sound. Initial trial with stereo showed promise.
- Add buildings to the Scotland 3 scenery to improve height cues for take-off and landing.
- Train up more instructors, and,
- Integrate simulator use into our training programme more formally.
- Add a dedicated instrument panel using a small display. We use a projected panel at present and, with C2, it is quite readable. ☹

THESE ABILITIES WOULD BE VERY NICE TO HAVE:

- Set initial conditions: height, position, speed, attitude.
- Record and replay flights, including display of control inputs, and to save the files for later replay. It’s obviously difficult to ‘back drive’ the real controls, but we could – using the displayed cockpit – show the virtual controls. There are limited capabilities in this area in Condor.

- Motion feedback and cues. This would be a major expense, but I have some ideas for inexpensive cues, such as:

- a) an inexpensive variable speed motor driving an eccentric weight mounted on the pitch control circuit, to emulate pre-stall buffet – the faster it moves, the more vibration. That’s what stick shakers in airliners do, with margin to the actual shown as a variable marking on the airspeed scale.
- b) A Servo drive to a moving pad on the seat, acting on one side or the other to emulate sideslip – in conjunction with, perhaps, a stereo sound effect to give left/right differentiation. Radio model servo?
- c) A Servo drive tightening the lap belts, forcing the pupil’s bottom into the seat, emulating G.

All these would require that we can get suitable outputs from the simulation program (already requested).

- Ability to freeze any one parameter (or more) so you can show the effects of X without the consequences of Y.
- Capture ‘n’ points in flight and restart from that point.

I know from experience that ‘grown-up’ simulators can do all the above and more.

THE COW

By varying parameters in the scenery files, some of our more enterprising Juniors created a 100ft tall cow at the departure end of RW 09, and the challenge was to fly through its legs without crashing into the cow – rather like pulling a cable through the legs of an AT-AT as a certain Luke Skywalker did in one of the early *Star Wars* movies.



Screenshot looking at Aboyne village from the west

THANKS

While I led the team, many thanks go to Iain Donnelly for mechanical aspects, Ron Ogston for joinery, Mark Recht for gaining committee support and his wiring work, and William Brydges, Maddy Draper and Alistair Cunningham for their support in all the other jobs, and many other people within the club.



David Innes is an Ass Cat instructor, MGIR and tuggy at Deeside Gliding Club. He has Silver C, got his Gold height in a Capstan, and Diamond height, in 1976, in a Swallow. David is also chairman of the Scottish Gliding Association

✂ (In C1 using three screens it was illegible due to known limitations of the program.)

Costs

Using donated parts where possible we have spent about £2,200 so far: £950 for three projectors and £300 Matrox video adapter. Timber £100, fuselage and its support frame were donated. Electronics, wiring £200. Control position sensors £600.

The Portakabin added quite a lot to that. But bear in mind that a French-sourced fuselage alone would have been £6,000

and Portakabins retain value.

We may use the other half as a briefing room, but we still are way ahead of the original game. The industrial position sensors we bought are professional components and will last the lifetime of the sim, but cost over £600. Others could use components costing £30 total (slider potentiometers), but with

a possible maintenance penalty if they fail early due to wear.

We had an external power point for the Portakabin installed when the clubhouse wiring and alarms were upgraded, and that was about £50.

How do we use it?

(This is an expansion of what was discussed in the previous article, June/July issue.)

We will use the simulator as part of an integrated training package, where all lessons are briefed, flown in the sim, debriefed, then reflight in the sim or on the aircraft, the idea being that aircraft time should be spent consolidating lessons and not doing basics.

This does not appeal to club treasurers since there is no income – at our club anyway – for simulator use, but looking at the bigger picture, if we can train in bad weather, or reduce the time to solo, that should improve progress and increase the retention rate, and retained members are your best long-term customers. It's our investment for customer (= member) satisfaction. We also use it, for example, if bad weather prevents a trial flight happening on schedule and no-one (yet) has walked away before the subsequent trial flight.

Basic rules

The primary rule is 'no negative training', ie if an exercise is not realistic or requires a work around, then we do not do it, or the setup is made by the instructor, so the pupil is only involved in the realistic, constructive part.

To that end, we have taken the standard BGA progress cards and, for both Condor and Silent Wings, have marked each exercise with: Y- fully representative.

? - do it with limitations, and list the associated limitations or work-arounds.
X – Do not perform, eg trimming, demo control force changes with speed – these are taught in flight.

This is a live document and is frequently updated as we discover new uses or limitations. This will vary for each simulator design.

Syllabus gaps

Between Condor 1 and 2, and Silent Wings there are not many very gaps in coverage. The most significant items are: trimming, thermalling, feel forces changing with speed, changing G, skids and slips, stalls and spins, and lookout/flying to avoid other aircraft, but, most importantly, the first and last few feet of the flight.

Simulator vs aircraft

We foresee the ratio of simulator to aircraft work starting at 50:50 with a gradual reduction as pupil skills develop, and the fidelity or suitability of the simulator to their training needs reduces.

Again, no negative training, nor training which is simulator specific

STOP PRESS

Version 2.0.3 of Condor 2 released in June adds proper support for multiple displays, ie as multiple points of view, so rather than stretch a single image across three screens as we do currently, each is a view through a 'window', so there is less distortion.

It will require a new graphics card, and perhaps some adapters, so we will experiment first before spending more club funds. Sadly Condor did not share this plan, even with the release of V2, so we have to live with the safe decisions of 18 months ago.

I will report on our experiments and progress in later issues.

■ On Day 1 of the Scottish Inter-club League (leg 2,) rain stopped play, so our sim was busy all day on a short, ridge running cross-country task by the grounded competitors.

■ The author is happy to provide advice and support on this subject; send a request to Facebook, Aboyne Simulation, or via the editor.



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Richard Crockett, Shuttleworth pilot and Booker CFI, loops the T-21 (DutchFlightline.com)

Gliders featured in Shuttleworth's celebration of the RAF Centenary, on a glorious day, reports David Rhys-Jones



Andrew Jarvis and Richard Crockett retrieve the T-21 (David Rhys-Jones)

ANYONE who has ever been to Old Warden Airfield, in Bedford, will know that the Shuttleworth Collection is the finest concentration of flyable vintage aircraft in the world. Anyone who has not been should seek tickets to one of its displays. Pack a large picnic hamper and prepare for one of the most enjoyable afternoons that an English summer can provide.

Richard Shuttleworth was the heir to the engineering company Clayton and Shuttleworth, studied engineering and built up a collection of vintage aircraft at his home at Old Warden. On his untimely death in 1940, the family decided to continue and develop his collection as a memorial to him. Practically every aeroplane is kept in flying condition by a dedicated volunteer team and flown by a select group of volunteer pilots.

On 6 May, 2018, Shuttleworth

staged a display to celebrate the RAF Centenary and contacted the Vintage Glider Club (VGC) to provide any gliders with RAF connections. The chosen gliders were:

- The Slingsby T-21 based at Southdown Gliding Club, now restored to its original 1950's Air Cadets colour scheme.
- An Eon Olympia bought by the RAF and flown by the Empire Test Pilot School. It was restored by Alan Pettit to its original colours and is now owned by Robin Birch.
- A Slingsby T-6 Kirby Kite, which was used for radar tests by the RAF and was restored to its original camouflage colours by Peter and David Underwood. It is now owned by David Bramwell.

The day was as perfect as an English spring day can be. There was a warm sun and virtually no wind, which meant that Shuttleworth could fly its collection of Edwardian aircraft, which included the Bristol Box Kite and the Avro Triplane.

The display started when a Eurofighter shattered the silence of the countryside

with a low-level pass, followed by an impressive display which mostly took place below 2,000ft. The assembled taxpayers certainly got value for their money. The display worked through the collection of immaculately maintained WW1 fighters via a restored Blenheim Bomber to a collection of Spitfires and Hurricanes. Finally, the gliders were announced.

The Kite and the Olympia did a dual aerotow behind the Piper Cub belonging to the Shuttleworth Trust and flown by David Bramwell. This is a tricky manoeuvre at the best of times and was perfectly executed by Frank Chapman and Graham Saw. They released at 1,700ft and descended on the display line in a series of parallel spirals, landing to the applause of the spectators.

The Slingsby T-21 was then towed to 2,500ft and Richard Crockett took it through a series of perfectly executed aerobatics, which included two loops. The syndicate members held their collective breath until it landed, because the glider is considerably older than most of the spectators. We need not have bothered, as the T-21 was designed for abuse by generations of Air Cadets and is of particularly robust construction. It requires a team of intelligent rugby forwards to rig and de-rig and the whole operation would have been impossible without the loan of Nick Newton's beautiful trailer. The syndicate trailer would not have survived the M25.

The Shuttleworth Air Displays are unique, not just for the amazing collection of aircraft, but for the fact that the staff – from the pilots to the parking attendants – are all volunteers. The whole atmosphere is well organised, relaxed and enjoyable. They don't try to pack in as many cars and ice cream vans as the field will hold.

The VGC and the sport of gliding as a whole would like to thank Shuttleworth for allowing us to display our aircraft.

The Slingsby T-21

The T-21 was flown by Richard Crockett, who is CFI at Booker and one of the Shuttleworth pilots. The intriguing history of the T-21 is traced by Martin Simons in his superb book, *Slingsby Sailplanes*. The 54ft-wingspan glider is essentially a scaled-up Grunau Baby single-seater. Designed as a private venture in 1944, it met with strong Air Ministry disapproval, but they relented and by 1950 the T-21 had become an indispensable trainer, both in the RAF Air Training Corps (ATC) and most civilian gliding clubs.

This example dates from 1952. It was acquired from Yorkshire GC by Paul Marriott in 1995. By 2005, it was looking very weary and was towed to Poland via the VGC International Rally at Eggersdorf Muncheberg, near Berlin, for 're-covering'.

This turned into a total restoration, the superb work being done by SZD at their historic factory at Jezow, which, ironically, is home of the Grunau Baby. A few years ago, David Rhys-Jones designed a magnificent new T-hangar for the glider. This, together with a fine set of Cambrai covers, allows us to keep the T-21 permanently rigged, and regularly flown.

The Slingsby T-6 Kirby Kite

Most of the Kites were impressed by the RAF at the start of WW2 and used to train glider pilots for the Allied Landings in France and Holland. This particular one contained no metal and was used in experiments with early radar systems to see if they could detect assault gliders.

At the end of the war, it was handed to the Air Cadets and was eventually restored by Peter and David Underwood. It now belongs to David Bramwell and was flown in the display by Shuttleworth pilot Frank Chapman.

The Eon Olympia

The Oly 2b was the 'hot ship' that all of us older members aspired to fly when we were young. The Olympia was designed by Hans Jacobs and was selected to be the glider for all competitions in the 1940 Olympic Games. Unfortunately the war intervened and the Games never took place.

About 150 Olympias were made by Elliotts of Newbury (EON); VV400 was bought by the RAF in 1947 and flown by the Empire Test Pilot School at Farnborough and Boscombe Down. Famous test pilot Bill Bedford flew it from Farnborough to Newcastle in 1947, a distance of 413km, and took it to the UK record height of 21,000ft.

It was sold to the RAFGSA and languished in a Nissen hut until it was rescued by Alan Petit, who totally rebuilt it over many years. It is now owned by Robin Birch and was flown at the display by Graham Saw, who is a Shuttleworth pilot and one of the founders of the VGC.

THEY RELEASED AT 1,700FT AND DESCENDED ON THE DISPLAY LINE IN A SERIES OF PARALLEL SPIRALS, LANDING TO THE APPLAUSE OF THE SPECTATORS



Slingsby Radar Kite with pilot Frank Chapman (David Rhys-Jones)

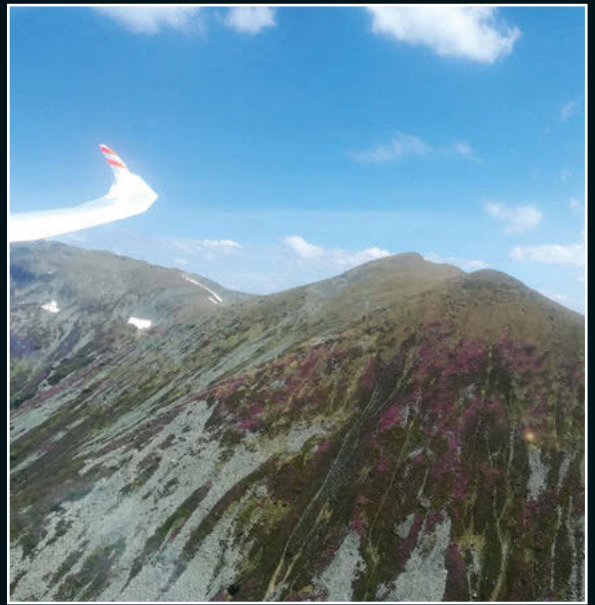
■ The author would like to thank Andrew Jarvis, Graham Saw and Robin Birch for their help in compiling this article.

■ www.shuttleworth.org

■ www.vintagegliderclub.org



Graham Saw (left) and Robin Birch with the Olympia (David Rhys-Jones)





This page, from top:

Hooking a cu over Colchester? Steve Lynn was in the back of EB28 '13', with Ed Downham flying. They went in search of convergences on the East Anglian coasts on 15 June (Steve Lynn)

A striking image of the Arcus at Bidford (Rolly Morris)

Facing page, clockwise from top:

Devon & Somerset Gliding Club's Perkoz against an unusual afternoon sky (Mark Courtney)

Carpathian Mountains covered with Alpine Rhododendrons on the Romanian/Ukrainian border (Justin Wills)

Taken from a Discus B on 17 May over Croydon during a flight from Surrey Hills Gliding Club at Kenley (Andrew Woolley)

SOR soars the monument on Moel Famau near Denbigh, Wales (David Edwards)

On the way home from a 1,000km with Afandi Darlington in ASH 30mi in Namibia, January 2018 (Chris Cobham)

■ 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





An overview of a somewhat complex array of interactive services aimed at helping pilots understand the weather and nature



■ With thanks to *Nordic Gliding* for allowing S&G to reproduce this feature, in an article swap between publications. The RASP section has been replaced here to provide a focus on RASP-UK

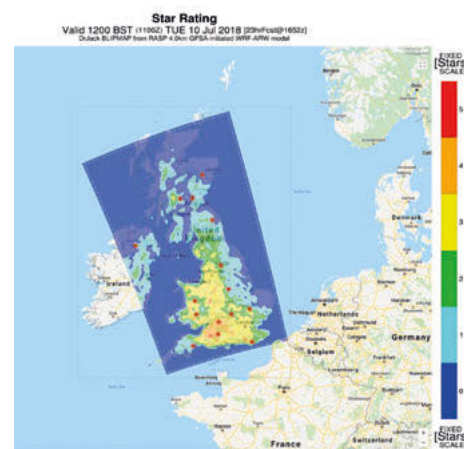
THERE is a great variety of gliding pilots. Some pilots are delighted with “just” getting air under the wings. A day in the air is a good day. Perhaps it will be 10km one way and 10km the other way during a short cross-country flight. Other pilots routinely fly hundreds of kilometres in the same weather situation.

This means that there is a wide variety of requirements for a weather service that will, in practice, satisfy an extremely wide range of pilots – from the inexperienced pilots who want to know if they can fly, to the World Championship types with huge experience and large detailed requirements on the degree of information.

It should be noted that the review in this article is an overview and will be aided by further self-study. An exhaustive review of each little finess in the services is best read in the manuals.

RASP **Simple, smooth and free**

The relatively inexperienced, or those who do not need “hyper-nerd” levels of detail, will probably get a lot out of the RASP forecast. RASP was initially an “open source project”, to which everyone contributed their ideas. Paul Scorer’s RASP-UK development of



the Google Maps interface was done in this spirit and was a notable advance for the user interface – important for such a complicated set of data. RASP-UK is free to use.

Paul comments that if a service is charged for, there is a big motivation not to release or publish details, so the code becomes less open source.

The foot-launched soaring community are a big part of the RASP-UK audience. They generally require a more local forecast than the gliding cross-country gliding community and for it to be available “in the wild”. Paul notes that there is no RASP-UK app, as smart

■ It doesn't matter how smart a weather app is if the forecast is wrong, but is there a method of meteorology that can be used to "quality assure" thermal forecasts?

Emil Björk, a glider pilot and meteorologist at the Swedish Meteorological and Hydrological Institute, says: "In general, there are ways to verify forecasts and quantify reliability. Most often, however, these are the larger and directly calculated phenomena such as temperature, air pressure, precipitation, and more. The quality of small-scale phenomena is difficult to control.

"The thermal forecast is just diagnostics of the state at a current time in the "big" forecast model and not any directly calculated parameter. So, you look at what the model counted forward and assess/calculate the conditions for thermics based on it.

"We are the sailors who are the best candidate to verify the forecasts for thermics. But, as far as I know, no one does it on a large scale. In theory, it should be possible to collect data from RST or OLC, compare it with forecast data and thus get some kind of measure of reliability. Another something easier variant could be to compare flight distances to calculated PFD (Potential Flight Distance)."



phones and tablets can display the desktop data very satisfactorily. His approach has been to provide coherent interfaces for local soaring, cross-country tasks and wave. Paul goes on to note that a BLIPSpot button for "where I am now" is needed.

RASP shows a good number of data types relevant to most soaring pilots, including overall star rating, which factors in thermal height, wind, thermal shear and whether "puffy clouds" are expected. Wind direction and cloudbase are not as reliable as Paul would like. Compared with SkySight and TopMeteo, there is no "modern" integration with, for example, SeeYou. RASP exclusively focuses on Europe. If you are a global pilot who also flies in Australia/NZ or South Africa, there is no way beyond SkySight or TopMeteo.

RASP-UK is popular. In June, about 20,000 distinct URLs were served with 25GB of data by the UK RASP site. Peak hit rate was around 18000 hits/hour. You can view RASP-UK at <http://rasp-uk.uk/>

RASP - THE VERDICT

RASP is free, locally anchored, easy to use and gives a really nice overview. Detail freaks may complement with TopMeteo or Skysight.

Top Meteo: details, details!

The English/German TopMeteo is a very comprehensive weather service that provides a very wide range of services. The price structure is relatively complex with a wide variety of possibilities for acquisitions. However, if you go "all in" at around €130 a year for a European agreement, you have secured both mobile apps and a wealth of information and six-day forecasts. If you are a "global" pilot and do not just fly at home, you will need to buy forecasts for each continent – ie paying extra for Africa and the United States.

TopMeteo is in fact completely opposite to RASP, which has basically pancaked a lot of information for a clear picture. With TopMeteo there is a great opportunity to see all bills, which is fine – but it places higher demands on the pilot's level of knowledge. For a newish pilot, TopMeteo may seem difficult to navigate. It requires many "clicks" to navigate the page and, in practice, priority is not given between "need to have" and "nice to have" info.

For the experienced pilot, who has a basic understanding and expectation of meteorology, it can be a plus to dissect the image into the smallest detail. However, the overview may be more difficult for

■ RASP stands for for Regional Atmospheric Soaring Prediction. It is a modification of a standard weather forecasting model to increase the resolution of the forecast over a limited area and to produce predictions of weather parameters of particular interest to glider pilots. It was originally developed by Dr John W Glendening (Dr Jack), an American atmospheric scientist and glider pilot.

THERE IS A WIDE VARIETY OF REQUIREMENTS FOR A WEATHER SERVICE THAT WILL, IN PRACTICE, SATISFY AN EXTREMELY WIDE RANGE OF PILOTS

SERVICE	ANNUAL FEE	AREAS	NUMBER OF DAYS IN THE FORECAST	MOBILE APP	SEEUYOU INTEGRATION	COMMENTS
RASP	Free	UK & NI	7	No	No	One year archive; 7 previous days live pop-ups (SkewT & BL cross section)
TopMeteo	€130, Europe mobile app included. Extra cost for Africa or USA	Europe, North Africa and USA (separate websites)	6 days included	Yes, dedicated satellite app 'TopMeteoSat' and website	Yes, included in €130 fee, with three-day proposals for tasks based on forecast	It is possible to buy regional forecasts (€58). For the mobile app (€10) and 6-day forecasts (€10)
SkySight	€79	Europe, USA, South Africa, Australia, New Zealand, Japan	5 days included	No, but well-functioning mobile optimised website	Yes, included	

FOR THE EXPERIENCED PILOT, WHO HAS A BASIC UNDERSTANDING AND EXPECTATION OF METEOROLOGY, IT CAN BE A PLUS TO DISSECT THE IMAGE INTO THE SMALLEST DETAIL

Below: TopMeteo's function selector – for example, you select PFD (potential flight distance) and all other parameters, such as wind, clouds and thermal conditions. It does require dedicated attention

✂ the “rookie” pilot, and TopMeteo does not help the amateur in the same way as SkySight and RASP. An annoyance is (for the price) that the maps are static and not, like Skysight, based on Google Maps.

This issue is known by TopMeteo, and internal sources confirm a graphical facelift of the page and improved usability are in hand. A real bonus at TopMeteo is the access to a special mobile app 'TopMetoSat' that can display satellite imagery and radar images live during the flight. Who does not want information about the weather any more? Another job for the rear seat pilot!

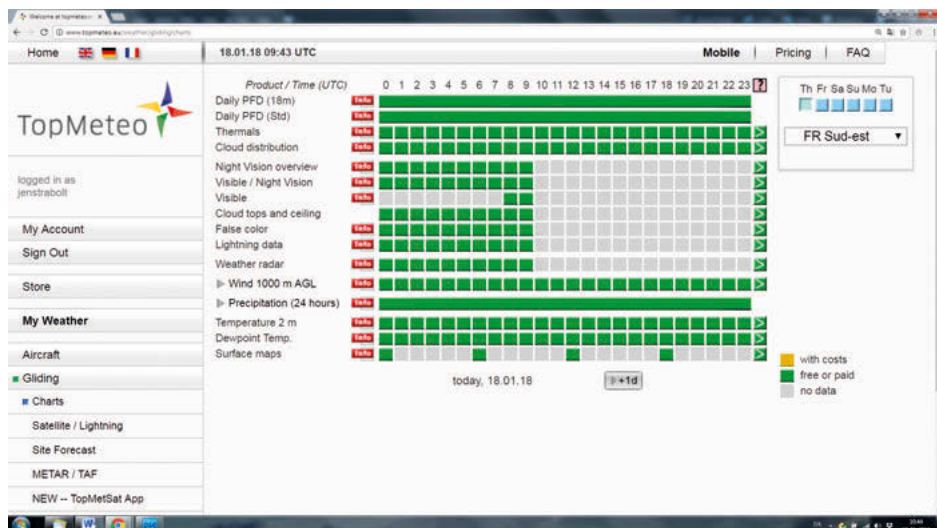
The app has an intelligent control so it tries to download satellite and radar photos even though the mobile connection is poor. This means that the pilot can concentrate on the flight. Smart.TopMeteo also has a

potential flight distance (PFD) alarm, which means that you can choose which regions/aerodromes (up to six in one SMS/text message) you are interested in monitoring for up to three days in advance.

The PFD alarm corrects the potential flight distance based on the forecast, aircraft handicap and pilot skill (from 70 for the amateur, to 120 for the World Cup types). For example, you can receive an SMS with the text “Starmoen = 400km/4cu19”. Translated into human language, it means, “Starmoen, possible flight distance 40km, at 1300 UTC there will be 4/8 cumulus in with a base at 1,900 metres MSL.”

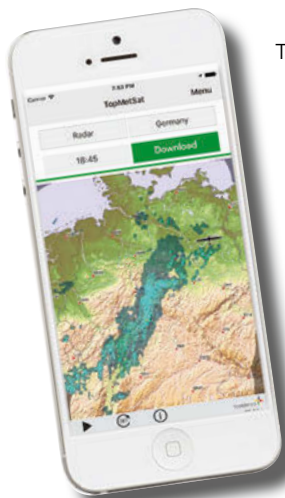
The service costs about 50 cents (half a euro). The PFD concept is otherwise pretty smart and all other services have it too, but it is worth knowing that it is a compression of a variety of factors – how far can a “joe-average” pilot fly. It is a calculation for a larger area and provides an excellent indication of where thermal hotspots/racetracks can occur and where there is no-go. The calculation includes many parameters, such as soil type, solar radiation, types and heights of vegetation, strength and heights in thermal, cloud depth, etc. Large wind speeds reduce PFD.

TopMeteo also delivers data to SeeYou (from version 8.0 upwards) and can generate an automatic proposal for a task (up to three days ahead) based on today's forecast(s). It's really smart with this weather overlay that also allows you to modify and really fine-tune existing tasks to today's weather.



TOPMETEO - THE VERDICT

A complex, detailed service that also costs if you want to use all features, such as the TopMeteoSat app. For the experienced pilot there is much to gain, but for the inexperienced the service is a little heavy at first, and it requires that you are able to translate digits to mental images. An update of the relatively insidious layout is on the way, it seems.



The TopMeteoSat app provides satellite and radar images in flight

■ See the stop press update on TopMeteo, page 35

SkySight The new kid on the block

It comes as no surprise that SkySight is the result of gliding encouraging a young Australian Google software engineer, Matthew Scutter, into development since 2011. The program is easy to use and has a wealth of talented features. The price is also quite cost effective, €79 per year, and unlike TopMeteo, there are no complex price structures. Once you've paid, you get access to all features and the whole world, ie, Europe, Nordic, Eastern United States, South America, Africa and Australia/NZ.

SkySight has, among other things, helped with the wave forecasts for the Perlan team in their record flights last year in South America. SkySight's usability also seems much more modern than TopMeteo.

Unlike TopMeteo, SkySight uses (of course) Google Maps and it gives a much better overview because, firstly, you are on the same page all the time, and second, you can scroll around and see the surroundings, topography and the usual Google information, with geographic data (and restaurants in case of landouts...).

Basically, you choose an interesting area



first – either by moving the Google card in a classic way or by selecting a shortcut (USA, Europe, etc.) in the menu at the top left. Next, you have a number of functions, with the menu on the left where the most important information, such as thermal conditions, clouds, wind and wave are projected across the map. Everything is extremely clear, with a very good overview, and you can choose between classic Google Map view and Google Satellite view.

One advantage is that you can also choose airspace overlay and view existing airspace structures on the basis of the forecast. A “slider” with time and a play button allows seamless selection of specific times, or “playing” all-day weather development. A smart feature is the taskplanner tool that lets you draw (draw/edit) tasks on the map, for example with the display of the optimal thermal ranges.

When designing its task, SkySight calculates the best starting time based on the current forecast (and selected flight profile: at the moment there are only two flight profiles available, a Cirrus with 31kg/m² and an 18m Ventus with a wing load of 45kg/m²) and shows the calculated average speed and time. However, at this time, it is not possible to export a task from SkySight to an Oudie or other flight computer, but Matthew Scutter has promised to implement this.

The forecast is also updated twice a day. Another smart feature that TopMeteo does not have, but SkySight excels in, is wave and convergence forecasts. It's great to be

Should we start now or in 20 minutes? Weather apps such as SkySight also provide the best start time based on a specific task and forecast (Jens Trabolt)

SKYSIGHT HAS, AMONG OTHER THINGS, HELPED WITH THE WAVE FORECASTS FOR THE PERLAN TEAM IN THEIR RECORD FLIGHTS LAST YEAR IN SOUTH AMERICA

ANOTHER SMART FEATURE THAT SKYSIGHT EXCELS IN IS WAVE AND CONVERGENCE FORECASTS. IT'S GREAT TO BE ABLE TO ZOOM ALL THE WAY INTO MOUNTAINS AND WATCH THE WAVES DANCE

able to zoom all the way into mountains and watch the waves dance. However, with SkySight, you must be aware that it is a fast-paced service, so some elements may be characterised by beta testing, where features and buttons are visible, but not working or enabled.

For example, SkySight does not currently have any satellite image provider in Europe. However, it was expected to be ready at the start of the 2018 season.

Skysight has no dedicated app like TopMeteoSat, but the basic features work well on tablet and phone. Just like TopMeteo, SkySight forecasts are also available in SeeYou and, in those cases where you want to fly in an area where both forecasts are available, SeeYou calculates the best flight by

combining both forecasts.

Since the beginning of 2018, it has also been possible to upload SkySight forecasts to the LX 9000 so that you can see the forecast visualisations of, for example, wave, convergence or over-development during flight.

SKYSIGHT - THE VERDICT:

SkySight is very promising and is the payment service that has the most modern “feel”. With Google Maps, the service is easy to use and many smart features provide opportunities for all types of pilots, regardless of the level of knowledge. It is a service in rapid development and the ambitions do not fail. That it is also the cheapest all-round service with the largest area is also a plus.

Conclusion:

It's never been easier to get smarter on the weather, or get confused on a higher level! But what should you choose? People have different tastes and requirements. In a survey conducted by *NORDIC GLIDING* at the end of last year, many pilots actually used a wide range of tools to get an overview of the weather.

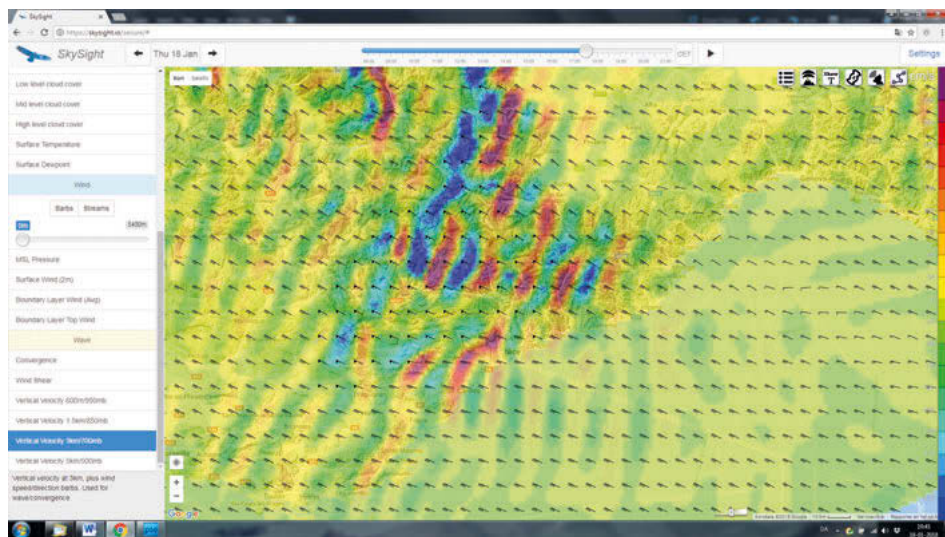
However, it is quite clear that there are very many pilots using RASP, which, in its simple layout and absence of over-information at a price of zero (0), actually covers many needs. In direct comparison between TopMeteo and SkySight, TopMeteo seems somewhat old-fashioned, at least in its current graphical configuration. What changes will come are difficult to forecast at the moment.

SkySight is probably the payment service that appeals most to this writer. It seems modern, easily accessible and easy to review at a price that seems reasonable. Experts or “super-users” may well have a different view.

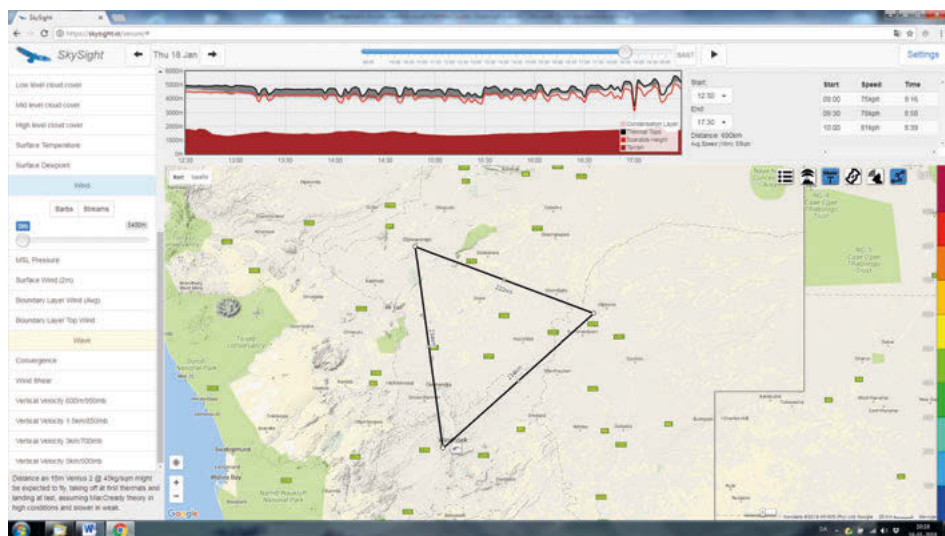
So it's all about what product works best for an individual. A very crucial detail that we have not found in response to this review is the quality of the forecasts.

A service may be nice and easy to use, but if the forecasts are of poor quality, practicality is practically zero. A real quantification of the forecast reliability is very difficult in practice.

■ What works for you? Would anyone like to write an update for *S&G* on your experiences of using weather apps during a great 2018?



One of Skysight's big party tricks is wave and convergence forecasts - here north of Nice, France. Note that Google Maps are being used



Skysight also allows planning tasks with overlay of current thermal conditions. It gives a good overview of where to fly and which route is absolutely not worthwhile



NAME: Matthew Scutter, Australian

AGE: 27

CLUB: Matthew's home club is the Adelaide Soaring Club at Gawler, Australia. However, during the 2017 season he flew mostly in Serres (France) and at Lasham (UK)

NUMBER OF HOURS: Matthew has 1,900 hours. He was junior world champion in 2015 and has six Australian championship titles. Among Matthew's best flights are 1,250km in a Standard Class glider and six 1,000kms

JOB: Matthew was a software developer at Google until 2016, and is now full time at SkySight

SkySight is the latest weather service. The main developer, despite his relatively young age, has great experience

IN 2011, I flew my first championship in Australia with poor results. After this I sought to improve my performance, maybe without having to put in too much hard work or time. Upgrading the glider seemed too expensive for very marginal gains and it was confusing to find out the best instruments, but I found lots of valuable advice in a few textbooks: Moffat's *Winning on the Wind*, Brigliadori's *Competing in Gliders*, but most critical was probably Wally Wallington's *Meteorology for Glider Pilots*.

I suppose that what initially got me into gliding was a fascination for weather. I had previously been a 'stormchaser' to admire the incredible energy (it has recently been discovered that lightning bolts cause nuclear reactions!). It turned out that gliding is, perhaps, the most focused sport I know. It could simply be regarded as "applied meteorology". Every decision we take in the air is based on our reading of the heavens and the basic physics that support them. We choose our position under the clouds based on it. We choose when to start and land based on it. We are all amateur meteorologists!

At this time, I realised that there could be an opportunity to use some of the skills I had (to get computers to do what I want!) to compensate for the skills I did not have (pilot experience). I started experimenting with

weather forecasts on my laptop at home, first with a number of standard solutions, like my own personal RASP, and then on to writing my own code, improving and improving the solution until I had something that seemed to predict the weather a little better than other available solutions.

All of this took much longer than expected, and in the meantime I spent some time learning to fly gliders better. With the combination of the two, I began winning national competitions and receiving invitations to world championships.

Before the Junior World Championship in Narromine, I gave my software to the Australian team and it definitely gave us an advantage over our competitors and that was a decisive factor in our subsequent first position.

Increasingly, I reached the limits of computers I could afford to continue to increase the quality of my forecasts. Then I decided to share my software with other Australians for a fee, which gives me my competitive advantage, but allows me to follow my passion. From there, the SkySight service developed, and now has a team behind it, forecasts for more continents and

I REALISED THAT THERE COULD BE AN OPPORTUNITY TO USE SOME OF THE SKILLS I HAD (TO GET COMPUTERS TO DO WHAT I WANT!) TO COMPENSATE FOR THE SKILLS I DID NOT HAVE (PILOT EXPERIENCE)



It does not matter how smart or advanced your software is if the user needs to study it for six hours to get a useful result (Jens Trabant)

WE HAVE BUILT UP A LARGE NUMBER OF TOOLS THAT WE HOPE WILL GIVE USERS WITH VARYING BACKGROUNDS AN OPPORTUNITY TO UNDERSTAND INFORMATION IN A "LANGUAGE" THAT THEY CAN UNDERSTAND



SkySight.io

✎ thousands of users.

It has also opened up exciting projects for our customers. We were recently involved in the Perlan project and provided wave forecasts that were used on their new world record (52,147ft.)

Because the service was first built for my own use in competitions, I had no hesitation in making it more and more complex to extract better results from the model. However, when I decided to extend the service to the public, I realised that it does not matter how smart or advanced your software is if your audience needs to study it for six hours to get a useful result. So, even though we have updated the modelling and improved forecasts, our focus since 2017 has been to make our interface as intuitive and interactive as possible.

We have built up a large number of tools that we hope will give users with varying backgrounds an opportunity to understand our information in a "language" that they can understand. Personally, I like to mentally cross the atmosphere across three plans – first with a top-down birdseye view using our forecast areas (Thermal Height, Skybase and Wave/Convergence) and then with a vertical

cross-section with our Route Predictions.

Finally I confirm I understand by checking some probes at random points through my task area.

I come from a club with a very complex airspace and understand very well how the weather can be in conflict with the sky. Therefore we also have integrated airspace in the views so you can see if the attractive convergence line misses the restricted sky later in the afternoon!

SeeYou integration

The SeeYou integration is quite simple – it shows just a few of our parameters (thermal, wind and most unique; waves) on the map that you can use as a basis for planning a task. Normally you download data and schedule a task around it. I execute all my task scheduling in SkySight using the route request function.

We hope to continue cooperation with SeeYou to bring more features and parameters to SeeYou. We are also integrated with LXNAV, so you can see our LX9000 projections in flight. It's great to find wave, convergence, or see where over-development is coming soon.

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We look forward to hearing from you.

In conjunction with the



STOP PRESS TOPMETEO 2.0

- NEW LIFE TO A TRUSTY OLD FRIEND?

Since the Weather apps for 'dummies' article was produced, TopMeteo has had a facelift. Does it tilt the balance in its favour?

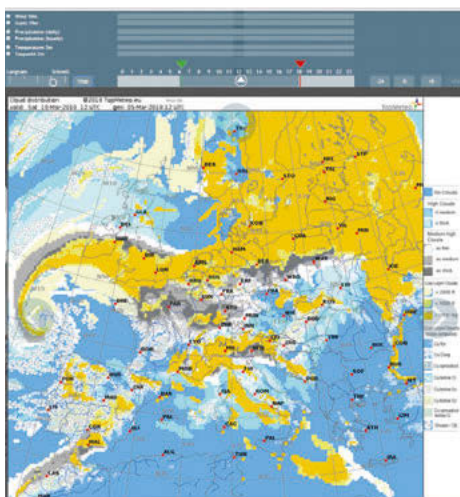
IN THE article on the previous pages, it was clear that SkySight was the leader in the usability stakes, but we also wrote in the article that there were rumours that TopMeteo was on the way with a graphic facelift. This is now a reality.

The biggest change is a welcome menu, where you will be presented with a number of options. Forecast maps provide a large image (unfortunately not zoom or moveable) across the selected region, for example Europe, where you can download a visualisation of the time course – like a play button (TopMeteo calls it a “Loop slider”), where you can play the forecast total picture of weather and wind.

In addition, there is also access to playable satellite and radar images (also with play button). In the main menu you can choose a site forecast, either choosing a location from a map or searching for a desired aerodrome. Here you will be presented with a large amount of meteorological information divided hourly for up to six days ahead. There are over 50 parameters available, so if you're not careful you will end up with information overload. It is up to the pilot to choose from this information and put it together in a mental image. It requires practice.

Although TopMeteo has got a boost, it is clear that there is an older system behind it. The graphical visualisations are still quite cryptic, and it takes a lot of work to transform the information on the screen into a mental image of the weather situation. That discipline makes SkySight much better. SkySight also has the great advantage that it's Google Maps-based, where you can zoom and pan as much as you want.

A mitigating factor, however, is TopMeteo's mobile app, TopMetSat, that allows live satellite images to be captured directly into the cockpit during flight. It is included in the TopMeteo Super Europe agreement at €129.90 a year. Otherwise it



Left: TopMeteo's new forecast card with 'loopslider'. Unfortunately, the map is not zoomable

ALTHOUGH TOPMETEO HAS GOT A BOOST, IT IS CLEAR THAT THERE IS AN OLDER SYSTEM BEHIND IT

costs €9.90 a year.

In spite of the facelift, TopMeteo still has the annoying and confusing feature that you have to switch between several pages to get a complete picture. It does not matter, and again – SkySight is much better.

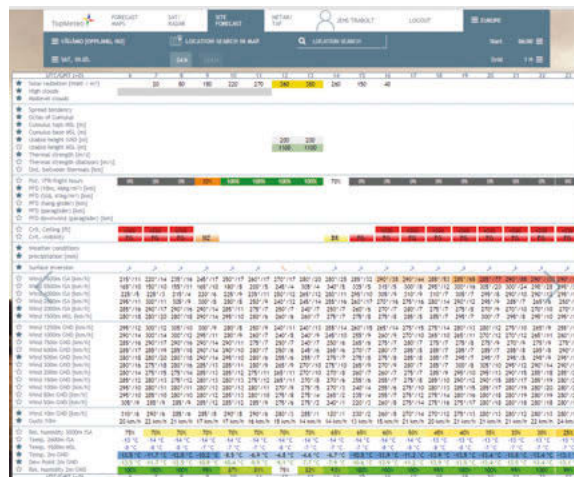
TopMeteo also runs a slightly annoying price policy, with separate agreements for separate continents. SkySight has only one price and you can travel around the world as you please. Both physically and meteorologically!

We have not mentioned RASP here, as it's completely free and gives a very good overview to most pilots.

Supplementing RASP with SkySight ensures a pilot is heavily armed to take advantage of the hopefully successful season. For many pilots, RASP will be plenty to decide whether to fly, how high and in what direction.

Unfortunately for TopMeteo, the facelift does not fundamentally change the overall picture, so the conclusion is that SkySight is a better payment option.

Below: The smallest site forecast. In this instance a vague choice has been made, generating a large amount of information. There are over 50 parameters available, so be careful about choosing the right information otherwise you will very quickly suffer from information overload



TAKING SKILLS TO NEW LEVELS

Scream if you wanna go faster, or just further! Liz Sparrow reports on a new women coaching programme



Smiles during the cross-country development week at Hus Bos

A GREAT OPPORTUNITY TO LEARN HOW TO IMPROVE DECISION MAKING AND CROSS-COUNTRY SPEED

YOU'VE no doubt heard about the BGA's Women Project to increase women's participation in gliding; as part of this, the Women Coaching Programme introduced in 2018 offers coaching opportunities to the women already gliding.

Organising the coaching programme are Rebecca Bryan and Julia Robson, leading the intermediate level; and Ayala Truelove and Liz Sparrow leading the elite level. If you have your Cross County Endorsement – or hope to have it complete this season – we'd love to fly with you. Speak to any of us, or email info@womenglidle.co.uk

We kicked off with a Women Aim Higher (WAH) weekend at Cambridge Gliding Club in April – unfortunately we also needed the airfield to 'Aim Slightly Higher' since it was below water level! This didn't stop the three top female pilots/coaches – Liz Sparrow, Ayala Truelove and Wendy Head – from delivering a really useful weekend of top tips, planning and encouragement. Course members went away with specific plans for improving their flying throughout the season and were in touch straight afterwards, sharing how they were putting their plans into practice.

The Gliding Centre, Hus Bos – upcoming host of the 2021 Women's Worlds – was the venue for the cross-country

development week in May, with participants ranging from pre-Silver distance to an active comp pilot wanting to speed up.

Cambridge Gliding Club's Wenshu Xu attended the WAH weekend and then booked onto the cross-country development week. She said: "When I first heard of the cross-country development week, I really thought it wasn't for me. Having obtained my Silver badge last year, I hadn't done much cross-country – and there must be other women pilots much better qualified to

attend this than me?"

"However, with encouragement I arrived with my DG-300. There I met Liz and Ayala, who are fantastic pilots but also great coaches, and other fellow women pilots. It started with a friendly May Week mini-comp in absolutely hot and blue conditions. I won Day 3, having managed to go around two TPs of a local task in my DG, which really boosted my confidence.

"Training with Liz, or Ayala, in a Duo was such a great opportunity to learn advanced soaring skills and how to improve decision making and cross-country speed. I found every day's briefing and debriefing extremely useful too, including trace analysis, task planning and understanding different models of weather forecast.

"Then came the big day on Thursday, when all weather sources agreed it would be stonking. I was set a 120km triangle task, which I hadn't attempted solo in the past. I wasn't so sure at the beginning, but once I was airborne the training from previous days came into good practice, and words from my coaches were playing in my head. I stayed fairly high, took thermals selectively, and luckily there wasn't too much stress throughout.

"Dancing along the energy line on the final glide going into wind was such an amazing feeling, knowing that I had achieved something that would otherwise take a long time if I hadn't come to this training week. And importantly I had so much fun hanging out with the ladies, discovering I wasn't the only one who struggled with the minimum cockpit weight and having to make my own ballast and cushions. It definitely made me a better and more confident pilot, and I can't wait for the next challenge to come!"

■ The next women's training camp is taking place at the Bicester Regionals, 21-29 July. Keep an eye out for future coaching opportunities at:

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above points then please talk to Forbes**

PEAK PR

Bob Symons enjoys his first taste of mountain flying during a 'perfect' Aim Higher course, held at Sisteron, France

MOUNTAIN flying for a total of 21 hours in the back of an ASH 25 was just awesome! It has made me determined to progress my gliding skills to the highest level I can and aim even higher than I ever thought possible. I took up gliding two years ago at my home club at Rivar Hill because I wanted something to challenge me and keep me on my toes. But the most important thing I have found at my club, and at others, is that it's really good fun and the camaraderie is just great.

I had the good fortune to be invited to a two-day seminar at the Park given by Kevin Atkinson as part of his Aim Higher initiative to encourage more focused and intensive post-solo UK glider pilot development. The range of the talk covered: various flying techniques; the science of and the way to get the most from thermals; reading the clouds; reading the ground features; picking the best route to achieve your task; getting the best glide angle and speed; planning ahead; back-up plans; and the flexibility to handle the unexpected.

Before I try and reproduce his whole book on the subject (*Gliding in Lift and G-SINK*), I will just say that everyone in the group, irrespective of experience, found the whole event both informative and entertaining. During the course of his talk, Kevin mentioned that he was going to take his ASH 25 down to Sisteron and invited anyone interested in joining him to gain experience of mountain flying to get in



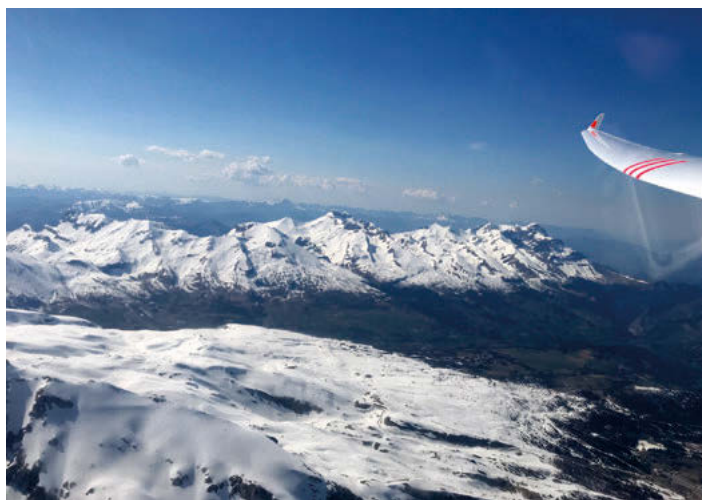
> **SAILPLANE & GLIDING**
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> **FEATURE**
AIM HIGHER

PRACTICE



Kevin Atkinson helps pilots aim higher in his ASH 25 at Sisteron (Sophie Mahieu)



Above: Encountering K13 over Dévoluy, Provence-Alps-Côte d'Azur

Left: flying over Dévoluy

Below: Solo day at Rivar Hill (left to right): Martin Selby, Adrian Neary, Bob Symons, Phil Morgan CFI

(Photos: Bob Symons)



✎ touch. I signed up on the spot.

Subject as always to the weather not letting us down, I could not believe that such a fantastic opportunity could come my way. The previous week in Sisteron had been mostly scratched due to weather, but for the whole time I was there we had hot weather getting up to 26°C.

The first day was for me to look and listen and get to feel what the ASH 25 (G-SINK) was telling me. The back seat was comfortable and gave good visibility; due to its size, most manoeuvres required substantial control surface deflection. The first launch was a little disturbing:

- After a longish ground run we got into the air and I found myself looking at the tug somewhat lower beneath us than I would have expected, but then spotted that the tow rope was in fact parallel with the ground – tall glider on a belly hook.

- So the tug was in the air too and, as we passed over the end of the runway, Kevin said: “field to the right, turn to the left – field to the left, turn to the right.” Something of a surprise to me, because I was not sure that my 15m glider could have landed safely in the pocket handkerchiefs he was referring to. It turned out that, for the ASH 25 at least, these would have been the best places for us to crash.

- After some noticeably longer time, when we had nearly completed a 180, the words “land on the airfield” came from his lips.

Each day we went through this routine, slowly climbing behind a labouring tug. Some days a short tow was enough to find good lift, other days we had to go for quite a while (launches were usually from runway 35 and landings 17). Sometimes we went much further before we found the lift we needed. On all but one day, when an inversion kept us below 10,000ft, we reached 12,000ft several times.

My highlights of the course

- Two occasions gliding with Michel Vigouroux and Sophie Mahieu in their ASH 25. Lead and follow and taking photos and videos of each other over the fabulous scenery. The following glider is responsible for ensuring it takes a path that safeguards the leader. Pre-arranged words were passed between the pilots to trigger various manoeuvres.

- Chandelle at block speed into an 8.5kt thermal centred in half a turn. (Sink demonstrating strength, cobble stones pre-entry, wing lift and mad vario on entry).

- Daily long final glide back to Sisteron using



Kevin Atkinson and Bob Symons in ASH 25 G-SINK (Sophie Mahieu)

clouds and ground features, coupled with the electronic assistant, to anticipate the Sisteron arrival height so if the margin started to erode below 4,000ft action could be taken to gain more height. Achieved some at 157:1 without thermalling (going further, faster).

- We found a ridge with no wind one afternoon with the sun on both sides and ran it climbing virtually all the way in both directions at speeds of 45kts to 120kts and some in between.
- The sheer beauty of the Provence-Alps-Cote d'Azur.
- Planning and executing tasks (always flew with a purpose and back-up plans).
- Gliding in the mountains requires the same technical skills as gliding anywhere, but the variety, breadth, depth and changeability of conditions is on another level. The level of knowledge that has to be acquired to fly safely is substantial and requires a suitably qualified instructor.
- Flying from Sisteron in the Alps where we were, there are few, if any, places to land except for the five airfields. Height and position relative to Sisteron Airfield was a constant priority and any decisions on height and location were made to ensure there was always an escape route, back to

there or other suitable landing place(s).

Kevin's helpful instruction, coupled with the flying hours, enabled me to improve on a number of fronts and experience wide-ranging conditions:

- Co-ordination, planning, anticipation (eg determine your next target and the most promising route via clouds and/or ground features to get there).
- Plan your exit point from a thermal and accelerate up to your chosen block speed before you leave it to minimise losses.
- When lift is weak and needed, make all manoeuvres gentle and energy efficient.
- Lift from convergent winds.
- Dry and humid thermals.
- Wave.
- Sink from a minor rotor.
- The rapid change of conditions as the sea breeze came up the valleys in the afternoon.
- Identifying potential lift from a ridge and testing the viability at 70kts so that if it turned out to offer sink you had plenty of authority to take a pre-planned escape route.
- Reading the clouds.
- "Wing Scraping".

In conclusion, I cannot imagine how this Aim Higher flying experience I have been so privileged to enjoy could ever be bettered.



■ In August 2016, Bob Symons (above) went for a trial lesson at Shalbourne Gliding Club and became a full member the very next day.

"I achieved minor notoriety as the new member who took the fullest advantage of the upfront payment to cover all launches and airtime for the first year.

"In October 2016, the club had an expedition to Sutton Bank and when I asked what I would have to do to go on such a trip, the answer was "Drive there, Bob." I did and last year became a country member.

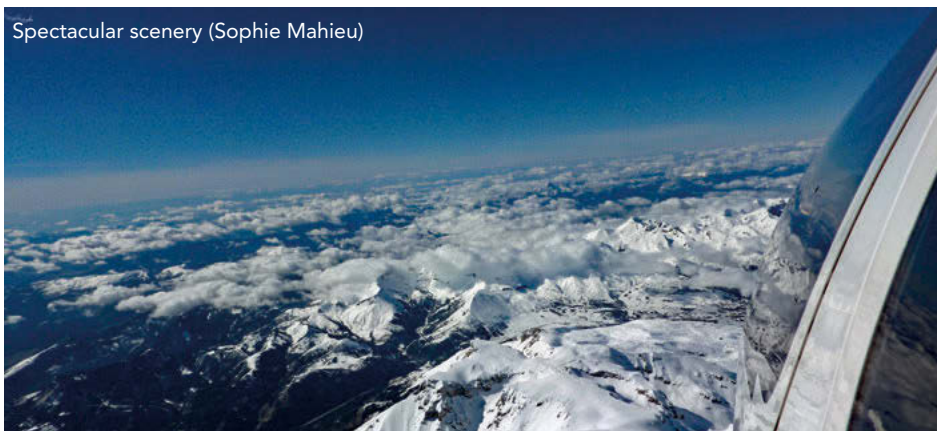
"I went solo at Rivar Hill on 8 July 2017 and took my first solo in a K-13 under the watchful eye of Phil Morgan, our very supportive CFI. Since then I have been flying the club fleet of two Puchacz, a K-13 and K-8.

"During my sixth visit to Sutton Bank – three days after returning from 10 days in Sisteron – I did some improvement training with John Carter and a Bronze flying course with Andy Parish. At the end I met the standard for aerotow, but the weather was too turbulent for a first solo on aerotow.

"I passed my Bronze paper test earlier this year and my Bronze flight on 2 June, in which the simulated field landing proved a little challenging due to the disposition of the already landed K-13 and the cable tow vehicle.

"On 10 June, the CFI converted me to allow me to fly my newly-acquired LS4 (1981). I look forward to the next exciting episode."

Spectacular scenery (Sophie Mahieu)



LANDOUTS: FROM HEAVEN OR HELL

Mike Fox recalls a memorable landout from many years ago and asks if you can better this tale

BAROGRAPH smoked and installed, a 60km radius marked on my map, and checks complete. Of course, 25 years ago, no one had really heard of NOTAMs (there was a blue board with a NOTAM sticker on it – it was always empty!), the internet or mobile phones. There was certainly no GPS and the only moving maps using inertial navigation were in the realms of airliners.

So it was a simple life – you checked the trailer, sorted some crew, put a line on the chart and just set off. And set off we did – just me and my favourite club K-8.

Over the airfield at Pocklington we managed to climb away and set course for the best patch of sky – towards York and Sutton Bank-ish. The flight, which was eventful enough for 18-year-old me had its highs and lows; bits where I was lost, and bits where I found out where I was again. Eventually, we passed the 60km line on the chart and it was time to land out. The only problem was that no one had ever taught me how to land out starting from 5,000ft!

Eventually, I found myself lining up to what must have been the most unsuitable field in the area! A nice, brown, ploughed field on top of a hill. The landing was uneventful, apart from a very abrupt stop that was violent enough to fill the cockpit with all the stuff that was behind my head!

My first thought was to check that the barograph was still going. I could hear a ticking from the back, which was a good sign, and sure enough, there was my trace on the soot. Hooray – it looked like I had the Silver distance in the bag then! I clambered out onto the soggy earth and made my way down the hill to the farmhouse.

It being a Sunday, all was pretty quiet.

After knocking on the door, a lady opened it a crack, took one look at me and announced “We woon’t be buying owt today”. And the door was slammed closed.

I stood, stunned, wondering what to do next. I reckoned that there was no alternative but to knock again. “Look – I’ve already said...” “Hold on,” said I and garbled something about landing out at the top of the hill in a glider. I pulled the lady, Mrs Atkinson, out to look.

“Joe, Joe, cumm’n ‘ave a look at this,” she shouted into the house, whereupon a very weathered man came to the door and looked me up and down. After surveying the scene a little longer, including the glider which was visible in the ‘top field’, he looked me square in the eye. “Y’ know lad, when I were yer age, I ‘ad a bike. I wer proud ‘o that bike’. Cummon then, let’s go and ‘ave a look.”

On the way, I apologised for disrupting his Sunday, but he seemed very curious of the glider. “Can I touch it?” he asked. “Of course, but just be...” At which point Joe lifted on the cockpit edge with such power that the whole cockpit deformed towards his hand! “Err – please don’t lift that hard,” said I. “Pretty ‘evy, in’t it?” Hmm. ‘Ow you gonna get it out of ere? You got a Land Rover or sommat?”

As it happened, a very kind chap who still flies at Pocklington – Bob Holroyd – had agreed to help Mum come and get me, and he owned a yellow Porsche! “I think it’ll be an ordinary car,” I said to Joe. “Mmmm. It’ll be twenty poound to borrow the tractor.” “Oh – OK – thanks,” said I.

By now we were walking back towards the farmhouse and I asked very politely if it would be possible to use the phone. “Aye – no problems – it’ll be twenty poound!” “Oh – OK – I’ll have to use the village phonebox if there is one.” “Ah – it’s too far to walk. No problems – I’ll give yer a lift. It’ll be twenty poound!” “OK – I’ll walk anyway – which way is it?” I said, starting to walk down the farm track. “Oooh, lad – I’m only pullin’ yer leg! Cum’n ave a cuppa in ere



Cartoon by Ross Martin

“We woon’t be buying owt today!”

**THE ONLY
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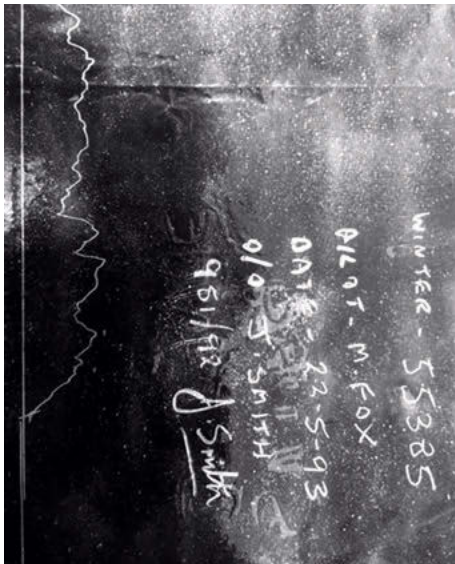
BGA Training Standards Manager Mike Fox and (right) Mike's trace on smoked barograph

and you can use the phone."

There followed an eventful retrieve where Joe and his wife fed me like a king, lent us tools and materials when my crew (well – I guess it was me really, as I didn't put stands and tools on the trailer before I went – youngsters eh, can't trust 'em). I forgot wing stands, the deadman (for those not in the know, it holds up the fuselage while you take off the wings) and the spanners for the mainpins and tail. Suffice to say everything was twenty pound, especially to my Mum and Bob, until they worked out how kind he was.

Most people hate landing out, but when it happens, the encounters we have actually create special and usually, for me anyway, brilliant memories that can stay with us for years.

So thanks Joe Atkinson, Mum and Bob at a farm near Northallerton for setting me off on a journey of – unfortunately – many landouts (and yes – I really did remember Joe's name after 25 years)!



■ I have many more landout stories, but I'm sure you have one that's better. Do you have one that *Sailplane & Gliding* could use? Come on – we all like a good landout story – even if it's a short one!

Send it to editor@sailplaneandgliding.co.uk

MIKE'S MUM ADDS:

I REMEMBER the farmer's wife being rather worried that some mother would let "their lad" do these things nowadays!

BOB HOLROYD ADDS:

FIRSTLY, was it really 25 years ago? Anyway, it was a retrieve I remember very well.

Mike has been somewhat economical with the truth about certain points, which really must be made public.

He told Mummy Fox and I when we got there that when he told Mrs A that he'd landed his glider in the field, she replied: "That's OK, sonny... you can go and get it!"

I understand that she twigged at the third explanation and said she'd have words with his Mum about letting young lads loose in dangerous toys... which she did.

He also landed on the side of the hill, which came in useful as a substitute wingstand. Don't ask how we got the main pins out!

Yes, the Porsche (a 924S) did get into and out of the field unaided.

Never believe anyone who says that the trailer is all ready to go – especially when he's a future BGA Training Standards Manager.

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HIGH AS A KITE

How Neil Croxford left the security of the airfield and, with the help of a feathered friend, achieved his goal of a Silver flight

SUNDAY 3 June, 2018, dawned. RASP said go, TopMeteo said go, club members said go, but inside I am thinking “Should I?”. Are all first-time cross-country pilots like this, or is it me just being overly risk adverse?

I had read books about cross-country flying, undergone the Aim Higher course, taken in all

sorts of advice (some conflicting I must say, from club members!) on how you should do your 50km (Silver distance). But you still have that niggling thought of “what happens if it all goes wrong and I can’t get there?”.

Looking though years of S&Gs, article after article talked about 300km, 500km and even 1,000km flights, but could I find one on how to do a 50km or tell me how to break the elastic of leaving the security of my own airfield?

I fly from a great little club called Stratford on Avon Gliding Club. We have over 120 members and some great cross-country pilots, but have you noticed how many stories you hear about those fantastic thermal generators stowed safely behind them (called engines!) that they have put up to get home? Me, all I have is an LS4, and the thought of having to field land my little darling was not helping, as I have had her only five months.

Now, an LS4 is a great machine, the advice was still coming, plus the maths said if I get two thermals of 5,000ft and no headwind I can make 50km no problem.

So there I am at the launch point, all strapped in, task loaded: Snitterfield, Bicester, Bidford and then back to

Snitterfield (SNI-BIC-BID-SNI). I hear you all saying, “that’s not 50km” and you would be right, it’s 122km. But if I am in a glass glider, surely I should at least try and get back?

Snitterfield is a winch-only launch site and 40 seconds later I am at 1,200ft and hunting lift. Our CFI Steve Brown had said that there was lift all around and, sure enough, 30 seconds later I am thermaling at just over 2kts and clearing the field, so imagine my disappointment to hit cloudbase at 2,300ft.

Now, taking a positive approach, RASP said it would be good, TopMeteo said you

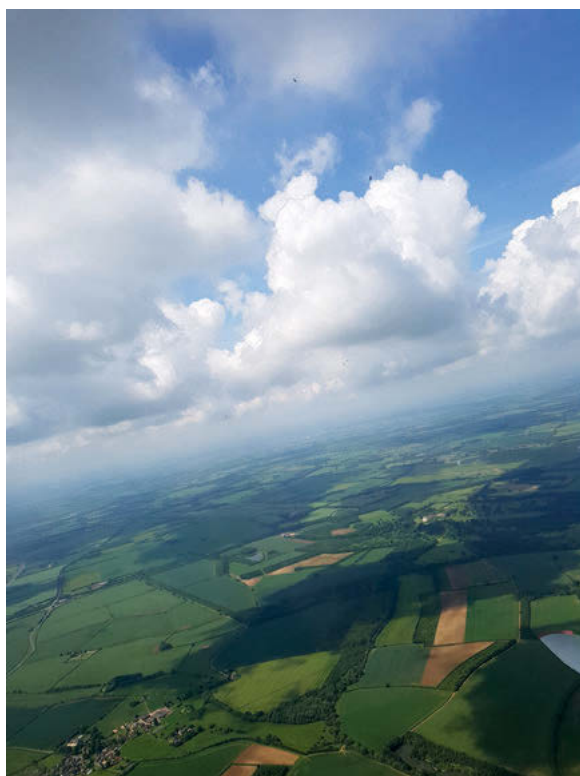
could do 300km flights, all those great pilots at our club had rigged, so surely I had the right day? Opting to give it an hour and explore the conditions and find where lift could be found, I settled down for a bit of local soaring; 2,300ft is a long way short of 5,000ft! A few exercises seeing if I could find lift and, if I needed to, could shoot back to the airfield was on the cards. For those that have not done their cross-country, this gives you time to work out where the thermals are in relation to the clouds and get you settled in.

As time went on – and I had done three to four dashes out to south of Stratford and back to the airfield – the cloudbase started to rise and I was getting lift up to 2,900ft. It was at this point that one of the club members turned up in my thermal in his big Duo Discus (Barry Kirby). Now Barry is an extremely experienced cross-country pilot and several months ago I remember him saying to me: “Neil there is nothing that beats going on a cross-country flight and getting back.”

Here I am in a thermal, with someone who probably has a task of 300km planned, and I am still debating “should I go for it or head back to the field?”. Then for some reason I said to myself “no matter which way you decide, if you leave this thermal for home after the Duo you will always regret it.” Levelling the wings at 2,900ft, I turned her south and I was off. Maybe the Duo still in the thermal was the scissors that cut the elastic, but either way I was on my own and Edge Hill (Shenington) was my first waypoint to Bicester.

Call me foolish if you like, but 2,900ft is not high – definitely not the 5,000ft, or even 3,500ft, that my cross-country instructor Mike Coffee advised I should have to do my first 50km flight – but I could see cumulus clouds and fingers crossed all would be OK.

All seemed to be progressing reasonably well, a couple of 2kt thermals and I slowly made my way to Shenington Gliding Club; still no great climbs, but holding my own. Cloudbase was going up and



East of Banbury

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I left Shenington with a happy heart at approximately 3,000ft.

Following the clouds, I continued south, trying to find lift under those dark patches of a growing cloudbank to no avail. Slowly, but surely, the altimeter rotated anti-clockwise as Shenington fell behind me; 3,000ft turned to 2,500ft, 2,500ft turned to 2,000ft. Training kicking in now, I pick three fields, head to Banbury and see if the town has lift – 2,000ft now down to 1,500ft, landing field selected just past Banbury on the other side of the M40, new crop, but I still see brown earth, quite flat with overshoot field. Oh dear, I am going to have to land out. Those that know Banbury will be aware of the big warehouses next to the motorway, so fingertip flying and conserving all lift I edged my LS4 towards them.

Now, I am not saying I could count the rivets on the roof of the warehouse, but I am still not getting that magic beep of the vario and 1,500ft was now down to 1,100ft. To compound the issues, over the radio I hear a call: “Hey John, I’m in a 4kt thermal”. I don’t know where you were my friend when you made that call, but that was not helping the situation, I can tell you. Here in Banbury we have sweaty palms and a heart rate of 160 and am about to put the gear down!

I was scratching at everything: heat off the M40, warehouses, car parks, you name it I was on it! I even closed the DV flap to make the drag less and I am sure if someone had lit a cigarette, I would have tried to thermal off it. Identified field or not, I did not want to land out.

Things were looking grim now under 1,000ft, when all of a sudden a Red Kite flew by my right wing. I am not a twitcher (bird spotter), but I do know in the world of gliding that if he is not flapping those mighty wings, and this one wasn’t, then there might just might be lift. With a slight bank to the right, I follow him/her and, yes, we have ½kt.

Half a knot is not much, but right now it was worth more to me than John’s 4kts. Slowly, but surely, I crept back to 1,100ft then 1,200ft; ½kt became ¾kt, then 1½ then 2kts and the vario was now making that reassuring beep. I was saved.

After a reasonable climb, I found three more thermals and was at Bicester – a close call, but I had the Silver distance in the bag. Climbs around Bicester now seemed to show that perhaps a return trip was on. A few thermals later and what do you know?

I am at 4,000ft. The LX is telling me I can



Neil Croxford was determined not to land out in his LS4, which he’d had for only five months

make Shenington in one glide, so nose down and I am off: 70kts on the ASI, what could go wrong? What I didn’t realise is that the LX was calculating hitting the waypoint at my safety height, which was set at 1,000ft, so the closer I got to the airfield, the lower I got. Oh no, not again! With poor performing clouds to go for, it wasn’t long before I was again back at just over 1,100ft hunting ground-produced thermals.

For those that have not flown from Shenington, there is a small ridge to the north of the field. On this day, after all I had been through, this ridge was now going to be my Red Kite at Banbury. Up and down I went, fighting to stay up.

Once again, I sought patches of lift to stop me landing. Determined to stay airborne, I worked the LS4 and after 15 minutes managed to climb back to where I should have been when I arrived. Are all cross-country flights this nerve racking?

A few more cloud thermals marked by local gliders (many thanks, folks) and I am back on my way now, as the flight was getting closer to my field and the task was nearly complete.

Adding an hour of additional flying at the end then also chalked up the Silver endurance.

For those that have not done their cross-country flight, no matter what anyone might say to you, go when you are ready, and you will know when.

As Barry Kirby said, it is a great feeling afterwards!

■ While S&G has published first ‘Silver’ articles in the past (and the *Ask the Coach* series aims to help pilots progress), there is no doubt that I am more likely to receive submissions for perceived ‘bigger’ achievements. If you have had a memorable flight, whatever the distance, please consider sharing it with S&G – editor

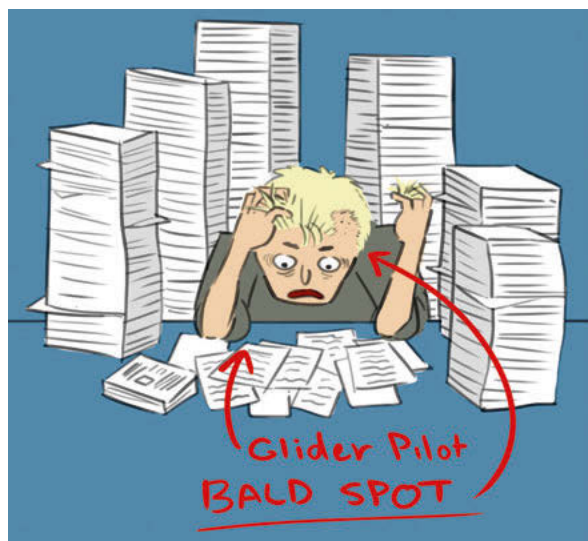


Neil Croxford went solo in late 2015. He has 86 hours flight time (including training). Neil has his cross-country and Bronze, and achieved Silver height last autumn at Sutton Bank. He flies an LS4 and is safety officer for SOAGC



ADVISORY 7: BECOMING A BADGER

Grimshaw probes the non-wearing of badges and tells cautionary tales for newbies struggling to get one...



EVEN ARMED WITH THE HELPFUL BRONZE BADGE, NEW PILOTS WERE STILL BEING EXTRACTED FROM HEDGES UP TO 30.5 MILES AWAY

AS I KEEP explaining, gliding is full of dark, complex and subtle mystery, and nowhere more so than the vexed business of badges. Yet these are central to gliding because how else are you to chart your progress? The mystery is this: If badges are so important, why do people never wear them?

Look around... you might find the odd junior sporting a gliding badge... and often a foreign visitor... but never a Club Venerable. My Venerables said (after a few beers) that although a small badge on a business suit

is OK, the wearing of them in the club itself is considered bad taste. Now is this Britishness gone mad... inverted snobbery... or is there a darker reason? Bearing in mind that Grimshaw Advisories are, at best, a bit sketchy, I've come up with two dubious hypotheses as to why this might be:

- **Historical confusion:** Badge history is complex. It goes way back... before WW2. The lower badges have changed a lot, but, oddly, the higher ones haven't... despite astonishing gliding improvements all round. Before the war they just used to hurl you off a hill... and if you didn't hit

the ground too soon you got a badge. Philip Wills, our Grandfather of British Gliding, described it in his book *Where No Birds Fly*... and he was BGA Chairman at the time: 'A' Certificate: A straight downward glide of thirty seconds. (Basically you got lobbed off a hill, strapped to a flying plank). The BGA sold you a large white gull on a blue background. 'B' Certificate: Two glides of forty-five seconds, then a one-minute flight with either an 'S' turn

or else right and left-hand circuits of one minute each. (They kept lobbing you off a higher hill). You got two white gulls.

'C' Certificate: Soaring for five minutes above the height of the launch. (They waited for a stiff breeze and then lobbed you off!) I think you got three gulls... but mine never arrived!

There are mysteries about this. Mr Wills is describing 1930s training as late as 1961. I'm told that even the Gold badge goes back as far as 1930!

Another oddity is the FAI* running out of letters so soon. I heard that Germany had plans for a 'D' badge, but most likely the marketing people moved in and convinced everyone that 'Silver', 'Gold' and 'Diamonds' were more exciting than 'D' 'E' and 'F'. So for decades there was a weird mix of 'AB', 'C' and various grades of 'C' bling, which certainly confused me... I don't know about anybody else. However, the main point was that the famous Silver 'C' badge marked the arrival of the cross-country glider pilot. In those days you had to fly 50 kilometres (whatever they are), and you still do today.

Now, I first soloed in 1967 (aged 17) by which time two-gull 'A' and 'B' badges were awarded together for flying solo, but the 'C' requirements must have moved on too because that box in my 1967 Gliding Certificate was returned empty. No large three-gull badge for me despite my 17-minute soaring flight over Molash, Kent, in the club T-21. Little did I realise that disappointments like this would set the tone for the future!

No-one tells you how frustrating claiming badges is... mostly due to the weather, but also because the goal posts keep moving. The devil really is in the detail... which keeps changing.

Historically, there was a massive gap



between ordinary 'C' requirements and the cross-country skills to get Silver bling. Newish glider pilots were landing in hedgerows and crashing through cabbage patches all round their locality trying to get Silver distance. So it was decided that an intermediate badge should be introduced. Something to establish basic soaring ability before people tried to fly as far as 31.068 miles! Fortunately the colour 'Bronze' was available so this badge was invented by the BGA. I always thought of it as a Bronze 'C' but apparently it isn't. It's just a 'Bronze badge'. The idea was that you had to prove you could stay airborne long enough to fly the distance and you also had to pass an examination in air-law and airmanship. My 1967 certificate makes no mention of it!

But even armed with the helpful Bronze badge, new pilots were still being extracted from hedges up to 30.5 miles away and it became necessary to use motorgliders and suchlike to introduce yet another intermediate qualification. But by this time, marketing whizzkids had run out of trendy colours so the resulting Cross Country Endorsement was transparent... no badge at all! The stamp in your book means that you should not only be able to demonstrate ability to stay up a couple of hours, but also that you can navigate the required 31.068 miles without upsetting anybody. You have to show you can jolly nearly land in suitable fields. You have to avoid every power line... keep out of every hedge... and disturb as little wildlife as possible.

The trouble is the more accurate you want the history, the more confusing it gets! Could it be that older pilots just blank out with badges? Perhaps they stir painful memories.

As I said, badge claims were always

frustrating. Even in the 60s you had to smoke and seal barograph traces and stop chemists from cutting your turn-point film negatives! It was hair-tearing stuff then and still is now... which is why cross-country pilots tend to be bald. There's no greater infuriation than discovering that one's best flight has been invalidated for some daft reason. Maybe the very idea of badges triggers sub-conscious wincing. Or perhaps it's just the alien measurements...

● **Complexity.** Have you tried filling in a Bronze or Silver badge claim form recently? What the heck is 'type of medical fitness'? (Mine's the airmchair type.) What's the difference between 'NPPL Groups 1 or 2' and 'EASA/JAR Class 1 or 2'? What's your EASA status as a pilot? What should it be in two years? What's your flight recorder serial number? Where are the calibration charts for your flight recorder? Do you even know where the club's flight recorder is? OK, it's in the FLARM unit (phew!), but how do you get the data out? Who are your Official Observers? *One thing is certain... Years of flight training have not prepared you for all this!* When Grimshaw becomes BGA Chairman, we will have a Paper Badge to show that we passed a five-hour exam and actually understand how to fill in the forms for all the other badges.

After my Silver duration flight I thought our Club Venerables... badged up to the hilt... would know how to do all this stuff, but I was wrong. They did their badgering in a simpler era. They insisted that FLARM went through a circular display before downloading onto an SD chip, but, try as they might, not one of the five erudite backsides staring up from my club's Astir 102 could get a circular display out of anything. Finally, in desperation, a National Expert

EVEN IN THE 60S YOU HAD TO SMOKE AND SEAL BAROGRAPH TRACES AND STOP CHEMISTS FROM CUTTING YOUR TURN-POINT FILM NEGATIVES! IT WAS HAIR-TEARING STUFF THEN AND STILL IS NOW... WHICH IS WHY CROSS-COUNTRY PILOTS TEND TO BE BALD



BASIL COMMENTS:

Grimshaw is correct that most club pundits haven't read the rule book since they did their badges in 1979. I still get phone calls asking me how to smoke a datalogger.

However the alternative to having rules is to have no rules. This would cut admin expenses. We could print badge certificates on a roll of toilet paper and you could help yourself to a Diamond goal after a night in the bar.

I like the idea of the "I satisfied Basil" badges. They could have uses well beyond gliding...

RETURNING IN TRIUMPH I DISCOVERED THAT THE FAI HAD CHANGED THE RULES ON ME. MY EXTRA START EXCURSION DIDN'T COUNT AT ALL...

■ Next time... the most shocking truth of all...



■ All cartoons by Ross Martin

✍ was phoned. He pointed out that the Red Box FLARM in our Grobs was quite different to original Swiss FLARM (did you know that?) and at last told us how to decipher the unconvincing-looking serial number. In the end the only person in that huge club who fully understood the entire business turned out to be the girl in the workshop office. She downloaded all the club flight logs for airtime billing... but discovering that took me four days!

That was for starters. We'll gloss over my first 31.068 mile flight which seemed such a stonking success... I flew 68.351 miles on a superb day... round two turnpoints a long way apart using the "Get high and stay high" principle. Except that when people peered at my log trace they shook their heads, and said "Ooooh... the Duty Instructor might have OK'd that, but you'll never get it past Basil." Who was this dreadful eagle-eyed Basil? What was wrong with the trace? It seemed that flying on airfield QFE (as briefed) I had gone just a tiny tad *too* high at one point...

The next attempt was on another stonking day (I'm not daft) and I made absolutely sure my track was as pure as the driven snow. Again I extended the start in the other direction to give me a good, long, unarguable, 38.5-mile run. And then back. Returning in triumph I discovered that the FAI had changed the rules on me and the only distance that counted now was from point of release to the Most Distant Point in any direction. My extra start excursion didn't count at all... nor did my flight back! The

new rules made me 1.6 miles short... and since this was an FAI change I couldn't even blame Basil! So to get this wretched 31.068-mile cross-country I had by then flown 146 miles solo. I was thinking 'by the time I finally get it I'll have flown at least 210 miles... possibly much more'. All people said was "Yeah yeah... think of it as useful practice..." My clubmates are not always helpful.

So there's another reason for badge reluctance. Clearly badges are less about flying ability and more about battling with administration systems. And with all due respect to Administrators it doesn't somehow pack the same punch. Perhaps people instinctively hold back from sporting anything on their apparel that says, in effect, "I dodged the FAI mind-change!" or, worse, "I Satisfied Basil!" It's just another hypothesis of course... nothing personal...

Anyway a final word of advice for those struggling to get a badge you mustn't wear: Don't stomp into the bar spluttering "BAH... Four Hours Fifty-Five Minutes and Forty Seconds... ALL I NEEDED WAS ANOTHER FIVE MINUTES..." because all your clubmates will do is look bored and say "Yeah... everyone says that..."

It's strange, but true... as you will find out!

*Ebenezer
Grimshaw*

*Fédération Aéronautique Internationale:
Nothing's truly international unless it's in French apparently.



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OPPORTUNITIES

THERE are loads of opportunities when you start thinking about splitting the day into two halves. On the face of it, the big disadvantage, of course, is that you need 'double' the instructors. However, you may well get more pilots willing to become instructors if they only have to commit to a half-day duty. Better still, you can better match the instructor concerned to the activity. This means that your enthusiastic soaring instructors can either do the morning and then get in their single-seaters in the afternoon for a nice 300km, or, if they prefer to transfer their XC skills, they can do the afternoon 'soaring slot' and prioritise soaring or cross-country instruction. As I'm finding, fatigue sets in earlier as you get older. Bite-size gliding limits the fatigue for both instructors and pupils that choose half-day instruction.

Mike Fox
BGA Training Standards Officer
mike@gliding.co.uk

STRUCTURING THE FLYING DAY

Half-day instructing will help to structure the day into different sections (adapted from the original idea from Highland GC):

Briefing/establishing who needs what type of flying

- Check flights – get them out of the way first
- Circuit training and cable breaks – in non-thermic* conditions

Handover between instructors/second briefing

- Upper air exercises and soaring training – make use of thermals*
- Trial lessons – when the air and the day is quieter.

**requires adaption where other types of lift are on offer*

**MORE PEOPLE
WILL HAVE MORE
FUN, DOING
MORE GLIDING,
BECAUSE
'GLIDING' IS
MORE THAN JUST
FLYING**

TRY BITE-SIZE INSTRUCTING?

BUILDING on the bite-size gliding theme of the previous Development News, Mike Fox and I have been discussing some of the benefits of bite-size instructing. Traditional 'whole day' gliding is deterring people from taking part – busy people are struggling to continue to fit gliding into their busy weeks. Not everyone suffers from this and for the fortunate addicts and long distance travellers, whole day (or weekend/week/summer/year) gliding is definitely the preferred option.

How might half day instructing work? You could split all the instructing days into two, and give double duties to those that prefer to do a whole day. Or you may encourage two instructors to double up so they both share their duty days. It may mean that initially people have to come to the club more often, but they won't have to stay as long each time.

What might the benefits be?

- Better instructor recruitment and retention
- Instructors instruct more often, giving continuity opportunities for pupils
- Reduction of instructor (and pupil) fatigue
- Helps instructors to do their own flying. If they are already at the club, they are more likely to fly, even if it is just grabbing a quick flight in the club K-8
- Increased impetus for each half day of flying leads to earlier first launch, later last launch and better launch rates (factors which we know affect overall club health)
- Longer flying days will lead to better utilisation of aircraft and kit, especially at the weekend
- Two daily briefings a day so those arriving at lunchtime don't miss out
- For gliding couples with young families, half-day instructing enables sharing of child care AND flying
- For semi-gliding couples, the gliding partner can be available for non-gliding activities too. The shorter stretch makes it easier for non-gliding partners to come to the club.

For small clubs, it may mean instruction takes place only in the mornings, with self-authorised flying in the afternoons. Of course, the trial lessons may be carried out by a different group of instructors – it all depends on the club's two-seater capacity. All this will work best if there is a mechanism where people planning to fly on a certain day can let the club know in advance, which will help the instructor team plan the day accordingly.

Clubs who have already moved in this sort of direction often report that it may lead to club members seeing less of one another, so be sure to scatter plenty of club social events throughout the year. They needn't be complicated – regular post-flying BBQs are often the basis for a very happy gathering.

Widening the appeal

Equity (used less often nowadays) and inclusion (a word in ascendency) are both about looking at the factors affecting how people take part in sport ('barriers to participation') and finding ways to create the right conditions to increase the range of people taking part. Here insufficient time is the barrier. Bite-size gliding will make your club more inclusive. It will help with recruitment and retention of club members, instructors and all sorts of volunteers. More people will have more fun, doing more gliding, because 'gliding' is more than just flying.

Bite-size is a different way of doing gliding. We know that after we have floated the ideas out to clubs, people there take them and adapt them to each unique setting. What we end up with are about 80 different ways of doing something. At the Club Management Conference we get clubs to swap and blend their ideas and then the tertiary solutions start to flow and that's when the magic really starts to happen. We know there is plenty of scope with bite-size gliding and instructing and we're looking forward to hearing what clubs come up with.

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

Pete Stratten reports how we can influence future plans

MODERNISATION OF UK AIRSPACE

WITH Heathrow's third runway and the travelling public in mind, the Government has decided that the UK's airspace needs to be modernised. The Department for Transport (DfT), the CAA and others have started working on airspace modernisation strategy. The CAA is expected to consult on its draft airspace modernisation strategy later this summer. It's clear that recreational GA must have a voice and therefore the BGA is already working with the GA Alliance to ensure that our needs are properly heard.

UK airspace is a national asset that should be reasonably accessible to everyone. Clearly some kind of organisation is needed to help ensure efficient and equitable access as well as, of course, sensible risk management. Most pilots would probably agree that the way the airspace is planned and managed in the UK is far from ideal. The lower airspace arrangements are largely chaotic.

The National Air Traffic Services (NATS), an international corporation part-owned by the airlines, is responsible for the structured upper airspace from around 8,000ft used primarily by the airlines. The lower airspace is not planned; airports apply for and are allocated controlled airspace (CAS) by the CAA using the CAA-regulated Airspace Change Proposal (ACP) process.

There is no requirement for co-ordination between organisations that want CAS. Or for airports to match their needs to upper airspace structures, or to hand back unused CAS. This results in excessively large areas of controlled airspace, unused restricted areas, sub-optimal emissions and energy consumption, and hazardous class G choke points. The onerous requirements for public consultation also form a disincentive to change, even when such change might well create overall environmental improvement.

The comparison with more efficient, flexible and GA user-friendly European airspace arrangements is stark. A recent

visit to Germany by the CAA and NATS, proposed by us, was an eye-opener for its representatives.

Airspace modernisation should be useful to all airspace users and to those on the ground. However, as neither the DfT nor the CAA are currently planning a lower airspace strategy, without a change of policy there is little prospect of the lower airspace situation improving under modernisation.

Emerging airspace strategy

The Government's attitude is made clear by the aviation minister's recent request to 15 significant (and competing) airports asking that they work together in delivering ACPs that will fit with the emerging airspace strategy. While modern airline performance should mean steeper departures and arrivals, which could deliver benefits for all airspace users, there's a real risk for us that the lower CAS spreads even further. EASA's Part-ATS (not covered here) adds another challenge. Capacity and environmental considerations (or public perception thereof) are the Government's priorities.

Nothing will change immediately. We are currently involved in a series of workshops with the NATS airspace modernisation team to find common points of interest

regarding emerging plans for the upper airspace and connection to lower airspace. We have attended pre-strategy development consultation meetings with the DfT, the CAA, NATS, airports and airlines, where the point about lower airspace strategy and the need for open governance has been made clear and will be followed up.

The All Party Parliamentary Group on GA (APPG GA) is also focused on airspace modernisation and has the lack of a lower airspace strategy very much in its sights. We have recently responded to a consultation on the topic of airspace modernisation principles. And behind all these recent developments, we remain closely involved with the CAA's electronic conspicuity working group and other airspace related activities.

It should be no surprise that airspace will continue to be a key issue for gliding over the next couple of decades. All airspace users will need to change the way they operate. Technology is likely to be an enabler in the future, but there is no magic bullet right now.

As ever, please continue to demonstrate that glider pilots are responsible airspace users, and please keep an eye on the wider subject with a view to helping us to defend your freedoms over the coming months and years.



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Photo: Alastair Mackenzie



This page:

❶ The A Team: Burn GC duty winch team, 82-years-young Bill Thorpe, with (66 years his junior) sports aerobatic pilot Benji Ambler (Ian Myles)

❷ Drax powerstation not providing Denbigh pilots with a thermal! (Chris Gill)

❸ Junior enthusiasm – juniors put their backs into ground handling at Bath, Wilts & N Dorset Gliding Club

❹ Seahawk's Luke Rhodes is congratulated on his first solo on a Joint Service expedition to Sisteron, France, by expedition CFI Flight Sergeant Paul Mclean

■ If you'd like to submit your previously-unpublished photographs for possible inclusion somewhere in *S&G*, please email them to: editor@sailplaneandgliding.co.uk or upload to: www.sailplaneandgliding.co.uk/dropbox



This page:

❶ Wrekin's Steve Wall on the launch point in his Astir (Geoff Catling)

❷ Booker cadet Basel Hammond, 15, did this impressive drawing of Graham Saw's Lunak. Basel says he's been 'passionate' about aviation since he was four years old

❸ New BI Gavin McMullin demonstrates the dress code for Gator drivers at The Park

❹ London GC gliders at the runway at Cerdanya (Andrew Sampson)

❺ Wolds instructor Andy Butler talks the Rev Les Slow through a landing in the club simulator at the Flying Man Festival in All Saints' Church, Pocklington. George Morris said: "The Pocklington Flying Man has a history which we are doing our best not to repeat ourselves. We've been going along to the festival with the simulator for the past three or four years."

❻ First flight in the UK for the Gliding Centre's new DG-505 – Colin Davey (left), who did an enormous amount of work to get the glider ready, is pictured with CFI Alan Smith

❼ Pilots at the Northern Inter-club League take advantage of the shade at Burn. Results at www.soaringspot.com/en_gb/inter-club-league-northern-region-burn-2018/

■ Our thanks to all the photographers and to our *Club News* contributors for sending these in.



AUG/SEPT 18

_VOL69 NO4

CLUB NEWS

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

A NUMBER of our members took the club's DG-1000 and LS8 to the RAFGSA expedition to Sisteron in April. A fantastic two weeks with consistently good weather, returning with three members qualified as mountain instructors. May saw the second Basic Course for soldiers, again with five days of solidly good soaring and instruction. We have welcomed a number of new members, including Servicemen and juniors. Shared Airfield operations with Air Cadets is generally working well, with local arrangements for circuits to be followed if visiting. Good to see the oldest continuously used Military Airfield in the UK so busy.

Paul Jessop

BANBURY (HINTON IN THE HEDGES) **WWW.BANBURYGLIDING.COM** **5204355N 00118784W**

CONGRATULATIONS to Simon Ducker on his Silver height and to Duane Pickering for his Cross Country Endorsement. We have now assigned instructors to different groups of membership, such as ab-initio, post-solo, Bronze and above, etc, so that they can support and assist each member in a particular area of progression. We are hoping this will enable members to move through the different stages more easily with the knowledge they have specific point of contact to discuss their individual needs. We are hoping that this revised approach will produce some good results.

David Sibthorp

BANNERDOWN (RAF KEEVIL) **WWW.BANNERDOWN.CO.UK** **511858N 0020631W**

CONGRATULATIONS to Susan Brownlie, who has completed her BI qualification. Kevin Constable and Neal Wreford both did five-hour flights. Andrew Kayes got his Silver height. Well done everyone. Preparation continues for the Inter-Services 4-12 August, open to all. Our longest day flying and party was held on 30 June.

Alison Arnold

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

THERE'S been a glorious spell, leading to three members completing five hours, and

various other long flights. Gavin McMullin has joined the ranks of our instructors as a new BI, and our annual open day turned into a late success following a slow start as a result of low cloud. We have recruited five new members and have hopes of others who have three-month temporary tickets. Mark Hawkins, after a long stint, has given his place to Mike Jenks as CFI and, very sadly, we have said goodbye to long standing instructor Tony Gordon, who died recently.

Chris Basham

BICESTER (BICESTER) **WWW.BICESTERGLIDING.COM** **515458N 0010756W**

WE'VE had a reasonable number of achievements so far: four passed Bronze exams, three Silver heights and three Silver durations; Ollie Wheeler (100km diploma parts 1&2) and Miles Bailey (Gold badge and Diamond distance). We have one new BI, Anthony Landau. First 100km of the year was contested by Dave Watt and Derren Francis. Dave finished first, but Derren had a longer task. The ICL between Bicester, Oxford and Sherington was won by Bicester. Thanks to Miles Bailey for organising Bicester's effort. Thanks to all the duty teams, our CFI Julian Bane, office and catering for running everything so well.

Rod Connors

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

A TRAINING week was held by Keith Edmonds and Graham Barlow in May. Alex Doing flew three legs of his Silver in one flight, plus the first part of a 100km diploma. Our Wings and Wheels event was a great success, with a record number of cars attending. Gill Stewart did a great job in organising the event and over £2,300 was raised for the Bidford Youth Football Club and Youth Club. A low cloudbase resulted in very few aircraft getting to the club. However, Dave Findon did manage to fly in his Dragon Rapide, which was much admired.

Mike Pope

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

SUMMER has brought multiple 300km triangles to Talgarth, with Martin Pingel doing his first 300km completely in Wales. Several

beautiful wave days have blown away the winter blues, with stunning views all across Wales in the sunshine. Good east wave on 23 May saw many members trying to keep up with T-21 'Snoopy' at 6,000ft. The pilots said it wasn't cold, which must be a first! We are open seven days a week with instructor and tug pilots always there, so come and visit soon in the fabulous Brecon Beacons National Park. Loads to do for all the family.

Robbie Robertson

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

THERE were some noteworthy flights in May from Haddenham, where the club relocated during an event at Booker; we will be there again while Aero Expo takes over the airfield. Meanwhile, preparations are in hand for the imminent expedition to Klippeneck in southern Germany. Our sim was hired for a day at the Army Sports Control Board centenary sports week at Aldershot after they saw a photo of it in S&G. The Easter Egg Cup Aerobatic comp, postponed from April because of poor weather, will now be on 8 September – all welcome.

Jane Moore

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

2018 has not disappointed those in pursuit of wave so far, with several good days during spring. In particular, congratulations go to Rich Abercrombie and Adrian Loening, who gained Diamond heights. In May we loaned the EuroFOX 120hp demonstrator for a week and, after seeing a significant improvement in performance, have decided to upgrade with the uprated engine. Our flying weeks continue to be popular and we still have some places available in the autumn for those who would like to sample the delights of flying from Milfield.

Stuart Black

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

THE thermal season picked up in May, allowing numerous 500km plus flights and even the odd 750km (Andy Davis), plus an adventurous flight to Fishguard (Trevor Stewart). Henry Mo completed his Silver duration and distance having only started

(Left to right): BI Julian Reynolds prepares EZE, on loan from Tim Dews, for a visitor at **The Park**; Benjie Ambler enjoyed a four-hour flight in the visiting Stemme at **Burn**; The BGA simulator was put to good use on the open day at **Cambridge**



flying last summer. Jimmy Young also completed Silver distance, whilst others completed Cross Country Endorsements and are now spreading their wings. Jordan Richards joined the staff, providing much enthusiasm. His dedicated learning weeks are proving popular. Andy Davis' cross-country coaching week started with two good days and various detailed briefings. A planned powered fly-in had to be postponed when the weather interfered.

Greg O'Hagan

BUCKMINSTER (SALTBY)
WWW.BUCKMINSTERGC.CO.UK
524912N 04228W

THE trailer and container that will become our new operations hub has arrived, and just needs fitting out. Our refurbished motor glider project is coming along and the flight simulator is installed and being fine-tuned to act like a glider so lessons will be able to continue on non-flyable days. We have visits from Bowland Forest and Borders planned over the summer. Loughborough SUGC had a gliding camp in June and there's the Saltby Open Aerobatics competition in July, followed by the National Aerobatics competition starting 20 August. Our club development plans are moving along with some new hangar space.

Danny Lamb

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

FOR the first time in 15 years, we decided to host the Northern Inter-Club League, taking the baton from York Gliding Club (Rufforth) and running with it. It was held over the first bank holiday in May and, despite the blue thermal conditions, we had 17 pilots and gliders representing seven clubs competing, some who were visiting for the first time. The Burn ICL team worked hard to make sure we were organised and safe, but it was also important for it to be fun and created a supportive atmosphere. Everybody enjoyed the hog roast and band on Saturday night.

Russell Walsh

CAMBRIDGE (GRANDSEN LODGE)
WWW.CAMGLIDING.UK
521041N 0000653W

CONGRATULATIONS abound – Tony Cronshaw and Steve Longland (Certificates of Merit from the Royal Aero Club); Gavin Evans and Tom Casey (solo); Colin Knowles, Paul

Newman and Jay Derrett (Silver distance); and to Wenshu Xu (won the final day) and Julia Robson (first overall at the WomenGlide mini-comp at Hus Bos). The Neville Anderson Young Pilot award went to Maria Mangera-Willeke and the Alex Ward Memorial Fund award to Ollie Sleigh. The weather perked up in May with 74 cross-country flights by 20 May. Our new social committee has organised events every month from May through to September.

Chris Davis

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

WE held our spring expedition to Portmoak in April and most pilots had some good flying. May saw us hosting the Juniors Summer Series and some were able to experience inverted flying in our K-21. Work continues on our glider workshop and it should be ready in July. We are looking forward to hosting Competition Enterprise in June and the Open, 15m and Standard Nationals in August, so busy times ahead. Finally, an important committee meeting was halted when the chairman's dog stole the secretary's ham sandwich and promptly devoured it. The meeting could resume only when the laughing stopped.

Frank Birlison

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

The AGM in May was successful with the club continuing on a sound financial footing, many thanks to John Morris our treasurer, who together with Mick Wood and Steve Benn were awarded life membership for their unstinting services. Applause was given for Mark Evans, who retired as our CFI, always there to provide guidance and accepting no less than the best from club pilots. Our best wishes go with him. We welcome Kev Morley as the new CFI, ably assisted by Ray Walker and Angus Watson, who will no doubt ensure that the standards of safety and airmanship continue.

Zeb Zamo

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

IN April the club held a successful annual dinner. Bob Grant (chairman) and Al Docherty (CFI) made an excellent job of presenting cups and shields to deserving. A special thank you

went to Pam Maddison for her sterling work as treasurer; Pam has now handed over to Chris Gadsby. Congratulations to Jack Coleman (solo), and a double celebration as he was instructor John Harrison's first solo pupil. Josh Milner completed his BI course and is taking up his position as a basic instructor. We would all like to congratulate Amy and Nick Ashton on the birth of their first baby.

Barry Patterson

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

SUMMER arrived and the members came back with renewed enthusiasm, competing in the SW ICL, cross-country flights from Dartmoor to Wells (250km) and more. Congratulations to our own Dave Westcott on going solo, Ed Borlase for soaring the K-8 for the first time (still claiming he doesn't know what he is doing to stay airborne). Not forgetting Leith Whittington, who, after a dry spell of soaring, now can't seem to stay on the ground.

Richard Roberts

DEESIDE (ABOYNE)
WWW.DEESIDEGLIDINGCLUB.CO.UK
570430N 0025005W

CONGRATULATIONS to Iain MacDonald and Brian Crouch on their Silver heights, and to Brian on his five-hour duration. Roy Wilson clocked up the first 500km in thermals on 16 May. Steve Kenyon Roberts has his Standard Aerobatic badge, and Alistair Cunningham and Maddy Draper were signed off for Aerobatic sports manoeuvres. Our three-screen simulator is now in its dedicated building at the clubhouse.

Glen Douglas

DENBIGH (LLEWENI PARC)
WWW.DENBIGHGLIDING.CO.UK
531239N 0032312W

WE'VE had a successful first half of the year. Some brilliant flying has taken place. I believe I have now broken the all-time open height ladder total score. We've been renovating the airfield, improving it for our visitors. We've also been exploring the Welsh sea breeze convergence running parallel with the west coast. I believe this will help in our efforts at epic flights! More members have joined for coaching in our DG-1001M, or flying the club's LS7 or their own gliders.

Chris Gill



(Left to right) Jack Coleman's solo flight at **Darlington**; **Dartmoor's** Dave Westcott after first solo (photo courtesy of Cotswold GC); first aerotow at **Falgunzeon** airfield – K-13 towed by the Maule (Robert Rodger); Congratulations to Simon Turner on his first solo at **Herefordshire**



DERBY & LANCS (CAMPHILL)

WWW.DLGC.ORG.UK

531818N 0014353W

CONGRATULATIONS to Alison Wheeler, who has re-soloed after many years. The Silver week was a great success, with Andy Lomas completing Silver, Alex Oldham achieving Silver height and five-hours, and Martin Wilcox Silver height and Cross Country Endorsement. Congratulations to all. Our recently-acquired third Puchacz is now flying, and we have sold one of the K-13s. Our new office is being fitted out. Twenty-two of our pilots visited Pocklington for aerotow experience, and a number of early cross-country pilots enjoyed the Inter-Club League at Burn. Our next major event is the Vintage Rally towards the end of June.

Dave Salmon

DEVON AND SOMERSET (NORTH HILL)

WWW.DSGC.CO.UK

505107N 0031639W

WE celebrated the news that Exeter Airport ACP had been rejected - a big thank you to all who contributed to this success story. Our new Perkoz is settling in to the fleet having arrived in time for our Open Day. Our April course was written off by weather, but rearranged for June. The May course saw members achieving soaring flights for Cross Country Endorsement and Andy Davey found a rare Devon day to claim a Silver height. Task week enjoyed sunny weather, but soaring was tricky with all task days scrubbed and just some short local soaring flights.

Jill Harmer

DORSET (EYRES FIELD)

WWW.DORSETGLIDINGCLUB.CO.UK/DGC

504233N 0021310W

IN late-May we had four good flying days, which ended with an excellent Bank Holiday. The kit was out early and we flew virtually non-stop from 10am until 7pm. Congratulations to Richard Skuse, who went solo in May. A great effort as he only joined last year. We had over 30-40 trial lessons scheduled for May, and more in June. Hopefully the weather will be good. We are looking for an under-counter refrigerator. If anyone has one, or knows of one, we would be most grateful. We could collect if not too far. Please contact Gary or Nick any weekend.

Colin Weyman

EAST SUSSEX (RINGMER)

WWW.SUSSEXGLIDING.CO.UK

505423N 0000618E

WORK has started on upgrading our airfield by improving the runway foundations and increasing the number of land drains. After completion, the airfield will be re-landscaped and grassed over. Our contractor has occupied half the field giving us safe routes to the remainder where we are still able to operate as near normal as possible. Once the first half is flyable again we will switch over allowing the contractor to complete the second side. The project will take around two years. Congratulations go to Jon Stiles on gaining his Ass Cat rating and to Bill Allan for going solo.

Mike Jeater

EDENSOARING (SKELLING FARM)

WWW.EDENSOARING.CO.UK

544152N 0023506W

A GOOD start to the season weather was a relief after the winter snow and rain. Edensoaring is providing wave, ridge and thermal conditions as we expect. We now have our first local Ass Cat instructor. Jon March has recently completed the course at Portmoak. We also have a new BI, Andy Jones and two more starting the A Modules. Trial lessons and one-day courses are keeping our visiting instructors busy. We do have a few weeks available for visiting groups if anyone is interested:

John Castle

ESSEX (RIDGEWELL)

WWW.ESSEXGLIDING.COM

520253N 0003330E

GOOD weather graced us with a positive start to the season with one flying week combined with the first course week already behind us and two new solos (congratulations Nick Baker and Andy Hawes) and an aerobatics rating (congratulations Callum Hitchins), as well as successful check flights and soaring flights. We hope our next flying weeks and courses are as successful. We will be showing a glider at the local fete, where we hope to raise the profile of gliding and attract some new members. We thank all of our volunteers for their hard work

Cathy Dellar

ESSEX & SUFFOLK (WORMINGFORD)

WWW.ESGC.CO.UK

515630N 0004723E

CONGRATULATIONS to Dave Wallis, who has achieved IFP status and is assisting with our voucher flying. Like most clubs we were hit by

the weather with flying down by nearly half compared with last year. Nevertheless, we have achieved several notable cross-country flights, including a few field landings. Our new club league, organised by Adrian Tills and John Wells, is well populated by the cross-country flights that have been achieved this year. This has already met the first objective, which is to encourage cross-country flying by those pilots who are newly qualified.

Steve Jones

FENLAND (RAF MARHAM)

WWW.FENLANDGC.CO.UK

523854N 0003302E

FENLAND Gliding Club suspended its operations from its home at RAF Marham in late 2017 due to major airfield redevelopment work (preparation for the arrival of the F35B). Members have managed to stay current, thanks to the hospitality of Nene Valley and Welland gliding clubs, thank you! It's anticipated that flying at Marham may recommence in early 2019, in the meantime negotiations are under way to temporarily relocate the club to a new home in the Norfolk area. It is hoped this will occur during June/July.

Matt Clements

HEREFORDSHIRE (SHOBDON)

WWW.SHOBDOGLIDING.CO.UK

521429N 0025253W

THE weather improved in early May, just in time for our regular visitors from Kenley. We have been busy with a group of keen new members, resulting in more flying than we have seen for a long time. We welcome Bob Pye, who joined us on retiring from the Army and is a very welcome addition to our instructing team. Congratulations to Simon Turner (solo). We have flown a lady with motor neurone disease, who was raising money for the MND Association; she loved the flying and was delighted when a collection at the launch point added £100 to her fund.

Diana King

HIGHLAND (EASTERTON)

WWW.HIGHGLIDE.CO.UK

573508N 0031841W

AT our AGM, prizes were awarded to Francesca Mount (most meritorious flight) and John Campbell (CFI shield for outstanding contribution), congratulations to both. Our K-21 went offline when the front canopy support strut failed at a weld, well done to

(Left to right): Lasham's Michael Harrison and Jordan Bridge bring the wooden plate back from Nympsfield; Justin Craig about to launch in the Prefect at Dunstable (Andrew Sampson); Paolo Calascibetta after first solo at Mendip; Ben Ponsonby, 15, is sent solo at Nene Valley



Rob Douglas for catching the canopy before any further damage. Thanks go to the Twin Astir syndicate for providing the club with an aircraft to allow training to continue. Despite not fielding a novice, our team did well at the first leg of the Scottish Inter-Club League; Geddes Chalmers won the pundit class and Mike Black came second in Intermediate.

John Thomson

KENT (CHALLOCK)
WWW.KENTGLIDING-CLUB.CO.UK
51123N 0004950E

TWO May Bank Holidays with fine weather helped get people back in the air. Our courses are in full swing and weekend bookable sessions ensure good progress for our developing pilots. Mike Moulang stepped down as CFI in May. Mike has made a massive contribution over his many years of membership. We all wish him well and are pleased that he will have a bit more time for family and relaxation. Tudur Williams has been appointed as our new CFI and will continue to develop the excellent work of previous KGC CFIs to the benefit of the club and its members.

Mike Bowyer

LAKES (WALNEY)
WWW.LAKESGC.CO.UK
570752N 0031549W

PETER Craven recently showed some slides of early LGC flying, including bungee launches and landing in trees. How things have changed, we hope! Owen Baylis has now flown his Vega and Steve Wilkinson has completed his Bronze badge. At the AGM they were both elected onto the committee. An extra surprise for Steve was that he is now vice chairman. Toby Walker is our new webmaster. At the club awards, Owen Baylis received the trophy for most improvement. Other trophies were awarded for outstanding flights, and John Burdet was awarded the trophy for services to the club.

John Martindale

LASHAM (LASHAM)
WWW.LASHAMGLIDING.CO.UK
511112N 0010155W

OUR new tug hangar is now complete and in service. Two new private member hangars are well under way and the GHC's second hangar is practically complete. Congratulations to Michael Harrison and Jordan Bridge for a flight in a K-13 to Nympsfield and back

to collect our wooden plate. On the same day, we had a grid of 105 gliders, which got launched efficiently by seven tugs. Well done to Graham Garnett and all involved! Congratulations to John Barton and Jordan Bridge on achieving their Full Cats. At just 20, Jordan has set a record for being the youngest Lasham Full Cat.

Mike Philpott

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

CONGRATULATIONS to Ian Buckley, Peter Barker and Tom Blindell (solo), and Peter Hicks (NPPL). Poor weather meant a slow start to the season and our soaring course, led by Mark Newland-Smith, consisted of more lectures than soaring. We've been busy with repairs and redecorating, and our thanks go particularly to Mike Barrowman, who seemed to do most of the work. For the past decade our club newsletter has been produced by Veronique Russell. She is retiring with our thanks for all her work. In August we host the Club Class Nationals. In September we have expeditions to Llanbedr and to Talgarth.

Andrew Sampson

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

OUR Inter-club League got off with the first two being cancelled! We seem to be bucking the trend in declining membership with 11 new faces recently. Congratulations to Paolo Calascibetta on going solo. The clubhouse refurbishment is progressing and it looks smart and weatherproof. Jeff Green is running three flying weeks, so we hope for good attendance and favourable weather. Our visitors from Africa (Swifts) are residing in the hangar. We hope to persuade them to use the outdoor toilet. Our AGM was held in early June, with catering is by Paolo.

Barry Hogarth

MIDLAND (LONG MYND)
WWW.MIDLANDGLIDING.CLUB
523108N 0025233W

CONGRATULATIONS to Owen Elias, who celebrated his 90th birthday at the Mynd with soaring flights and aerobatics. The second round of the Rock Polishers competition was held here, with Julian Fack winning the intermediate class and Mark Williams and Paul Shuttleworth runners-up in the Novice

and Pundit classes respectively. We held an open weekend in May, with an excellent article in the Shropshire Star. A fantastic week was had by those on the Aim Higher course, which included three Diamond goals. We were delighted to welcome a group from Appleby Grammar School ATC.

Steven Gunn-Russell

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

WE now have three fully-serviceable two-seaters and the fourth expected back shortly. A lot of work has been done, with Alan Wyse and his team keeping very busy – thank you. Congratulations to newly solo 15-year-old Ben Ponsonby, Matija Krkovic, and 15-year-old Harry Parker who, on his third solo, soared for over 30 minutes. Summer task week will be on the first full week of August and visitors are most welcome. This year's open weekend will be held 15-16 September. Selection of trainees for our very successful scholarship scheme, run in conjunction with Abbey College, Ramsey, will happen in October.

Peter Valentine

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

JUNE has started as May finished, misty and unexciting, but we are keeping our fingers crossed for an improvement. Round one of the Inter-Club League was unfortunately scrubbed due to bad weather and the task week that followed wasn't much better. However, we did manage to fly 28 Scouts and helpers on the Friday afternoon and evening, which was greatly enjoyed by them. Our congratulations go to Sean Mac on his Silver height and distance. Watch this space. The Large Model Association again held their rally over a weekend in May.

Adrian and Barbara Prime

NORTHUMBRIA (CURROCK HILL)
WWW.NORTHUMBRIA-GLIDING-CLUB.CO.UK
54560N 0015043W

AFTER a long absence, the good weather reappeared. On several days we were able to enjoy good conditions and have seen members taking long soaring flights. It's great to see our students able to start making progress and explore the delights of thermalling. There are rumours that private owners have been seen rigging! Interest in

(First solos, left to right): Reza Sorabjee with Rob Rowntree at **North Wales**; Peter Gibbons with **Rattlesden** instructor Sarah Lee; Joseph Meridew at **RNAS Culdrose**; 15-year-old Harry Eagleson at **Portmoak**, with instructor Peter Sharphouse



✈ Air Experience flights remains high, with one Puchacz often dedicated to visitors while the other two are fully employed with club members. Our hard-working engineering team has completed all winter maintenance and checks so we're ready for the soaring season.
Ian McFarlane

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

WE started the season with busy flying days keeping us on top of our game. One of our visitors produced his solo certificate dated 1952 while an air cadet and this was his first flight since. We were all pleased to see Reza Sorabjee solo. Thanks to Nigel Jadine for sourcing scaffolding and roofing material for an area between our hangar and the vehicle container. Our hard-pressed CFI is grateful to our two new BIs, Chris Jenks and Rob Rowntree, who can help free Keith to concentrate on the more advanced trainees, one of whom has returned after many years.
Brian Williams

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

ENJOYING unseasonally sunny weather, the club attended the Abingdon Airshow to recruit some new members to our sport. Thanks to Dave Bray and the other Midland Inter-Club League captains for resurrecting this in a new single weekend competition at Shenington, which saw OGC take second place. Sadly, we said goodbye to Keith White, a long-standing club and committee member, who is moving away. Thanks Keith for all your contributions over the years. Finally, some of our members travelled to Portmoak for the National VGC (Gin) Rally, where a good time was had by all.
Norman G Nome

RATTLEDEN (RATTLEDEN) **WWW.RATTLEDENGLIDING.COM** **521001N 0005216E**

THE workshop has been busy with annuals and maintenance work, our thanks to Chris for keeping on top of things. We had our annual expedition to Portmoak in April, and we had reasonably good thermal activity and amassed over 80 hours of flying. Robin Tye and Paul Newman experienced ridge for the very first time and have already booked for next year. I will finish on a quick word of thanks to SkyLaunch; our winch broke down

and within a few days they had delivered us a replacement to use and took ours away for repair – brilliant service, thank you, SkyLaunch.
Gary Western

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

CONGRATULATIONS to Harry Eagleson and Howard Manning for going solo. The BGA held a D Module Instructor course at Portmoak and Josh Reid has become a Flight Instructor. Johnathon Bradford is now a tug pilot and provided support to the BGA course and the Vintage Gliding Club who held their first rally in Scotland. A good time was had by all, with Shaun taking most of the plaudits. Our visitors enjoyed the Scottish Night, with haggis, piper and a wee dram. Martin Phillimore has been appointed as manager and, with Christine off work because of sickness, Fiona Scougall has returned.
Chris Robinson

SEAHAWK (RNAS CULDROSE) **WWW.SEAHAWKGLIDING.CO.UK** **500509N 051520W**

THE past few weekends have allowed several pilots to progress. Luke Rhodes soloed on the Joint Service expedition to Sisteron in France, while Joseph Meridew soloed back at Culdrose. Peter Harvey resoloed here and has now moved to the Pegase and DG-505. New member Roger Green has been cleared for all club aircraft. Harry Randel has used his Geoffrey de Havilland Flying Foundation grant to gain an NPPL SLMG to fly the Super Dimona. Finally, Lawson Tickell flew for over three hours for his first Bronze Cross Country Endorsement leg.

Chris Bryning

SHALBOURNE (RIVAR HILL) **WWW.SHALBOURNEGLIDING.CO.UK** **512014N 0013239W**

THE soaring season is here at last and we've been making the most of every opportunity, both home and away. Club members have sampled the delights of Sutton Bank and Sisteron, France. Congratulations to Alex (SUGC) for completing his whole Silver in one go and to Nic (SUGC) for his 50km and five-hours. In other news, work is proceeding well on the new winch shelter. 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**

CONSTRUCTION continues with our new shower/toilet block. With terrible timing, our tug recently decided to have a catastrophic engine failure at 400 feet with a glider on the back – all made it back safely, but the engine was beyond repair. We owe Phil Marks a huge thank you for sourcing another engine and diving straight in to the refit, plus all those who have contributed time and effort to help. At the time of writing, our 10th Regionals is less than three weeks away.

Tessa Whiting

SOUTHDOWN (PARHAM) **WWW.SOUTHDOWNGLIDING.CO.UK** **505532N 0002828W**

MARCH is apparently the month of drought according to Chaucer, but climate change brought nothing but rain to Parham. Compensation came in May, with northerly winds attracting pilgrims from far and wide to fly cross-country along the South Downs. Even the motorgliders did some proper flying. Jim Fleming is our newest tuggie and John Trubridge flew over 50km to gain his Diamond distance. Mat Fulcher is now a First Officer with Ryanair and Shona Buchanan is a Captain with British Airways, both former cadets with Southdown Gliding Club.

Peter J Holloway

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

ENTHUSIASTIC ab-initio pilots have kept our hard-working instructors busy recently, with weekend launches continuing well into the evenings, although thankfully still leaving enough time for everyone to enjoy our regular, very sociable BBQs. After what seemed to have been a very long winter, our more experienced pilots have at last been able to enjoy extended flights and some long-distance tasks. We have acquired a second-hand 24-seat bus and our latest project to improve our club's equipment will be to convert this to provide better facilities at the launch point.

Stuart Edinborough

STAFFORDSHIRE (SEIGHFORD) **WWW.STAFFORDSHIREGLIDING.CO.UK** **524940N 0021212W**

WELL done to Graham Stanford for an epic 300km (Seighford-Bangor-on-Dee-

(Left to right): Ex-Southdown cadet Shona Buchanan is now a British Airways captain; Ellie Youle passes her GFT for her NPPL in Hus Bos motorglider; Welland's Mark Rushton with Iain Robson-Cross (right) after first solo; Hugh Williams was sent solo by Steve Wilkinson at Wolds



Monmouth-Seighford) on 19 May in his Libelle, newly acquired from Derek Heaton, and on attaining his BI rating! Well done, too, to Stuart Taylor for a well-executed field landing in his K-6 in May. Though the soaring conditions were poor, the weather was glorious for our first open flying week on May, courtesy of DCFI Davie Knibbs. A huge thank you to one and all, especially Patrick Strachan, for helping with the mega-Air Experience (three groups!) on 1 June. This year's Friends and Family Fun day was held 30 June.

Malcolm Taylor

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

WE have acquired a second K-21 and are all excited to take it for a flight. There've been a number of achievements so congratulations to: Dave R on his first solo, Bob D for his one-hour, Ed S for his two-hours, Chris E for his Silver distance and Neil C, who in a single flight managed five-hours, Silver distance and 100km diploma. From the Juniors, we congratulate Ben L on his first solo, Alistair W for his Silver height and one-hour, and Emily S for her one-hour.

Peter Capron

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

FLYING has started with a flurry of activity and achievements. A group of pilots went to Shobdon and got some good flights, as well as some landing-out practice. After returning, Andrew Woolley still hadn't got the distance and height for his Silver, but went from Kenley to Dover and then back to Challock and now has his Silver signed off – congratulations! Then Tim Horbury took his glider to Lasham and attempted his Gold distance – Lasham, Aston Down, Northampton West, Lasham, 307km – just waiting for official confirmation, but congratulations in advance. Next event is a club visit to Shenington in June.

Chris Leggett

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

OUR DG-505 finally takes to the skies after a long paperwork battle and she flies beautifully, proving to be a great hit with the members. Well done to Ellie Youle

on achieving her motorglider NPPL. Our longest day event was on 23 June and we celebrated our 65th anniversary on the same day. Live music, food, Aerosparx display with pyrotechnics, simulator and much more. We started flying with the first launch at sunrise and finished at sundown.

Alan Smith

UPWARD BOUND TRUST (HADDENHAM)
WWW.UBT.ORG.UK
514635N 0005630W

OUR trip to the Black Mountains Gliding Club in April was a rather damp one, but we did manage to get some flying done. Edward and Jacqui both experienced their first flights at Talgarth and Oliver also got checked out. Meanwhile Chris Scutt has achieved his 100km Part 2 on 3 June 2018, flying an Open Cirrus. Our search for a new airfield continues, but it will be business as usual until the end of September 2018. Any further updates on our situation will appear on our website.

Chris Scutt

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

OUR Spring Training Week has just concluded with flying every day despite some gloomy weather. The primary focus was on developing our ab-initios and it's fitting that the final flight was Iain Robson-Cross enjoying his first solo. With thanks to the hard-working instructional team.

Andy Burton

WOLDS (POCKLINGTON)
WWW.WOLDS-GLIDING.COM
535532N 0004740W

SEVERAL club members competed at this year's Inter-club League, which was successfully hosted by Burn on an extremely hot and blue weekend. Well done to all who competed and crewed, and to Jonathon Richardson and Joel Hallewell, who carried out their first successful field landings. Congratulations also go to Hugh Williams (sent solo on one of our summer courses) and to Lloyd Finlay and Craig Scott (Cross Country Endorsements). Easterly wave was welcomed at the club on 26 May, in which several members soared to great heights led by William Blackburn, who climbed up to 9,300ft AGL. A promising start to the soaring!

Jonathon Richardson

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

WITH powered flying in full swing at the weekends, we are back on the Friday flying schedule. We are entering the summer evening timetable with individuals and groups of RAF Cosford trainees joining us after work under our "Fly for a Fiver" scheme. Some will also be taking advantage of bursaries awarded by the RAF Charitable Trust. A recent run of good soaring days has more than negated the disappointing weather in March and April and achievements in this period include Will Dean completing his Cross Country Endorsement, Colin Haynes converting to the Turbo Falke and Geoff Catling claiming five-hours.

Geoff Catling

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

OUR new K-21 has taken flight. Congratulations to our team, who claimed the honours at this year's Inter-club League. Mike Bond took first prize in the pundit class, with James Karran and Richard Slater coming first and second respectively in the novice class. Many thanks to Burn Gliding Club for organising a successful and thoroughly enjoyable event. We are looking forward to our club task week in early July and to our annual excursion to Millfield. Congratulation also go to David Johnston on going solo and to Steve Wakeham for completing his Silver distance.

Andy Carden

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

OUR AGM confirmed underlying profit. Chairmanship passed to Mark Newburn after Chris Thirkell was thanked for his seven years. Despite a poor April, May gave many soaring days enjoyed by our visitors from Stratford. Flying conditions were often tricky, but Steve Thompson managed a west to east coast flight. Toby Wilson qualified as the first of our new BIs in training this year and Chris Booker gained a Silver height. Tash Dodds went solo and has since had her first soaring flight. Aged 15, Tash is our youngest woman solo ever.

Ken Arkley

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



Photo: Sean Naseby

> CLUB FOCUS

NENE VALLEY

AT A GLANCE

Membership:

Full: £270pa

Launch type:

Winch: £6.50, plus 30p or 35p per minute

Club fleet:

3 x K-13, Twin-Astir, SZD 51-1 Junior, K-8

Private gliders:

18 currently on site, including a T-21b

Instructors/Members:

11/80

Types of lift:

Thermal and occasional wave

Operates:

Saturday, Sunday and Thursday (solo only)

Contact:

Tel: 01487 813062(w/e only)
publicity@nvgc.org.uk
www.nvgc.org.uk

Long and Lat:

522612N 000836W
Postcode for satnav
PE26 2QD

NENE Valley Gliding Club (NVGC) is based on what was a part of the old RAF Upwood station. This is located near Ramsey in Cambridgeshire, about 10 miles north of Huntingdon and just east of the A1. During WW2 RAF Upwood was a pathfinder base, so NVGC members are flying from a runway where Lancasters and Mosquitos took off and landed.

The wide grass runway is 06/24 with a total length of 1,300 metres and there is a short grass strip for field landing practice or emergency use at 90 degrees to the main runway.

Launching is by winch of which there are two: a twin-drum ex-MOD unit with an 11.6 litre diesel engine, and a self-built single drum winch with a Volvo power plant.

We currently have around 80 members with over 20 of these being Junior Members, or 'young pilots' as they are known within the club.

The club operates on three days a week: Saturdays, Sundays, plus a solo-pilot-only day on Thursdays. Group flying is normally done on a Friday evening.

A major feature of the club's activities in the past five years has been the gliding scholarship scheme run in conjunction with the local comprehensive school, Abbey College, Ramsey. This scheme trains up to six students of Abbey College to solo flight standard each year at no cost to the student. Following the attainment of solo flying, the student can move onto the assisted 'Bronze Scheme' wherein the next 50 flights are subsidised at 50 per cent of the flight costs.

NVGC is situated under Class G airspace. Thus, despite being in a very flat part of the country, cross-country flights are easy to plan.

The club will be having its annual task week during the first full week in August and members of other BGA clubs are most welcome to join us for some, or even all, of the week. There will also be an open weekend in September to encourage local people to come and try the gliding experience.

Flying is controlled by the CFI Steve Jarvis assisted by his Deputy CFI, Roger Emms.

Peter Valentine

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Save the Date

**BGA Sporting Conference and AGM
Exhibition and Awards Dinner 2019**

The Belfry Hotel, Nottingham

Saturday 2nd March 2019



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GLIDING
ASSOCIATION**



Harriet Gamble enjoys a flight during the Summer Series training weekend held at Aston Down in May

UK Junior Gliding has followed the success of its Winter Series with summer training for the next generation, reports Joey Beard



Matt Page leads the morning briefing during a Summer Series training weekend at Aston Down (Harriet Gamble)

UK Junior Gliding (UKJG) relaunched its Summer Series training weekends in May at the Cotswold Gliding Club, 11-13 May. These events are designed to complement the long-running success of the UKJG Winter Series, which sees junior pilots from across the country getting together out of season to experience new sites, new conditions and to socialise with other young pilots.

Unlike the Junior Nationals, which is open to pilots up to the age of 25 with a Silver C, the Summer Series was designed in 2017 to encourage pre-solo to pre-Bronze

flying and was born out of an increasing number of pre-Silver pilots attending Winter Series events.

At the 'easier' sites with the more conventional training gliders (K-21s as opposed to ASH 25s) UKJG started basic training with the less experienced pilots, including Bronze talks on the rainy days and when the weather wasn't good enough for ridge, wave or cross-country, they would practise circuits, spins and suchlike.

Given this increasing thirst for ab-initio and Bronze training, UKJG wanted an event aimed at junior pilots which would allow them to progress areas of their flying by having a high number of instructors to pupils.

For the inaugural event in 2017, Peter Hibbard and Matt Page (members of the UKJG Development Team) begged and borrowed, managing to acquire three two-seater gliders (courtesy of Cotswold Gliding Club, Anglia Gliding Club and Imperial College) and five instructors to fly them.

The event was a success, with 14 pilots from nine clubs attending. As a result, the pair opted to run the event again this year at Aston Down and were able to acquire the 'Concrete Swan' from Peterborough & Spalding GC and training aircraft from Cotswold GC, combined with four instructors to fly them. The number of junior pilots was limited to 10 via an application process. This ensured maximum flying and progression for each junior pilot.

Most attendees arrived at Aston Down on the Friday evening for food, beer and socialising. However, for some, the training started immediately with pilots wishing to take Bronze exam papers really maximising their time with the instructors. The next day started early with groups going off to unpack hangars or rig gliders. They attended the local briefing, formed a grid then started flying in earnest.

Two pilots had requested Bronze preparation flying. They got the K-13 and a Full Cat instructor to go and start working through the syllabus and prepare for their Bronze flying tests.

Meanwhile, a couple of people had

requested to do type conversions onto single-seaters. UKJG was given the use of a K-23, so spent some time explaining about the aircraft and the details in the flight manual. One instructor would do check rides in a Twin Astir whilst another would deliver the ground briefing. As they completed, they would swap roles to then convert to the new type.

The event saw an abundance of launches, flying right up to sunset on the Saturday to get everyone flown. There were five types of gliders, with people making type conversions throughout the weekend. Two people took Bronze exams and finished their ground schooling. There were navigation exercises in a Slingsby Venture and even a brief interlude for script development on my coming of age gliding drama, *Airborne*, being filmed for my Masters Degree (see also p5).

Junior pilots under instruction and fellow pilots from the UKJG community ranged from 14 to 25, with a great turn out of female pilots and university students too. Jasmine 'Midge' Miles (14) from South Wales GC attended with her mother, Petra, and both had a great weekend. Petra said: "The event was great for youngsters that want to improve their flying, try new locations and test their abilities at unfamiliar airfields and different planes.

"Everyone is very friendly and helpful, happy to share gliding tips. It also makes a great social occasion allowing juniors from different clubs to meet and find new friends with common interests.

"Jas really enjoyed that event. She's a bit shy and, due to the small numbers of participants, instructor Peter Hibbard could spend a lot of time with her, putting her through her paces. She's learned tons and talked about the flying all the way home."

The next Summer Series Solo and Bronze Training Weekend is being held at Norfolk Gliding Club, Tibenham, 4-5 August. There will be two or three two-seater gliders and a collection of instructors. A motor glider is available for those wanting to do their cross-country endorsement.

UKJG would like to thank the clubs, instructors and volunteers that have made these events possible, but they need more to come forward in order to see them continue. It is their long-term hope that clubs will take the initiative to run events such as these independently, providing essential training to the glider pilots of the future and ensuring the long-running success of clubs up and down the country.



Above: Sophie Curio (in glider) and Amy Whittlecroft (Joey Beard)



Left: Busy planning the next day's flying (Alison Randle)

Below: Jasmine Miles, 14, enjoyed being put through her paces during the weekend (Petra Miles)

■ If you are interested in getting involved, please email ukjuniorgliding@gmail.com

■ You can check out UK Junior Gliding on Facebook, Instagram, Twitter and YouTube. You can also access UK Junior Gliding via the BGA website.



Joey Beard and Matt Page in Cotswold's new K-21 (Alison Randle)





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18m – 304S JET Shark - turbo JET system
18m – 304e FES Shark - turbo system with FES
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Editor: Nigel Everett

SKYBOUND

A JOURNEY IN FLIGHT

THIS is a well-written book reflecting the author's academic background in both English Literature and History. *Skybound* is an autobiographical account of Rebecca Loncraine's gliding experience as she comes to terms with a life-changing illness that brought her face to face with her own mortality.

Rebecca recounts her existential flying experiences as she seeks to heal the psychological, as well as physiological, scars left by the treatment she endured. As such, inspired by the freedom of the birds to throw off their earthly bounds and soar the heavens, the book includes philosophical elements which underpin Rebecca's journey into gliding and the meaning it brought to her life.

The book is written from the perspective of how gliding sits alongside nature, including how the discovery of flight has allowed man to join the birds in the pursuit of adventure, mixing the historical with the existential. This gives pilots a spiritual feeling of being at one with the elements whilst,

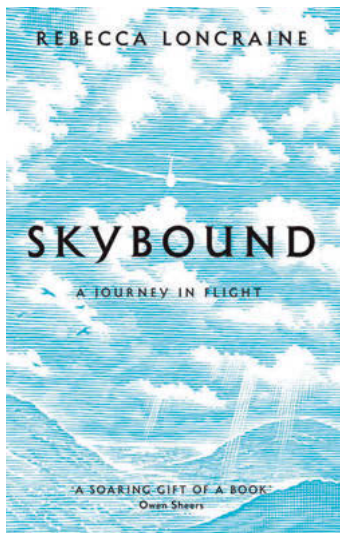
at the same time, acknowledging that we are also physically at the mercy of Mother Nature. This interesting aspect of the book gives the reader an extra dimension to how we think about gliding.

Rebecca's adventures are interspersed with a brief history of gliding and the individuals that pushed the boundaries of flight, so affording us the ability to enjoy gliding as we do today. As well as learning to fly in the hills of mid-Wales, Rebecca spreads her wings and journeys both to New Zealand and Nepal in the pursuit of flight. The author delves into the cultural history and meaning surrounding the geography of the locations she visits. Instead of detracting from the story, these historical and cultural elements provide an interesting dimension to the book which enhances the reader's experience.

I thoroughly enjoyed this book, finding its alternative perspective on gliding and how it is experienced both refreshing and enjoyable. The reader feels part of the story and any glider pilot can relate to the pleasure and, occasionally frustration, that gliding can instill during flight. Rebecca's enthusiasm for the sport of gliding shines through from the moment she takes her first flight in a glider at the Black Mountains Gliding Club.

Sheila Weston, BGA head office

■ Rebecca Loncraine contributed an article to *S&G* - *Overcoming a fear of flying*, pp44-45, April/May 12 – after discovering a passion for gliding at Black Mountains Gliding Club. Sadly, just as she finished writing *Skybound*, Rebecca became ill again. She died in September 2016. Our thoughts are with her friends and family.



Skybound, a journey in flight
by Rebecca Loncraine

Picador hardback/eBook;
320 pages

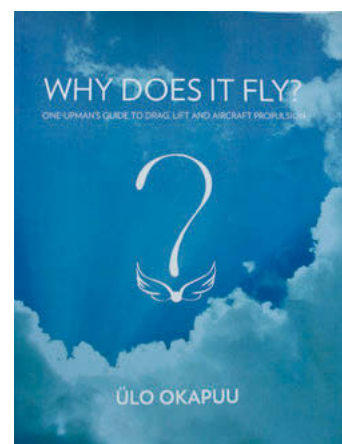
Published April 2018

ISBN: 9781447273868

RRP: £16.99 (£13.88 from
Amazon.co.uk: Kindle version
£9.49)



Rebecca Loncraine flies over the Welsh hills
(Robbie Robertson)



Why does it fly? One-upman's guide to drag, lift and aircraft propulsion, by Ülo Okapuu

Published 2016: 104 pages in colour, with 46 illustrations

ISBN: 978-0-9950586-0-6

www.okapuu.com

WHY DOES IT FLY?

FOLLOWING on from David Carter's article on how a wing works (pp22-24, *Exploring the Theory of Lift*, Dec 17/Jan 18), Ülo's Okapuu's book provides another perspective on the science of flight. Sometimes witty and with unique style, he attempts to tackle this thorny subject with alacrity. The first half of the book is of most use to us glider pilots, but I must admit that some of his explanations were lost on this reviewer! The second half (devoted to thrust) is bound to find some interest from anyone with a passion for aviation. Overall, any text with a different take on a complex subject is worth a look, if only to add to your ability to understand something that happens every time we fly.

Mike Fox, BGA Trading Standards Officer

■ Ülo Okapuu is a retired aerospace engineer, who specialised in the design of aerodynamic components of gas turbines. He is an avid fan of gliding, an instructor, and flies his Schweizer 1-35 at Pendleton, Ontario, Canada.



Above: The relaxed atmosphere at Portmoak (left to right) Martyjn Hoogenbosch, Martin Cooper, Gary Cuthill in the Oxford Capstan, with Oly 463 BYE in the background (Andrew Jarvis) Above right: David Weekes' graceful Skylark 4 (David Weekes)

HEADING NORTH FOR VINTAGE FUN

It's a first as VGC ventures north for a national rally at Portmoak, reports Andrew Jarvis



Left rigged overnight and not a drop of dew on the wings (Andrew Jarvis)

THE Scottish Gliding Centre at Portmoak is one of those pilgrimage destinations for every glider pilot, yet the VGC has never held a rally there – until this year (26 May – 1 June).

The first thing you notice is that Portmoak is a long way – from almost everywhere. With rest stops, and towing a trailer, it takes nearly 12 hours from the Southern Counties. Even David Weekes, our 'token Scotsman' (actually, he's English), had a three-hour drive from his lochside home. The next thing you notice is the really superb signposting to the club – a relief, as Portmoak doesn't appear on any roadmap!

The airfield is beautifully kept and is very large, so a split-site operation can be run – winching on the original south field, and aerotowing on the newer north field. It's quite easy to forget where you left your glider, let alone a rucksack, or rigging aid.

Gliding events are, of course, dominated by the weather. A week before the rally, the BBC weather website showed a dismal outlook, with total cloud cover and zero wind. This forecast then did a U-turn, so we began with zero cloud and strong easterly winds: the one direction when Portmoak's

various lift sources don't work! This was due to a huge anticyclone, fed by an errant jetstream, resulting in an unprecedented period of almost two months' easterly winds, with the ever-present risk of haar (sea fog) blowing in from the North Sea.

We were warmly welcomed by Richard Lucas, a perfect host, who at quite short notice had been given the job of running the show. He met the challenge admirably.

Another star performer was Santiago (Sant) Cervantes, a charismatic record-holder and expert on Scottish wave flying. He gave a really unforgettable 'hands-on' lecture on the Tuesday and I'm sure many of us were inspired to have try at serious wave flying.

VGC founder member Ron Davidson made a special effort to attend and, despite health problems, he stayed for the whole rally. It was a privilege to chat with Ron, whose aviation experiences go right back to radar in WW2; he's done everything from being a CFI, senior inspector and globe-trotting glider ace.

We were provided with excellent launches throughout the rally. There was a minimal winch queue, and the Skylaunch shot us



Above: A trio of K-6Es line up at Portmoak for the 2018 national rally

Above right: there's just a hint of wave over the Skylark 4's wings (Andrew Jarvis)



up smoothly to 1,100ft or so. Over at the aerotow side, there was equally quick service by the dainty, but powerful, EuroFOX. The low running costs of the Fox were generously passed on by the club, giving us the cheapest-ever aerotows.

Although the east wind curtailed our ambitions, we still flew on every day of the rally. Several times, the weak wave, ridge and thermal would merge to provide conditions which ideally suited our slow-flying gliders.

The atypical weather provided an unexpected bonus: the gliders could be safely left rigged and would have barely a drop of dew on the wings in the morning. This, combined with a mere hundred yards' tow-out, provided

that rare event – a true 'gliding holiday'!

After flying on Thursday, we were treated to a magnificent Scottish Evening. The haggis was piped in and celebrated in the traditional way, after which SGU member George Giacomazzi gave us a fascinating talk on the rich heritage and history of the area surrounding Portmoak. During the evening, Miroslaw Lewandowski received an award for the most desirable glider at the rally – his bright yellow Foka 4.

At the closing ceremony on Friday, 1 June, VGC President Jan Forster spoke in his inimitable style, and thanked the Portmoak team for running a such a wonderfully hospitable rally.

**THE GLIDERS
COULD BE
SAFELY LEFT
RIGGED AND
WOULD HAVE
BARELY A DROP
OF DEW ON THE
WINGS IN THE
MORNING**

**GLIDERS ATTENDING
NATIONAL RALLY,
(OWNER OR PILOT)**

- Skylark 4 (David Weekes)
- Skylark 3F (Alan Pettit)
- Capstan (Oxford Group)
- Swallow (Trevor Horsley and Graham Hayes)
- Dart 17R (Portmoak Group)
- Foka 4 (Miroslaw Lewandowski)
- K-6E (Ray Whittaker)
- K-6E (Shalbourne Group)
- K-6E (Oxford Group)
- Olympia 463 (Andrew Jarvis)
- Grunau Baby (Portmoak Group)

■ www.vintagegliderclub.org


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BGA accident/incident summaries

AIRCRAFT

Ref	Type	Damage	Date, time	PILOT Injury	P1 hours
170	K-13	minor	28/09/17, 11:30	none	4
Heavy landing bent wheel axle.					
171	Junior	substantial	28/09/17, 15:30	none	11
Heavy landing cracked fuselage behind the wing. The low-time pilot had flown an instructional flight in a K-21 earlier in the day before winching the Junior in the afternoon. Conditions had changed during the day and the pilot had not had a briefing prior to the flight. He reports the glider suddenly dropping just as he started to round out. The glider landed on the mainwheel and bounced a few times before coming to a stop.					
2018					
1	K-21	minor	14/10/17, 11:00	none/none	252
Rear canopy came open during winch launch, shattering the perspex and damaging the skin of the glider. Neither the rear seat P1 or the P2 had checked the canopy as part of their pre-flight checks. The report notes that the nylon canopy interlocks were too worn to prevent locking the front canopy when the rear was unlocked.					
3	K-23	destroyed	22/10/17, 11:15	minor	1334
Crash landing after an undershot approach. The pilot took off intending to ridge soar in the gusty 30kt wind, but finding conditions to be very turbulent he chose to land back on the hill top site after reaching circuit height. He lost some height after turning downwind and the combination of high airspeed and a strong tailwind took the glider too far downwind over a downslope in the lee of the landing area. Turning final at low level in sinking air, the pilot was able to level the wings, but noted that the airspeed was low so he lowered the nose. The glider was seen to land heavily on the nose before pitching up and breaking the rear fuselage.					
4	Cirrus	substantial	23/10/17, 15:40	minor	276
Landing overrun. The glider flew a tight circuit in the light crosswind, turning final at a suitable height, but almost overhead the runway threshold. Despite using full airbrake, the glider touched down at the far end of the runway before rolling down a slope into the adjacent field. The glider damaged a wing root and the tailplane during the subsequent groundloop.					
5	Duo Discus	minor	18/10/17, 14:00	none/none	not reported
Undercarriage collapsed during landing ground run. The wheel had deliberately been left down during the short site familiarisation flight and confirmed as down during the pre-landing checks.					
7	DG-1001	minor	06/10/17, 14:00	none	642
Wheel-up landing. While turning onto final, the pilot switched the electrically-powered undercarriage to wheel down. He heard the mechanism lowering the wheel, but the gear position light remained red so the pilot switched from the runway to the adjacent grass landing area before landing with the wheel only partially extended. Subsequent tests suggest that the brake hose could foul the undercarriage mechanism, preventing full deployment.					
9	DG-500	substantial	25/10/17, 14:55	none/none	1972
Heavy landing. The glider flew a 60-65kt full airbrake approach into the 20kt wind into an area of the hill top airfield known to have a strong wind gradient in the prevailing conditions. The report points out that a late round out may not slow the glider's rate of descent enough to prevent a hard landing after a steep descent.					
12	SF 27	substantial	24/11/17, 11:55	none	16
PIO following aborted winch launch. After receiving the 'all out' signal, the winch driver accelerated the winch to its maximum speed, but, as he could still not see the glider, he then reduced the power. It was the pilot's third flight on type and he reports having the trim and stick well forward. The glider lifted a few inches off the ground, but did not reach a safe full climb speed. When the power reduced the glider touched down again and bounced, the pilot released, but could not prevent a series of heavy landings ultimately damaging the nose cone. The CFI points out that all flying stabilator aircraft are more prone to PIO.					
20	K-13	substantial	14/01/18, 15:00	minor/none	1090
Tail-first landing broke the fuselage near the tailplane. This was the P2's second flight flying the landing and the P1, as briefed, prompted the P2 to start the round out. The glider was seen to reach a nose-high attitude before stalling and landing heavily. P1 had a neck injury.					
22	RF5	substantial	07/02/18, 13:20	minor	304
Heavy landing damaged the undercarriage, propeller and wings. The pilot reports that the motorglider dropped suddenly as he opened full airbrake at about 50ft on the approach, despite flying a few mph above the recommended full airbrake approach speed.					
23	Grob 109	substantial	16/02/18, 15:30	none/none	40
Heavy landing broke propeller. After rounding out a little high with full airbrake, the motorglider dropped to the ground in a flatter than usual attitude, full airbrakes held the wheelbrake on and the aircraft tipped far enough forward for the propeller to hit the ground.					
24	K-8	minor	18/02/18, 12:00	none	288
Weak link break at the top of the winch launch. The weak link embedded itself in the underside of the leading edge of the tailplane and the glider flew the rest of the flight with 2m of the hose shroud and cable dangling from the tailplane.					

BGA accident/incident summaries *continued*

AIRCRAFT Ref	Type	Damage	Date, time	PILOT Injury	P1 hours
Incidents					
169	PA 25	minor	07/09/17, pm	-	-
Mower ran over tug tow rope. The rope tangled in the mower, damaging the tow hook on the Pawnee before breaking the rope.					
172	Discus	none	30/09/17, 13:15	none	-
Heavy landing following a low level (< 20ft) winch launch failure. The pilot noticed the lack of acceleration after leaving the ground and the glider was still in the initial climb when the drogue chute inflated. The pilot released and lowered the nose, but glider landed heavily before bouncing, inducing a PIO and two subsequent landings.					
173	Cirrus	none	02/07/17, 11:30	none	80
Aileron disconnected during flight. The pilot had been distracted while rigging, but the aileron had seemed to be connected during a positive control check. The pilot heard the pushrod disconnect as he released from the winch launch, but was able to control the glider. During the landing ground run, the control column became jammed and a torch was found under the seat.					
174	DG-505	substantial	23/04/17, -	-	-
Damage to the tailplane and elevator was discovered while the glider was being cleaned at the end of the day. It is thought that the damage occurred when a shock rope broke during a winch launch a few weeks earlier and that the damage had not been noticed on several subsequent DIs.					
2018					
2	Astir	none	02/10/17, 14:25	none	8
The undercarriage was not properly locked down and retracted during landing.					
6	DG-303	none	28/10/17, 13:30	none	83
Undercarriage collapsed on landing. The pilot had not properly locked the wheel down, despite a club publicity campaign emphasising the handle locked down position for this glider.					
8	K-13	substantial	14/10/17, -	-	-
Airbrake pushrod weld failed during a positive control check.					
10	-	-	05/11/17, 15:00	none	-
Club member slipped off the ladder to the winch cabin, landing on his back.					
11	Grob 103	-	18/11/17, 13:55	-	-
Opening the rear canopy after flight, the P1 noticed significant play in the canopy hinge. Inspection revealed that the canopy hinge bushes were severely worn down.					
13	DG-303	none	26/11/17, 14:25	none	500
Wheel-up landing. Not being current on the glider, the pilot did not notice the extra noise from the still extended undercarriage while soaring. He then raised the wheel before landing, missing a radio warning as the volume on the radio was turned down.					
14	K-21	none	03/12/17, -	-	-
The instructor returned from a quick break to find that his glider, with a student in the front, had already been connected to the winch cable.					
15	K-21	-	09/12/17, -	minor	-
Cut finger from Gadringer harness buckle spring. The locking bar had become detached, releasing the spring.					
16	K-21	-	06/01/18, 10:30	-	-
The left airbrake did not deploy during pre-flight checks, it was discovered that the L'Hotellier connector was unconnected. The glider had flown on several days after being rigged and having positive control checks some weeks previously.					
17	K-13	minor	-	-	-
Hangar damage resulting in a bent aileron pushrod end.					
18	-	none	13/01/18, 12:50	-	-
Broken winch cable and parachute landed on commercial building adjacent to the airfield. The surface wind was about 55° across at 15kts, the upper wind was estimated at about 25kts and only 30° across. The cable had fallen downwind of the runway after previous launches and the winch driver had requested more into wind correction from pilots. On this launch the cable broke at about 1,100ft and the wind strength and direction combined to carry the broken end of the cable off the airfield. The building owner later complained to the CAA.					
19	-	-	14/01/18, 11:00	-	-
After making a delivery to the gliding club, the delivery van driver followed his GPS route across the active runway, driving over winch cables. The driver said that he did not see the warning signs marking the runway.					
21	Chipmunk	none	04/02/18, 10:05	none	-
Partial tug engine failure at 500ft on tow; both the tug and glider landed safely on the airfield.					

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 Distance

1-1264 Matthew Cleveland 05/01/2018
Woodhouse (Australia)
1-1265 John Trubridge Southdown 13/05/2018

Diamond Goal

2-2583 Jacob Devon & 17/03/2018
Matthews Somerset (Australia)
2-2584 Kenneth SGU 13/12/2017
Henderson (Lake Keepit, Australia)
2-2585 Chris Gill Denbigh 13/05/2018
2-2586 Steve Wilks Gliding Centre 10/05/2018
2-2587 Miles Bailey Bicester 19/05/2018

Diamond Height

3-1819 Adrian Lake Chiltern 22/03/2018
(Aboyne)
3-1820 Paul Field Booker/ 22/03/2018
Chiltern (Aboyne)
3-1821 Adrian Borders 22/04/2018
Loening

Gold Badge

Adrian Lake Chiltern 22/03/2018
Paul Field Booker/ 22/03/2018
Chiltern
Ryan Berry London 11/09/2016
Kenneth Henderson SGU 13/12/2017
Brian Shadbolt Southdown 26/04/2018
Matthew Woodhouse Cleveland 06/01/2018
Miles Bailey Bicester 19/05/2018

Gold Distance

Jacob Matthews Devon & 17/03/2018
Somerset (Australia)
Kenneth Henderson SGU 13/12/2017
(Lake Keepit, Australia)
Anthony Kendall Wolds 13/01/2018
(NewTempe Bloemfontein)
Steve Wilks Gliding Centre 10/05/2018
Miles Bailey Bicester 19/05/2018

Gold Height

Adrian Lake Chiltern 22/03/2018
(Aboyne)
Paul Field Booker/Chiltern 22/03/2018
(Aboyne)
Ryan Berry London 11/09/2016
(Llanbedr)
Thomas Berriman Essex & Suffolk/ 05/09/2017
SGU (Aboyne)
Brian Shadbolt Southdown 26/04/2018
(Lleweni Parc)
Matthew Woodhouse Cleveland 06/01/2018
(Australia)

Silver Badge

Timothy Brunskill Midland 26/04/2018
Paul Newman Cambridge 10/05/2018
Patrick Killingsworth Cranwell 25/04/2018
John Woolley Surrey Hills 10/05/2018
David Blunden Southdown 19/05/2018

Silver Distance

Paul Newman Cambridge 10/05/2018
Patrick Killingsworth Cranwell 25/04/2018
(Sisteron, France)
John Woolley Surrey Hills 10/05/2018
Declan Callan-McGill Lasham 09/05/2018
Jay Derrett Cambridge 20/05/2018
Alistair Cunningham Deeside 03/01/2017
Simon Cook Bidford 22/04/2017
Timothy Brunskill Midland 26/04/2018

Silver Duration

Patrick Killingsworth Cranwell 25/04/2018
(Sisteron, France)
Martin Davidson Bath, Wilts & 05/05/2018
North Dorset (Portmoak)
Alexander Oldham Derby & Lancs 10/05/2018
Brian Crouch Deeside 18/05/2018

Silver Height

Matthew Price Bowland Forest 24/02/2018
(Walney Island)
Richard Peake Bowland Forest 24/02/2018
(Walney Island)
Simon Cook Bidford 02/07/2017
Timothy Brunskill Midland 26/04/2018
Paul Boet London 18/04/2018
Damon Williams Kent 20/04/2018
Patrick Killingsworth Cranwell 22/04/2018
(Sisteron, France)
Richard Waddington York 25/03/2018
Alexander Oldham Derby & Lancs 10/05/2018
John Woolley Surrey Hills 10/05/2018
David Blunden Southdown 19/05/2018

Cross Country Endorsement

Adam Stach Bowland Forest 30/03/2018
Alexander James Lasham 18/04/2018
Oliver Heidkamp Upward Bound 01/04/2018
Trust
Mitchell Skene SGU 21/04/2018
Alex Munnoch Southdown 25/04/2018
Scott Munnoch Southdown 25/04/2018
Michael Collins Yorkshire 15/05/2018
Harry Entwistle Midland 13/05/2018
Oleg Fylypenko Lasham 07/05/2018
Jon Young Bristol & Glos 15/05/2018

Cross Country Endorsement cont'd

Hon Mo Bristol & Glos 20/05/2018
Martin Willcox Derby & Lancs 14/05/2018
Andrew Fleming Sherington 18/05/2018
James Gulliver Bicester 19/05/2018
Rupert Taylor-Allkins Bicester 20/05/2018
Nicholas Baldock Bristol & Glos 28/05/2018

INSTRUCTOR RATINGS

Basic

Kieren Macgregor Deeside 17/04/2018
Kevin Burns Lasham 20/04/2018
Anthony Landau Bicester 23/04/2018
Ashlee Lambe South Wales 27/04/2018
Andreas Jelden Herefordshire 27/04/2018
Liam Bennett London 27/04/2018
Paul Barnes Cambridge 01/05/2018
Laurent Declerck Bristol & Glos 04/05/2018
Josh Milner Darlton 11/05/2018
Jamie Steel Portsmouth 11/05/2018
William Wilson Yorkshire 11/05/2018
Gavin McMullen Bath, Wilts & 17/05/2018
N Dorset
Glyn Richards Kent 25/05/2018
Jon Stiles East Sussex 01/06/2018
Susan Brownlie Bannerdown 01/06/2018
Timothy Scott Booker 01/06/2018
Berian Griffiths Buckminster 08/06/2018
Thomas Sides Devon & 08/06/2018
Somerset
Peter Valentine Nene Valley 08/06/2018

Assistant

Josh Reid SGU 08/06/2018
Gavin Summerell Bristol & Glos 17/04/2018
Christopher Jones Staffordshire 17/04/2018

Full

John Barton Lasham 17/05/2018
Jordan Bridge Lasham 17/05/2018
Robbie Christie Kent 17/05/2018
Stephen Gibson Cambridge 25/05/2018
Richard Goodchild Rattlesden 25/05/2018

BGA Courses and Seminars in 2018

BGA maintainer, inspector, club safety officer, instructor and examiner courses and seminars are detailed at

<https://members.gliding.co.uk/courses/>

**Bookings should be made via the BGA office
0116 289 2956 or debbie@gliding.co.uk**



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Lisa Humphries, Anthony Smith,
Bill Britain and Richard Brickwood

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Company Secretary

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CAA SLMG Instructors and Examiners

A number of CAA authorised SLMG examiners are appointed via the BGA to support SLMG activity under the management of the BGA SRE SLMG. Contact details are at <https://members.gliding.co.uk/examiners>

Gliding Examiners

BGA gliding examiners are appointed regionally and directed by Senior Regional Examiners. Coaching and tests can be arranged via SRE's who are listed at <https://members.gliding.co.uk/pilot-resources-flying-training/examiners/>

Safety Guidance

There is extensive safety guidance including a toolkit for club safety officers at <https://members.gliding.co.uk/safety>

Airworthiness Inspectors

There are a number of BGA inspectors across the UK. A proportion of them are approved to issue an ARC and are listed by region at <https://members.gliding.co.uk/arc-signatories>. Regional Technical Officers can be contacted via the BGA office.

Airworthiness Guidance

Extensive guidance for owners of non-EASA and EASA aircraft is at <https://members.gliding.co.uk/airworthiness>

Other Information

Courses and Seminars

BGA courses and seminars information is at <https://members.gliding.co.uk/courses/>

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