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The magazine of the
British Gliding Association

June ~ July 2002
Volume 53 No 3

Editor: Helen Evans
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Stroud, Gloucestershire, GL6 9BX

tel: 01453 889580
email: *helen@sandg.dircon.co.uk*

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Articles	August 13
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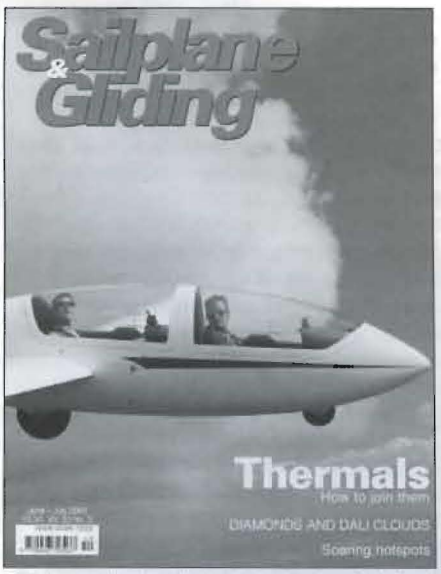

Britain's international results show that working together in the air pays dividends. And this extends to your thermal technique. See p22 for Simon Adlard's tips (Neil Lawson, left, and Al Greensmith in a Grob Twin Acro III: the ***white planes*** *picture co)*

Sailplane & Gliding

Member of the
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and the
Fédération Aéronautique Internationale

From the BGA Chairman

I HAVE just been to one of the furthest outposts of the British gliding fraternity – Seahawk GC at the Royal Naval Air Station, Culdrose, in Cornwall. It is beyond Falmouth and nearly at Penzance: a long way from my home in the Cotswolds and even further from Leicester. My colleague Richard Yerburgh also visited the Cornish GC at Perranporth on the north Cornish coast in March.

I was given a marvellous welcome by the small but enthusiastic group of pilots at Seahawk, who operate at weekends off the smooth tarmac with views towards the sea on both sides. I was lucky to be there on a day when the thermals were popping offshore as well as over the land. With glorious coastal scenery including St Michael's Mount visible from their Super Dimona tug, I was treated to a different gliding experience to my usual airborne trip around the centre of England or the Welsh border country.

The weekend was an illustration of the diversity of experience one can get in gliding in the UK. Here is a small club with about 50 members, drawn from both the Royal Navy as well as the civilian population, that is well equipped, well organised, friendly and in a lovely part of the country, operating viably and having a great deal of fun despite the obvious disadvantages for cross-countries of being so close to the sea.

Here I learned at first hand how the deliberations of the BGA instructor community concerning instructor qualifications can affect a club where really experienced pilots who want to become a Basic Instructor (BI) may have to wait years before they are in the right place at the right time to get their 50km "up country". They can be proficient at local soaring and flying up to Perranporth and back, but not further afield to gain that elusive Silver distance. The Seahawk club wanted to know if the BGA would consider introducing two levels of BI – in effect a "local" qualification, relevant to the member's own club environment – with the principal and existing qualification being a "national" BI. Now I am not saying at this stage whether that is possible or acceptable – it will have to be considered in the proper way – but my purpose in relating this is to demonstrate that the Executive Committee, in making visits to member clubs and listening to their particular concerns, is able to keep its ear to the ground and receive representations first hand.

None of us has the prerogative to think we are always right or indeed right at any moment in time, and although our policies, guidelines, rules and regulations have grown up from many years' collective wisdom and experience, there is always room for new ideas that should be aired and subjected to scrutiny.

At Culdrose there were some 20 topics raised, most of which I was able to provide answers to. In them there were some sensible proposals that the Executive will consider seriously.

So, with well over 20 clubs visited by the Executive since we started the programme last October, I am hoping we shall accelerate the programme to complete most UK clubs by the time of the next AGM in February 2003.

Oh, and by the way I can thoroughly recommend a visit to Culdrose – it's a long way, but worth it and visitors are very welcome provided they contact the club beforehand (see BGA website or the club map in the April-May *S&G* for contact details) so that RN Culdrose security can be briefed. Equally, I understand from Richard that Perranporth, a civilian airfield, very much welcomes visitors, who can experience exciting cliff-edge soaring when the wind is on-shore. So for those of you within striking distance, how about a long weekend enjoying some different scenery at one of our member clubs near the far reaches of the UK?

David Roberts
Chairman, British Gliding Association
April 18, 2002
d.g.roberts@lineone.net

IGC announces change of venue for 2003 World Championships

THE International Gliding Commission's (IGC) President, Tor Johannessen, writes: "In April 2002, the IGC President and Vice-President Brian Spreckley met with the organising committee for the 2003 World Gliding Championships at Rieti. During the meeting, serious flaws in the preparations for the preparatory event (scheduled for August 2002) became evident: there was no functioning Championship director; no information bulletins had been sent out; no invitations had been sent out; no website was established for the event; and no system for entering the contest had been established.

Consequently, National Aero Clubs had no possibility to enter teams in the event and many are now unable to make arrangements to do so.

It is an IGC requirement that the NAC awarded a WGC shall organise a Preparatory Contest one year ahead of the WGC. This is to prove that the organising staff is proficient and that the participants have the possibility to acquaint themselves with the conditions locally and in the contest area. The contest shall as far as possible be run under the same rules and conditions and at the same time of the year as the main event.

As the local conditions in Rieti due to the mountainous terrain are quite special, the preparatory contest is believed to be of greater importance than in venues with flat terrain.

The absence of a preparatory event with the possibility for the competitors to get acquainted in the area significantly affect the chances of the 2003 WGC being a fair contest, competitors unacquainted with the area will suffer a significant disadvantage.

Based on the lack of preparations for the 2002 Preparatory Contest, the IGC Bureau has decided that the venue for the World Gliding Championships in 2003 will be moved to Leszno in Poland instead of Rieti in Italy."

STOP PRESS

THE following items were on the agenda for the BGA Executive Committee's meeting on May 1, and notified to *S&G* the following day. For more details, where indicated, please see the BGA website on *www.gliding.co.uk*

Junior membership subscriptions

FOLLOWING debate at last October's Chairmen's Conference, the Executive has decided to introduce a lower-cost Junior membership category for the purposes of clubs' subscriptions, at 50 per cent of the full adult rate. For this purpose Juniors will be club members under 21. Further information on the proposed change will be going to club chairmen in the near future, including the proposed implementation timescale.

TV exposure for gliding?

THE BGA is negotiating with a TV production company for coverage of a gliding club to be featured for 10 minutes on a Sky Sports programme focusing on "minority" sports, to be shown in the autumn (we'll advise if successful and when it will be shown). Negotiations for global coverage of gliding are also ongoing with a Hong Kong based TV production company, run by people who have taken up gliding (in Australia and New Zealand, not Hong Kong!) and who have been "hooked".

Instructor renewal requirements

FOLLOWING extensive consultation and debate, the Instructors' Committee has made fresh recommendations, which have been accepted by the Executive, for currency requirements for instructor renewal with effect from the flying year commencing October 2002 (ie: renewals October 2003). By the time you read this, full details will have been published on the BGA website and in a CFIs' newsletter (and will be supplied for the next *S&G*). The intention is that these new requirements will remain for at least three years from next October, unless there is a significant and compelling reason for reviewing them.

Changes in medical standards

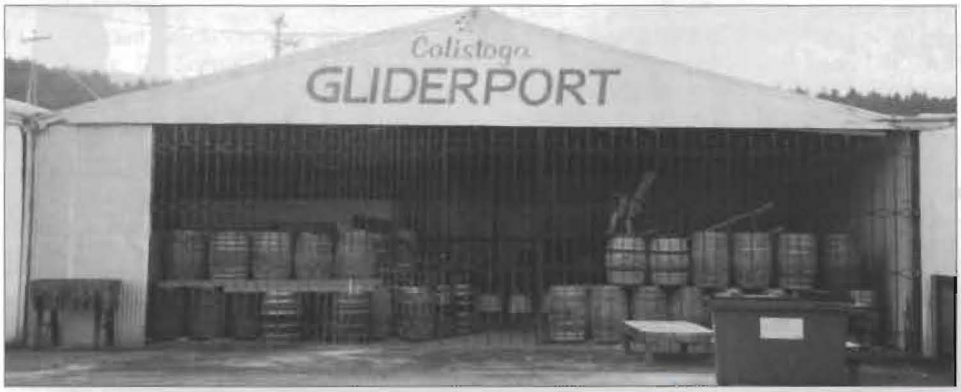
ANY changes in medical standards for glider pilots are still in abeyance pending finalisation of the NPPL medical standards.

Replacement for BGA motorglider

THE BGA has ordered a replacement for the 10-year-old Falke that is used for instructor courses and coaching operations. The new Falke is expected in October.

National PPL draws closer

PROVIDED that the parliamentary process of changes to the Air Navigation Order goes without a hitch, the new National Private Pilot's Licence (NPPL) will be implemented in July. This will be of benefit to those wanting to fly motorgliders, self-launching sailplanes and tugs. Full details of the NPPL will be available through the BGA office from the implementation date, and on the BGA website.



CALISTOGA Gliderport in the USA – its hangar stacked high with barrels – is clearly where the party's going to be. Has someone started up an Overseas Junior Nationals? *(Photo: David Roberts)*

Dates for your diary

Overseas Championships	Spain	13 May–24 May
National Aerobatic Champs	Saltby	30 May–2 Jun
National Vintage GC Rally	Tibenham	1 Jun–9 Jun
Turbo/self-launch	Bidford	15 Jun–23 Jun
Standard Class Nationals	Pocklington	22 Jun–30 Jun
Popular Flying Assoc Rally	Cranfield	21 Jun–23 Jun
Vintage & Classic Rally	Camphill	22 Jun–28 Jun
Whispering Wardrobes Rally	Booker	29 Jun–30 Jun
Euroglide	Europe	23 Jun–6 Jul
Euro Aerobatics Champs	Germany	1 Jul–26 Jul
Europeans	Hungary	6 Jul–27 Jul
Regionals	Lasham	6 Jul–14 Jul
VGC Rendezvous Rally	Germany	12 Jul–19 Jul
International Air Tattoo	Fairford	20 Jul–21 Jul
30th International VGC Rally	Germany	20 Jul–27 Jul
Competition Enterprise	North Hill	20 Jul–27 Jul
Regionals	Hus Bos	27 Jul–4 Aug
Regionals	Nympsfield	27 Jul–4 Aug
Regionals	Sutton Bank	27 Jul–4 Aug
15-Metre Nationals	Gransden	27 Jul–4 Aug
Inter-Services Regionals	Cosford	3 Aug–11 Aug
Club Class Worlds	Germany	10 Aug–24 Aug
Club and 18m Nationals	Lasham	10 Aug–18 Aug
Regionals	Dunstable	17 Aug–25 Aug
Two-Seater Comp	Pocklington	18 Aug–25 Aug
Slingsby Rally	Yorkshire	24 Aug–1 Sep
Open Class Nationals	Tibenham	24 Aug–1 Sep
Regionals	Tibenham	24 Aug–1 Sep
Regionals	Booker	24 Aug–1 Sep
Junior Championships	Hus Bos	31 Aug–8 Sep
Saltby Open Champs (Aeros)	Saltby	7 Sep–8 Sep
Mountain Soaring Comp	Deeside	Sep 2–Sep 8

Provisional UK Nationals dates for 2003*

Overseas	May 19–30
Open Class	Jul 12–20
Standard Class	Jul 26–Aug 3
Club Class	Aug 9–17
18-Metre	Aug 9–17
15-Metre	Aug 23–31
Junior Championships	Aug 30–Sep 7

**These dates are subject to confirmation in the coming months*

Teams and training

THE BGA coaching programme has exposed pilots (Luke Rebbeck, Sarah Steinberg, John Tanner and Leigh Wells) to mountain soaring this year at Saint Auban, France; it has also taken Juniors (Jess Pennant, Matt Cook, George Green, Richard Garner, Andy Perkins and Anna Wells) and squad (Peter Masson, Richard Hood, Afandi Darlington, Paul Fritche, Dave Allison and Mike Young) to train at Ontur in Spain. Teams for this year's international contests are: Club Class Worlds (after voting), Pete Masson (who qualifies as Champion), Richard Hood, Afandi Darlington and Paul Fritche; European Championships (as a result of the 2001 British Nationals) – Standard Class, Mike Young and David Allison; 15-Metre Class, Steve Jones (who qualifies as Champion), Al Kay and Dave Watt; 18-Metre Class, Jay Rebbeck; Open Class – Russell Cheetham and Pete Harvey

The BGA club map

OUR apologies to members of Fulmar GC and those of Newark & Notts GC for errors in the listing accompanying the club map published in the last *S&G* (p33).

Fulmar GC, which is co-located with Highland GC at Easterton in Scotland, was omitted from the list but can be reached c/o David Brown, at 10 Mannachie Rise, Forres, Moray, Scotland, IV36 2US
tel: 01309 676660
email: *0108808b@student.gla.ac.uk*

The phone number for Newark & Notts GC is: 01636 707151

Since the map was published, Turweston GC has merged with Shenington GC, and Devon & Somerset GC at North Hill has a new web address: *www.dsgc.co.uk/*

In brief

DAVID Masson, the 35-year-old brother of current Club Class World Champion Peter set the new British 300km O/R speed record at 107km/h in mid-April, and then went out the following day and did a 750km badge flight at just over 100km/h. The record flight took him to Honiton in Devon and back while the 750km was via Doncaster, Popham, Watford Gap and Lasham. Both flights await BGA ratification.

BROOKLANDS Museum is running "Wings Around the World, an exhibition supported by Shell, about Polly Vacher's 2001 round-the-world flight in a single-engined Piper Dakota, which raised more than £160,000 for charity. The event runs until late 2003.

NEW Zealander Terry Delore's 1465.7km in an LS-6C on March 1 on South Island has made him the first holder of the FAI 1250km diploma (*www.glidingmagazine.com*)

OWING to business commitments, Jonathan Mills has had to stand down as chairman of the BGA Safety Committee, and has been replaced by former Chief Accident Investigator and current BGA Executive member John Hoskins. The other BGA sub-committees are chaired by: Max Bacon (Development); John Bradley (Technical); Ron Bridges (Competitions and Awards); Marilyn Hood (Communications and Marketing); Patrick Naegeli (Strategic Planning and Finance); Bob Pettifer (Instructors); David Roberts (Staff and Admin) and Carr Withall (Airspace).

THE Guild of Aviation Artists' 32nd annual exhibition is moving to the Mall Galleries in London. The event, from July 23-27, is expected to include 350 paintings selected on May 12, including a special collection to commemorate the 60th anniversary of RAF Bomber Command. (*www.gava.org.uk*)

JACQUES Noel, who featured in our last issue (*Master of the mountains*, April-May 2002, p48) is now located at La Motte du Caire in the French Alps, where he has been appointed CFI. He can be reached on 00 33 4 92 68 35 11.

WINNER of the BGA 1000 Club Lottery's March draw was BA Bateson (£48.00). Runners-up (each winning £9.60) were: TG Hobbis; M Slatford, Mrs G Hodds; P Molloy and CB Golding. The April winner was L Mundy (£47.75), with runners-up (each winning £9.55): MW Cater; K Olpin; SA Southam; RS Maxwell-Fendt and A Dukelow

General Aviation Safety Awards

Civil Aviation Authority

and this year's winner is....

Do you know anyone within the General Aviation community whose good airmanship has averted a serious incident or possibly fatal accident during 2002?

The General Aviation Safety Awards are presented to individuals and organisations in the UK to recognise their good airmanship or practical skills and abilities when faced with potentially serious incidents directly related to flying. Anyone involved in UK general aviation may be nominated – pilots, instructors, engineers, aircraft operators and air traffic control staff. Nominees should be over 16 years of age and may be either individuals or organisations. Please note that only 'one-off' incidents will be considered. The selection committee regrets that it cannot consider awards for life-long service to aviation.

Nomination form for CAA Safety Awards 2002

Closing date for nominations: 20 December 2002

Nominee's Contact Details: Name:

Address and telephone number:

Brief details of reason for nomination: Description of incident:

Continue on separate sheet if required

Your Contact Details: Name:

Address:

Telephone number: Signature: Date:

How to return this form to the CAA: By Fax: 020 7379 4784, By Post: Civil Aviation Authority, Corporate Communications Dept, CAA House (K101), 45-59 Kingsway, London WC2B 6TE (photocopies are acceptable). Alternatively you can visit our web site www.caa.co.uk/srg/general_aviation/award.asp - and fill in the form online.

Your letters

B****r B****r

PLAT'S recent article on new approaches to task-setting (*A Scenic Ladder?*, February-March, p16) struck a chord with the underground at that nameless club in the south of England, where we have been planning (in secret) an alternative to BGA turnpoints. His ideas about lighthouses and mountains are interesting, but there aren't many in this part of the country, and we only have short wings. Our suggestions are:

Roman towns: from "Didcot" via Cirencester -Gloucester-Worcester-Alcester-Towcester-Bicester (score double).

Cheeses: perhaps more suited to Wales and the north of England; the best we could do from "Didcot" would be Stilton-Derby, or Gloucester out-and-return twice, for a Double Gloucester.

In-the/on-the: for example, Bourton on the Water-Stow on the Wold-Stratford upon Avon -Hinton in the Hedges. It would make the radio calls so interesting.

Local universities: Oxford-Cambridge-Milton Keynes.

Prohibited areas: this task would have to be declared by lat and long co-ordinates only, and not mentioned to the CFI.

Word chains: for example, Basingstoke-Stoke Mandeville, or Leek Wootton-Wotton under Edge-Edgehill.

Saints: especially for pilots in East Anglia, where every village seems to be named for a saint.

Games: except that the only ones on the map are Badminton-Rugby.

For pilots of a competitive nature, some of these tasks would be a fair distance, long enough to talk about in the bar afterwards.

We have yet to declare a task of this kind, for fear of being deemed not to be taking things seriously. But now you have aired the issue we may be bold enough to try.

The B**r Two** *(name and email address inadvertently supplied)*

Something fishy

I ENCLOSE an extract from my latest American Express statement (*see below*). It is one of the usual advertising plugs, but seems to have suffered some degree of chaos at the printers. I wonder quite what readers picture in their mind's eye, when reading this!

David Jones, DOVER, Kent

Solo age

I always read *S&G* and am always anxious to see if there is any news on the solo age being lowered. For a while now this subject has not been mentioned in the magazine. I believe they should lower the solo age as it would encourage more young people to take up this cool sport. I am 15 years old and have already been gliding for over two years. I am a pilot of solo standard, yet because of my age I am being held back from improving my skills. I have been told by instructors I fly with that they wish I could go solo and free up the two-seaters for other *ab initios*. If the solo age was lowered to 14 or 15, I believe many more young people would take up this sport and stick with it. By the time people reach 16 they want to go out clubbing and partying not standing on a cold airfield in the middle of nowhere, which is why you need to bring them in young so they get hooked like I did.

From my personal experience it can be hard to remain motivated and stick with the sport when you can't progress any further due to age restrictions and where ability is not taken into consideration.

Tarrant Hocking, CHIPPENHAM, Wiltshire

Can you identify this?

I HAVE been asked if I can identify the source of the badge illustrated (*right*). The considered opinion so far is that it is a British badge, probably dating from around 1928 to 1934. NGA could stand for the National or Norfolk or Northampton, etc Gliding Association. *Volas cum cura* is Latin for "Speed with Safety", and Britain is more likely to use Latin than other English-speaking countries. Interesting! Can you help?

Ann Welch, FARNHAM, Surrey

April weather

SITTING in an apparent Buchan's Third Cold Spell (April 2002) makes me wonder whether we could identify the location of the field in which Philip Wills landed at St Austell at the end of the first UK 300km on 30 April 1938. And if so, could we imitate the early balloonists of the 18th Century and put some small plaque there? And if we could achieve those objectives how about trying for a commemorative repeat run from, say, Dunstable next time around? Any type of glider acceptable but vintage would be preferred.

In hope.

Peter Hearne, *via email*

Instructor and pupil safety

MIKE Cohler's response to my recent article (*Accidents and instructors*, April-May 2002, p52), whilst containing accurate points, doesn't address the main point. He, as with many objectors to realistic instructor minima, completely disregards the benefit to the pupils. In fact his article does not mention the pupil's safety at all!

Obviously Mike is correct in saying that if instructors do more flying, they will suffer more accidents. However, he agrees that accident rate reduces with more flying, and therefore by implication that the risk per hour or launch for pupils must be less with higher currency instructors.

Steve Longland

If you recognise this drawing please let us know. See Can you identify this? *(left). Actual diameter: 7/8in*

I apologise if that message, or that I advocate realistic instructor minima to assist in ensuring all instructors are both safe and effective from the pupil's point of view, was not obvious from my articles.

As for better analysis, by whatever method, I'm all in favour.

Graham Morris, YATE, Bristol

Lust for freedom

I WAS travelling through Namibia and Botswana when my path brought me to Tsumeb, a small mining village in the middle of nowhere. Everywhere it had strong, evident German roots.

The small museum is well cared-for, local ethnography being the principal point of interest, along with some items that are representative of moments in local history.

Behind protective glass, there was the debris of WW2 (which touched even these faraway lands, brothers fighting each other under opposing flags and on distant fronts) and a few objects belonging to the prisoners of the local camp, closed in 1947.

My attention was drawn by one of these otherwise common items: an ornament, about 1.5in long, skilfully cut from a bone. In the oval shape, the artist had created the silhouette of two gliders, thermalling under a healthy cumulus. The lower glider has beautiful gull wings, the spar and ribs crafted to perfection.

It may well be a Minimoa, a glider pilot's dream of the Thirties.

I was touched, and my curiosity about this gliding icon grew every day. Back at home, I couldn't stop thinking about it, and started up a correspondence with the museum.

It turned out that the artist had been a German worker, Herr Kasdorf, who had brought gliding to Namibia. He started his flying career in Luderitzbucht with a Grunau Baby, then moved to South Africa, where he started a gliding club in Germiston.

As the war exploded in 1939, he was imprisoned, as were all German immigrants.

Fancy a flight? See Something fishy, *above left, for details*

During those eight years in the prison camp he took a degree in engineering, and learned to cut beautiful jewels out of the bones he stole from the kitchen garbage.

I have imagined him staring at the magnificent African sky, cloud streets leading to the horizon, behind the barbed-wire fence. This lust for freedom was cut into bone, while he spent many years in jail. His desire for flying is distilled in the small jewel, which was then donated to the museum by his son.

There's a happy ending. Herr Kasdorf was able to return to his wife and child, who was only five months old when they were separated. They moved to Tsumeb in the Fifties, but he gave up gliding for lack of opportunities in the area. Once again, he must have been staring at the sky. And from a long distance in time and space, I thank him for the emotions he gave me.

Ruggero Ancillotti

Reprinted with the permission of Volo a Vela, *the Italian gliding magazine, and translated by Aldo Cernezzi*

The last word on T-21s

AT an RAFGSA club in the Sixties, I was instructing from the left seat. At the top of the launch, potential disaster.

The control columns on a T-21 are interconnected via a crosswise rod and thence to the elevators and ailerons.

There was a structural failure (metal fatigue) where my control column was attached to this rod. I had lost aileron control, although I still had elevators. I had to use the stick in the right seat. My hand inevitably was between the thighs of the young lady I was instructing. Fortunately, political correctness and sexual harassment had not been invented in those days!

In the pub that evening, I was relating the story about where I had to put my hand. One young man quipped that whenever he flew with Air Commodore "X" – the Senior Officer – he always did this!

Jack Harrison, *via email*

I think this a safe point to declare the correspondence closed. Thank you to everyone who has written in – Ed

More on survival

THE excellent advice from Eddie Pratt in the February-March issue (*Would you survive?* p61) raises a few questions.

My mobile phone might not be able to receive calls in the back of beyond, but it certainly continues to transmit a powerful UHF signal periodically while seeking cell contact. In standby mode, the battery is good for a few days. Are Search and Rescue aircraft equipped to use this signal for location purposes? It has a jack at the base for charging purposes. Could this be used to power a satellite beacon? Something for the boffins to ponder.

Unused torch batteries have a habit of going flat. A glider outlanding in the wilderness may well have enough power left to run a penlight bulb for many hours. A 12V headlamp made from a torch reflector and fitted with crocodile clips, to be stowed in the emergency pack, might be a good idea.

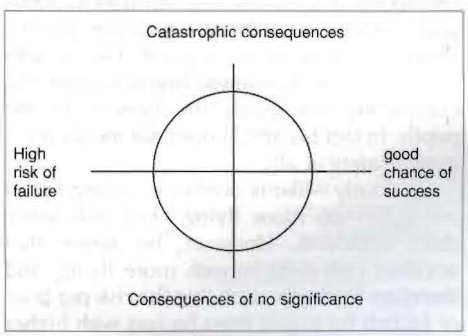
See A lust for freedom on the previous page for the story behind this carving

If the S&R aircraft is using infra-red and detecting the heat of the lamp, may we take it that fancy LED lamps are of less use than old-fashioned bulbs?

Jonathan Mills' piece on safety (*Our Smart Weapons?* February-March 2002, p62) would have been more impressive had the holes in the cheese been in the right place. The truth is there are TWO factors involved in the thing we call risk. These are risk (of failure) and the consequences (of failure). Both of these have to be weighed separately when deciding whether a risk is worth taking.

A false perception of any particular risk is simply a failure to recognise and evaluate these factors.

We can fit them neatly into a circle divided into four, with risk diminishing from left to right, and consequences diminishing from top to bottom:



The aim of training must surely be to encourage pilots to recognise and evaluate the factors involved and to take a sensible risk only when the likely outcome justifies it. Easily overdone, the Swiss Cheese model tries to protect fools from their own folly while making criminals out of those who are capable of exercising their own judgement – a perfect bureaucrat's paradise.

Keith Nurcombe, RUGBY, Warwickshire

Talebatteries

WITH reference to Plat's recent article (*Batteries not included*, April-May 2002, p16) regarding the use of radios by the Taliban, I can inform you without fear of contravening the Official Secrets Act that the British Army still makes use of hand-operated generators for such rare occasions when a re-supply of charged units is not available. Some poor Private is sent off with a large pile of dead batteries and a generator with the only aim to return with a pile of operational units. Who says rank doesn't have its privileges?

I can only assume that the Taliban perform a similar task when required.

Kevin Smith, *via email*

First BGA conference

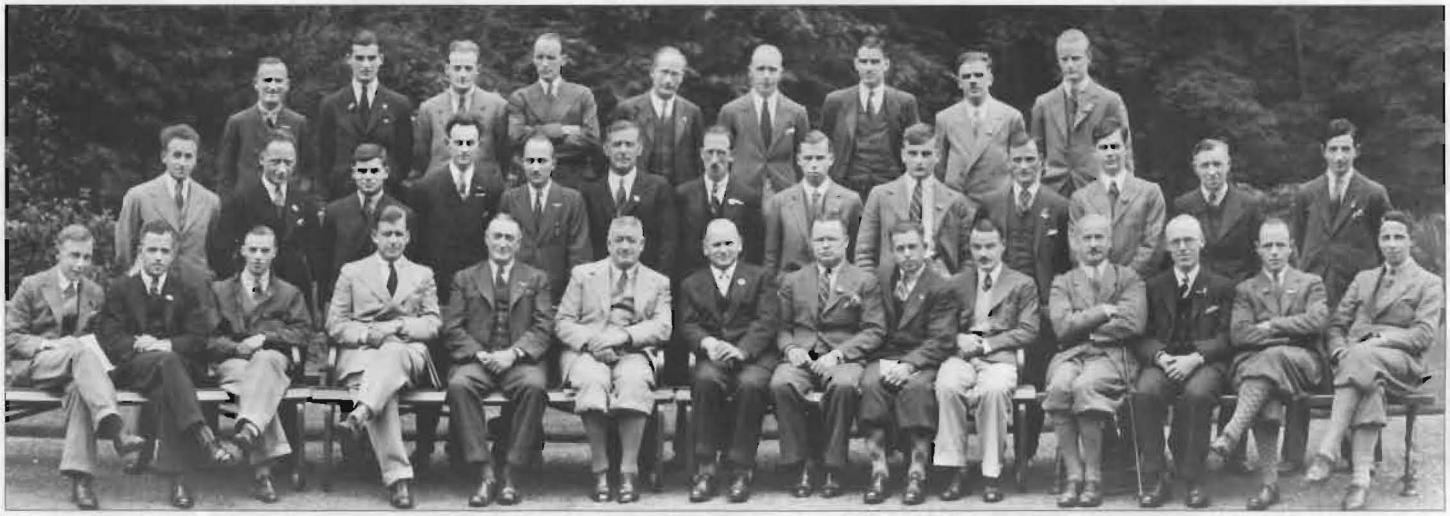
IN the bits of the last *S&G* which I was able to read – you will know that after a certain age is reached, eyesight gently deteriorates and print below 6 point becomes a problem – a gentleman called Phil Lazenby from Otley has asked (p9) whether anyone can identify one or some members of the gliding movement who attended the 1931 conference.

The famous man who suggested and organised the meeting which created the BGA was Douglas Culver, known as "One-arm Culver" as he lost his right arm in WW1. He was always a very natty dresser. Thus in the front row of the photo are two gents wearing plus fours and very colourful socks. The gentleman (sixth from the right) appears to be hiding his right shoulder and arm behind the man next to him. He is, I believe, Mr Culver. When I met in the 1950s he had put on a fair amount of weight.

What would be more interesting than naming them would be to identify who they were. For instance:

Fred Handley Page: famous aircraft designer.
The Master of Semphill: aviation pioneer and benefactor.
Amy Johnson: lady aviator and glider pilot.
EC Gordon England: early aviation pioneer.
JR Ashwell Cooke: early aviation pioneer.
Douglas Culver: "founder" of the BGA
CH Latimer-Needham: Vice-President BGA, first British holder of C Certificate.
Paul Adorjan: founder member of Imperial College GC – when I met him he was the Managing Director of Thames Television.
RF Dagnall: glider manufacturer.
RL Howard Flanders: co-author with CF Carr (father of Mike Carr of Lasham) *Gliding and Motorless flight*, published 1930.
CH Lowe-Wylde: first to fly a seaplane glider, from Welsh Harp lake in North London.
LA Wingfield: Lawrence Wingfield, a famous aviation solicitor, no relation of Charles and Owen Wingfield of Long Mynd fame.

Lord Semphill was for a time the President of the BGA. At that time the VPs were: Kathleen the Countess of Drogheda (who was



Readers have put names to a few faces present at the BGA's first conference in 1931 (above). Chris Hughes not only identified A York Bramble (front row, extreme right), but also sent in this picture of A York Bramble (below) presenting him with a cup. If you can help, please contact Phil Lazenby, at Lazenby@btinternet.com, *or via the editor*

she?), Mrs JA Mollison (aka Amy Johnson), L/Col M O'Gorman, Air Comm JA Chamier, E.Gordon England, Seymour Whidbourne, RF Dagnall, and CH Latimer-Needham. The Chairman of the BGA then (date unknown) was CE Hardwick (Espin Hardwick), Hon Treasurer PA Wills, Hon Sec WW Briscoe.

That's just a few to be getting on with. I could do more digging but I am sure that others will be able to fill in the gaps.

Wally Kahn, LONG SUTTON, Hampshire

FURTHER to the 1931 BGA Conference photo, the gentleman in the plus fours, front row, extreme right, is Mr A York Bramble. I enclose a photo of him (see right) presenting me (left) with "The Best Flight" cup at the Southdown GC dinner, early in 1950. At the time I think he was vice-president of the club. Behind him is John Furlong and "Steve" Stevens, the then chairman of the club.

Chris Hughes, WITCOMBE, Gloucestershire

I HAVE positive identification of some people in the *S&G* picture, having seen Chris Wills. He says: top row, fourth from the left, is The Right Hon Master of Semphill; bottom row, seventh from left is Eric Gordon-England; bottom row, twelfth from left could very well be Doc Slater of London GC and the former editor of *S&G*.

Geoff Moore, *via email*

Were you there?

THE crowning event of my membership of the ATC (Air Training Corps) was at a youth display sometime during the summer of either 1943 or 1944 held in the west London area.

The youth organisations of the district assembled outside the stadium, possibly the White City or somewhere similar, and marched in behind their various brass bands. The Boys Brigade, the Boy Scouts and Girl Guides, the Army Cadets, the Girls Training Corps, the Naval Cadets, the Women's Junior Air Corps (the best, in their light grey uniforms), and the ATC. The glider section were

at the back with an old balloon winch, a recovery vehicle and the assembly crew, and the glider itself contained in a long box-like structure painted royal blue. I brought up the rear, in glorious isolation (not unlike a present day astronaut following his rocket to the launch pad). I was supposedly going to give a display of what was technically called a "ground slide". That entailed the glider (a Primary) with me in it being hauled across the football field by a steel cable wound in by the balloon winch, with me endeavouring at all times to keep the glider on a straight course and the wings level.

All very easy – but to my absolute horror the glider that emerged from the trailer was not a Primary Trainer but a high-performance German single-seater sailplane with a colossal wingspan. The instructor, a member of ATA (Air Transport Auxiliary) and proud owner, told me not to worry, just to keep the control column slightly forward and concentrate on keeping the wings level and the wing tips off the ground. Looking back, he can't have been told that I had a total of only 54 minutes flying time, all in Primaries and mainly confined to ground slides, low hops and high hops.

Squeezing into the cockpit, I was confronted by a considerable display of instruments that included such marvels of modern science as an altimeter, airspeed indicator, compass and so on: it was rather like stepping from a horse-drawn cart into a Jaguar sports car.

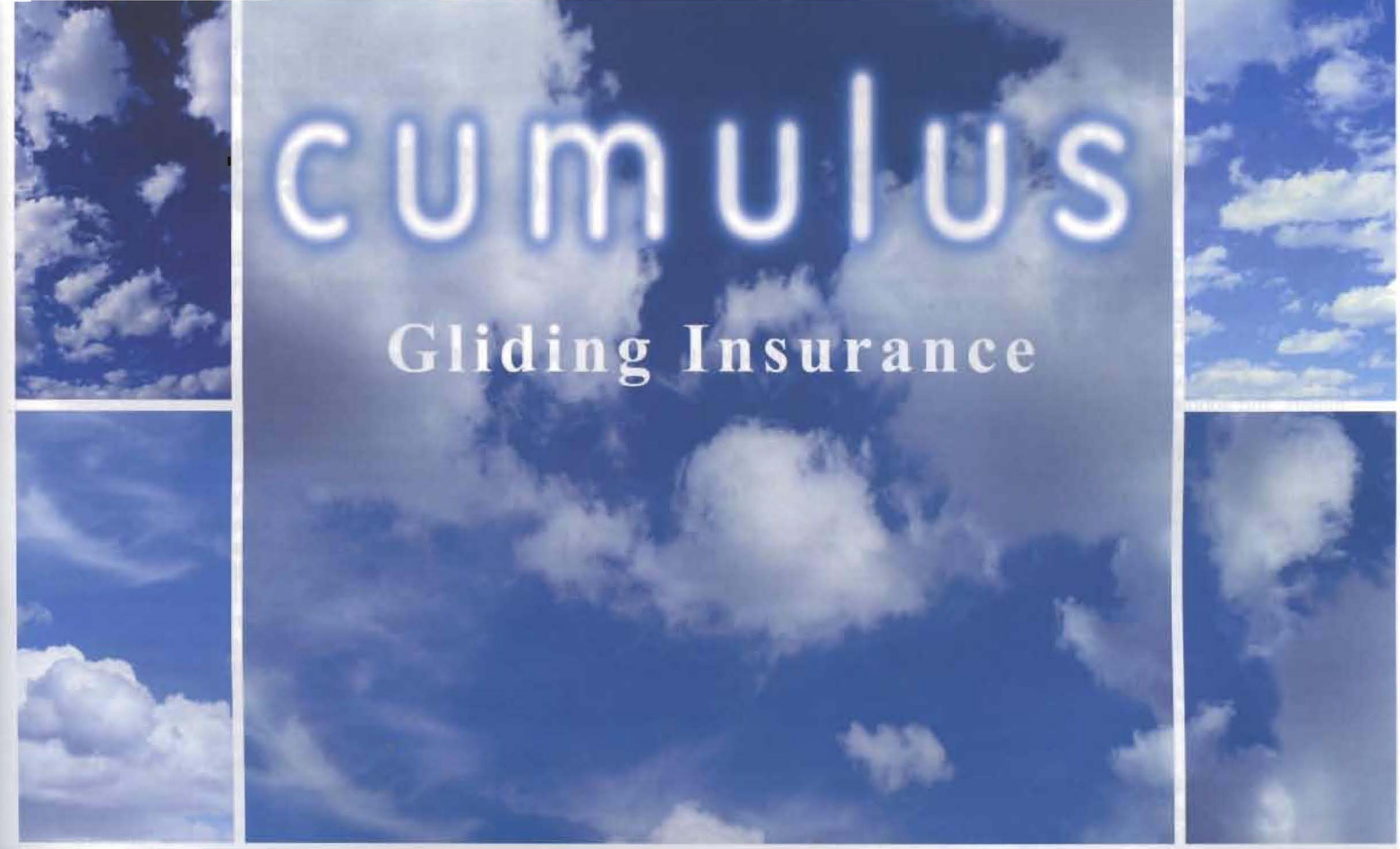
The driver of the winch on the other side of the stadium was given the instruction to "take up slack" followed by "all out" and I was away. Unfortunately the glider, responding to a strong breeze funnelling the length of the stadium, behaved like a kite, immediately leaping into the air. I found myself flying at around 30 feet above the football pitch down the centre of the stadium.

I had a brief, one-off view of the pitch and greyhound track some 30 or 40 feet below. The 40,000 spectators stood and cheered in delight, thinking no doubt that it was all part of the show. The winch driver must have been in a state of extreme shock. He had the unenviable choice of either continuing to winch me in, which meant that I would go higher, or to stop winching and leave me hanging there until I either stalled and dropped out of the sky or died of fright (or both). Around about mid-field I absolved him of any further responsibility by deciding that enough was enough and casting the towing cable off. I nose-dived toward the ground at the same time turning sharply to the left, finally spinning the glider through 180° on its left wing tip and ending up all neat and tidy in the direction from whence I had come. Fortunately, apart from my loss of pride and the glider's owner nearly having hysterics, no damage was done.

I have often wondered whether there were any newsreel cameras filming or a spectator present who remembers the incident. If so I would very much appreciate his or her account of that memorable day's event.

John Briggs, BURNHAM-ON-SEA, Somerset

Please send letters – marked "for publication" – to the editor at the new address on the contents page or to: helen@sandg.dircon.co.uk *Please include your phone number and postal address. The deadline for the next issue is* ***June 11***



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Airworthiness and inspectors

DURING the past couple of years, *writes BGA Chief Technical Officer Jim Hammerton*, a number of changes have taken place to tidy up and improve the way the BGA issues and renews BGA Certificates of Airworthiness (Cs of A) for gliders, and appoints inspectors.

All the changes have been communicated to the inspectors through consultative letters, *Engineering News* and the bi-monthly *Technical News Sheet* (TNS).

For the benefit of those who are not yet fully up to date, and to clarify some misconceptions, the important points are summarised below.

For a glider or self-sustainer sailplane to qualify for a BGA C of A it must:
Be a BGA-approved type; *and*
either be owned by a UK National with a UK address (if the address is not in the UK, the owner may be on short-term overseas contract, member of BFPO, a BGA special project or affiliated overseas gliding club).
or owned by other than a UK National if the glider is a British vintage type that the BGA is assuming some responsibility for continued airworthiness and that cannot gain local type approval.

It is the responsibility of the owner to establish if a BGA C of A is acceptable for operation of the glider outside the UK.

If not a BGA-approved type:
Application should be made to the BGA's Technical Committee, via the Chief Technical Officer (CTO), where any previous certification will be assessed and accepted (in the case of full JAR 22 certification) or an assessment will be made.

The assessment may involve a review of the type record, an engineering evaluation and some form of flight testing. Any expenses incurred during the assessment are the responsibility of the applicant. The UK nationality conditions, as above, apply.

To apply for a new BGA C of A you will need the following documents:

For a new glider:
❑ Certificate of Airworthiness for Export.
❑ Certificate of Non Registration.
❑ Factory weighing report.
❑ C of A report (BGA 267) and C of A fee.
For a used glider:
❑ C of A for Export or current domestic C of A from exporting country or BGA Airworthiness Report (BGA 268).
❑ Certificate of De-registration or Details of de-registration.
❑ Re-weigh on import.
❑ C of A report (BGA 267) and C of A fee.

To apply for a new or renew a BGA C of A the certification must:
❑ Be on a BGA 267 form (either on NCR pad or self-generated).
❑ Be signed by a current BGA inspector with the correct rating for the type of glider. ('GL' for all gliders and sailplanes, 'SS' for self-sustainer sailplanes).

All certifications on gliders with a BGA C of A must be completed by a current BGA inspector. Failure to observe this could invalidate the C of A. The C of A will be issued or renewed for 12 months from the date of the 267 certification. You may ask to see an inspector's Authorisation Certificate to satisfy yourself that he/she is current and has the correct ratings.

To appoint a BGA glider inspector:
❑ An application form (BGA 221) must be completed.
❑ An interview with the CTO will normally be required.
❑ To appoint an inspector outside the UK, the BGA can accept a current equivalent qualification (such as LBA Glider Inspector) as an exemption for the interview, provided the privileges of this qualification meet or exceed the BGA requirement.
Note: BGA inspectors within Europe, except those in former Yugoslavian countries, are covered by the BGA top-up liability insurance.

Glider re-weighing
The BGA Technical Committee requires that all BGA gliders are reweighed at least every eight years. Notwithstanding this; the glider must be reweighed if it has been recovered or repainted, major repairs have been carried out or it is believed that the weight schedule is inaccurate and does not reflect the actual condition of the glider, and weighed on first BGA registration.

BGA Glider Registration
If you sell or purchase a glider, please inform the BGA as soon as possible of the change of owner. This is very important as you could miss out on any important airworthiness information that could affect your safety. The BGA doesn't charge for this. Please don't wait for the next C of A.

BGA 30-day tickets and C of A extensions
30-day tickets are issued on completion of the C of A inspection and allow time for the BGA 267 to be sent to the BGA for processing. The 30-day ticket should be issued at the same time as the BGA 267 is signed. Only one 30-day ticket may be issued.

If for some exceptional reason a second 30-day ticket is needed, due to a delay in processing the paperwork for example, this can only be issued with the express permission of the CTO. Failure to obtain this permission will invalidate the C of A and the inspector's privileges will be suspended pending a Technical Committee decision.

C of A extensions can only be granted with written permission of the CTO. A copy of the written permission is on file at the BGA office. The extensions are normally for a maximum of 30 days to allow for unforeseen circumstances. A BGA inspector must be satisfied that the glider is in an airworthy condition for the extension.

Changes to JAR 22 will double the energy-absorbing capacity of the undercarriage

FOLLOWING on from Tony Segal's article on drop-testing a two-seat glider (*Drop-testing a glider*, April-May 2002, p22), Dipl Ing Helmut Fendt has provided its author with the following information (agreed in November 2001) concerning changes to glider landing gear requirements that will be incorporated into the next amendment to JAR 22. Helmut is the Chairman of the JAR 22 Study Group, and is the official of the LBA (the German equivalent of our Civil Aviation Authority) responsible for certifying gliders, motorgliders, balloons and airships in Germany. He is also a keen aerobatic glider pilot.

1. At design maximum weight, the selected limit vertical inertia load factor at the c.g. of the sailplane may not be less than that which would be obtained when landing with a descent velocity of 1.77m/s (note, this has been increased from 1.5m/s).
2. The landing gear must be able to absorb 1.44 times the energy described in the above paragraph without failure, although it may yield during the test (note, this is a new requirement).
3. At design maximum weight, at a constant rate of descent of 1.77m/s, and with wing lift balancing the weight of the glider, the c.g. acceleration must not exceed 4.5g (note, this has been increased from 4.0g).

The justification for these changes is as follows:

The descent velocity of 1.5m/s has not been changed since the earliest requirements for gliders, although the wing loadings have been raised.

Accident statistics show that approximately 50 per cent of injuries affect the spine. In most typical crash cases the landing gear is the main element to absorb the energy. Improving the energy-absorbing capacity of the landing gear will make a significant contribution to lowering the number of injuries.

Important for safety is the increase in total energy-absorbing capacity, including the undercarriage yielding without collapsing.

The amendments together double the energy-absorbing capacity of the undercarriage

Dr Tony Segal

The cost of aerotows

AEROTOWING should be one of the most profitable activities on a gliding club's trading and profit and loss account. Members are prepared to pay £18-£20 for a launch to 2,000ft and a good operating day can gross a lot of income. Yet many clubs are struggling to break even. So what does a club need to charge to recover the costs of aerotowing? How many tows must each tug aircraft perform per year in order to break even?

Opinions vary from 400 to 1,500 tows per tug per year and many "rules of thumb" have evolved, usually very site-specific and not necessarily applicable across the board.

Some useful information has emerged as a result of many enquiries made in support of applications for grant aid by clubs wishing to buy a tug. I am indebted to the clubs that have provided me with their own detailed records on the subject.

In order to make a reasonable stab at operational costs, which will determine the recovery charges that members have to pay for tows, the costs need to be considered in two groups: variable costs and fixed costs.

Variable costs are easy to work out. They represent consumable items, which are directly proportional to the number of launches (fuel, oil, spares, towropes, etc).

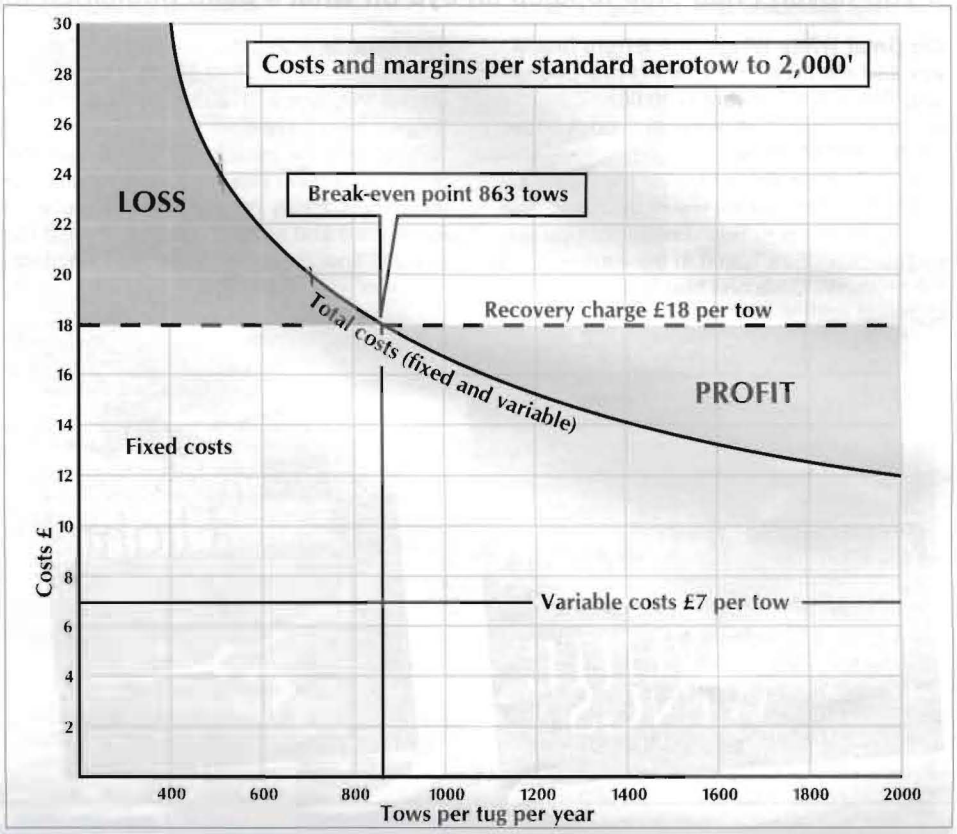
The fixed costs are more difficult to assess. They cover the costs to be borne by the tug aircraft, more or less irrespective of the number of launches it carries out in the year. Fixed costs comprise insurance, repairs, maintenance, C of A charges and most importantly, depreciation. Fixed costs per tug per year are remarkably similar on the club accounts we have investigated. They work out at £8,000-£9,500 and break down roughly as follows:

Insurance	2,000
Depreciation	2,500
Maintenance*	5,000
Fixed costs	9,500

(*includes engine replacement/fabric re-cover, etc)

Fixed costs are always difficult to budget since they are "lumpy" in nature, meaning that they come in large dollops, which are not always predictable. A club might get away with minimal expenses for several years and then suddenly be faced with a bill for £12,000-£15,000 for engine replacement or fabric re-covering or both. It is always prudent, therefore, to put money aside as a "sinking fund" in anticipation of such costs. For that reason, maintenance and engine replacement costs are budgeted at a flat rate of £5,000 a year from Year One.

Variable costs are easier to predict since they are mainly fuel and oil. A standard aerotow to 2,000ft uses about 7 litres of Avgas, which costs about £6. Allow another £1 for all the other bits and the Variable cost per standard 2,000ft aerotow is £7.00. Using that outline information, it is now possible to allocate the costs per standard tow for a wide range of tows per tug per year, as depicted in the above table.



Steve Longland

Above and below: costs and margins per standard aerotow to 2,000ft

Tows per tug per year	400	600	800	1000	2000
Fixed costs @ £9,500 (£)	23.75	15.83	11.87	9.50	4.75
Variable costs (£)	7.00	7.00	7.00	7.00	7.00
Cost per launch (£)	30.75	22.83	18.87	16.50	11.75
Club charge, say (£)	*18.00*	*18.00*	*18.00*	*18.00*	*18.00*
Margin (£)	**(12.75)**	**(4.83)**	**(0.87)**	**1.50**	**6.25**

Interpolation of these figures, as illustrated on the graph, indicates that the break-even point occurs at 863 launches per tug per year, when the fixed costs per tow are £11.00, giving a cost equal to the recovery charge per launch of £18.00, when £7.00 variable costs are added.

Most club operations achieve 1,000-1,500 aerotows per tug per year. Some of the larger, full-time operations achieve up to 2,300 aerotows per tug per year. A profit contribution will be necessary but on the basis of these figures, the clubs performing less than 800 aerotows per tug per year will either have to charge more or lose money while the club performing at 2,000 tows is making a reasonable contribution to profit.

The club providing 1,000 aerotows per tug per year will probably need to increase its charge for a standard aerotow to say, £20.00, in order to make a reasonable contribution to all the other club costs.

These figures are rough and ready and have been deliberately over-simplified. I shall be interested to hear of other clubs' costings, which could then be shared.

Lottery award

East Sussex GC have been awarded a grant from Sport England towards the cost of a tug aircraft to operate from their site at Ringmer.

Child Protection Policies

Just a reminder to those clubs faced with the task of writing a child protection policy. The BGA has a policy, copies of which are available from Leicester. The BGA policy may be used as a basis for the preparation of individual clubs' policies.

Planning permission to aerotow

Bassetlaw District Council has granted temporary planning consent to Dukeries GC for aerotowing at Gamston Aerodrome. The permission, subject to conditions, was granted in response to an application submitted by the BGA development officer.

Roger Coote, BGA Development Officer

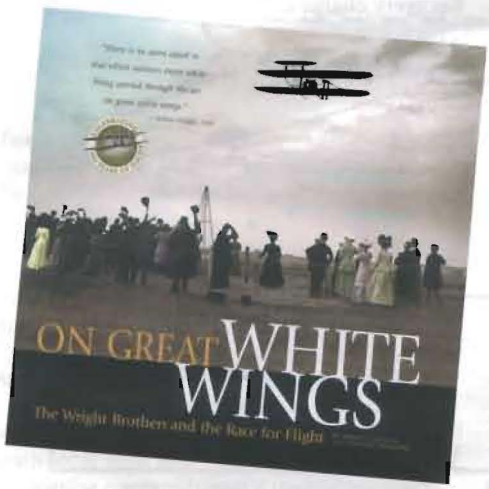
Catch up on your reading

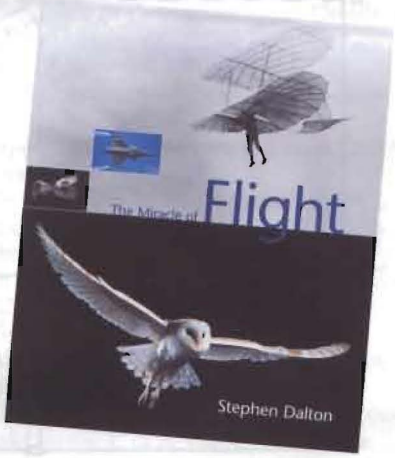
If you haven't had time to keep an eye on what's been published recently, here's a quick overview...

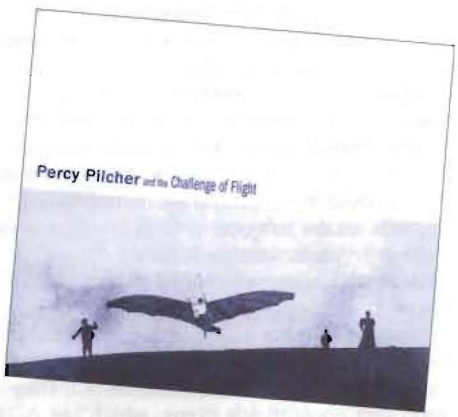
***On Great White Wings: the Wright brothers and the race for flight* – Fred Cullick and Spencer Dunmore (£30.00)**
Airlife Publishing Ltd, *www.airlifebooks.com*
ISBN 1 84037 333 4
THIS well-illustrated book gives the reader a real taste of turn-of-the-century aviation activity. It's likely to herald more publications on the subject, all linked to the anniversary of the brothers' 12-second hop in 1903.

***The Miracle of Flight* – Stephen Dalton (£22.50)**
Merrell Publishers, 01235 465500
ISBN 1 85894 128 8
NEVER mind the miracle of flight: the photos in this book seem little short of miraculous in themselves. It may not be for you if you're into aircraft and nothing else, but if you'd like to know how the rest of the animal kingdom flies, you won't be disappointed.

***Percy Pilcher and the Challenge of Flight* – Philip Jarrett (£4.99)**
National Museums of Scotland Publishing
ISBN 1901663 56 6
THIS 32-page pamphlet was prompted by a date that may mean more to glider pilots: the centenary of Percy Pilcher's death. A good summary of his pioneering work, it might even prompt you to buy the author's definitive 1987 book on the same subject, *Another Icarus*.

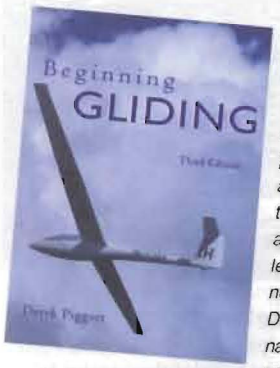






Beginning Gliding

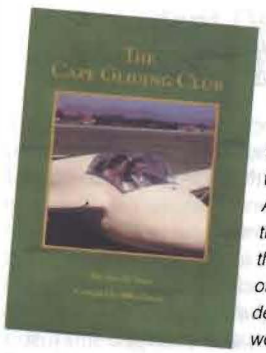
by Derek Piggott
A&C Black (Third Edition, 2000)
ISBN 0 7136 4155 X (£17.00 inc. p&p)
***www.gliding.co.uk* or 0116 253 1051**



In its earlier editions, this classic textbook must have introduced thousands of S&G readers to the pleasures of gliding as well as helping them to navigate around the pitfalls of learning. If you're a newcomer to the sport, Derek Piggott's is the name you will most often see on the spines of the books you buy or borrow. CFI at Lasham from 1953-89, he has written several of the standard reference books. This new edition of Beginning Gliding *includes an additional chapter on thermal soaring.*

The Cape Gliding Club – the first 50 years

by Mike Pascoe, 18 New Way, Pinelands, 7045, South Africa ISBN 0 620 25530 7 (£15 inc. p&p)



If you're asked to think of pre-WW2 gliding clubs, somewhere like Dunstable probably comes to mind. But the Cape GC in South Africa traces its origins that far back, though the focus of this book is on the club's post-war development. It's worth dipping into for the stories alone: I particularly liked the two 13-year-olds who stole the motor Falke – and lived to tell the tale

Aliante Italiani

by Vittorio Panjo
Macchione Editore/*editore@macchione.it*
ISBN 88 8340 045 3 (£19.50 inc. p&p)

This large paperback book sets out to list – in Italian text – sailplanes from that country produced between 1923 and 2000, including the author's own design, the V 1/2. The first section of the book gives the historical perspective while the main part is a listing of sailplanes, with technical data, three-views and some black-and-white photos, too

Time is Money

IT WAS September 1971. I was happily climbing at 500ft per minute over the famous US Air Force Academy chapel in Colorado Springs. The radio crackled. It was Mark Wild, the proprietor of Black Forest Gliderport. "How high are you?" "Er, 14,000 feet." I was about level with Pike's Peak. "Have you got oxygen?" "No." "C'mon down, we have to install a mask for you."

"Damn," I thought. "We'll spend an hour looking in some musty cupboard for the right kit and Lord knows how long it'll be before I get launched again." I was quite wrong. As I rolled to a halt, Mark came sprinting out of the office with a mask under his arm, like a charging football player. The tubes were plugged in, the Schweizer 1-23 was spun round to face the way I had just come and hooked on to the tug; in what seemed like seconds I was airborne again. (At Black Forest you took off down the slope away from the hangar, and landed back up the slope, so that saved turn-round time.)

That was my first encounter with a commercial gliderport. Gliders sitting on the ground earn no bread.

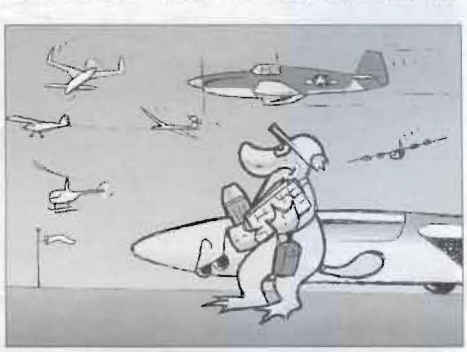
With one exception, every airfield I have flown a glider from in the USA has been the home of a privately-owned gliding business, as distinct from a club owned by its members. The exception was Air Sailing in Nevada, where I landed during the 1995 US Open Nationals; however I was whisked out on an air-retrieve too soon to see whether it was different in any important way from the commercial US operations. All I could say about Air Sailing is that it is not quite so grand as Lasham or St Auban, but then neither is Heathrow.

Opportunity for fun-loving academic

As you all know, clubs are the norm throughout Britain and the Continent, the biggest of them usually owning the land from which they fly.

Some sociologist or economist can doubtless tell me the reason for the difference between the USA and Europe. If not, a young graduate at a forward-thinking university could do a PhD thesis on the topic. You could spend a very pleasant season travelling round America and Europe visiting dozens of sites, learning about how all these outfits survived economically (other than by scrounging money from the government, in the case of the Europeans) and also noting whether they provided accommodation, licensed bars and other amenities. Then as autumn creeps in you could swing through Australia and New Zealand (don't worry, mate, they all have bars, but research them diligently just the same). Finally you write a long monograph full of statistics, graphs and jargon to cover up the fact that you had a whale of a time freeloading your way round the world for a year and getting lots of hours in your logbook. After which you can call yourself "Doctor", which is fine so long as nobody faints in front of you or starts choking to death. By accident you might find what distinguishes money-making gliding operations from money-losing ones, in which case do let the BGA and SSA and the IGC know as soon as possible. They won't thank you but tell them anyway.

Justin Wills's explanation for the difference between the US and Europe is succinct: *"Part of it lies in the comparatively enormous size of the US general aviation movement, and its readiness to share both its airspace and facilities with gliders. General aviation activity is seen as both a recreational and commercial asset to local communities, so airfields are encouraged and often owned by the local municipality and then leased to a commercial FBO (Fixed Base Operator) and structured to encourage all forms of aviation. The FBO then becomes the nucleus to meet any demand for gliding."*



an assortment

That would apply to Minden, where I am writing this. The manager of the airport is appointed by the municipality, who take a lively interest in its development. At every moment there are taking off an assortment of executive jets, vintage Mustangs, gliders on tow from two soaring operations, flying-school Cessna 172s doing touch-and-go, Rutan experimentals, Lockheed Neptune water-bombers, home-builts, helicopters, and millionaires' toys such as Czech fighter-trainers and Hawker Furies practising for the Reno Air Races. No, they don't do any winch-launching here.

Twenty-five metres of crazy paving

American commercial gliding operations subdivide into a) those, like Minden, that share an airport with a bunch of other aviation activities and b) those like Turf in Arizona and Seminole Lake in Florida that are wholly devoted to gliding. It looks a pretty tough existence either way. A friend of mine owned a gliding business in the USA for some years, and emerged still just about sane and not actually bankrupt, which was considered a sort of triumph. But it was a narrow squeak. Marion Barritt writes:

"Although I think of all the great people I met, there were also the ones who landed my ships wheel-up; or landed them out in remote fields and just drove home leaving the glider for me to retrieve; the ones who brought them home in the trailer but forgot to tie down the fuselage and wings so they arrived with a few trailering dings; the (luckily, only one) customer who went home and never paid..."

We know how badly club members treat club equipment – the myth of the indestructibility of club gliders as distinct from private gliders still dies hard – despite the fact that this stuff is their own property. Well, you can imagine how people treat gliders that belong to some other poor schmuck. I saw a newly-refinished Nimbus 3 covered in great gel-coat cracks because some renter had taken it to 30,000-plus feet and suddenly realised he was running out of

hopelessly lost

oxygen; he hauled out the airbrakes and hurtled back down, putting the structure through a temperature change of some 50° Centigrade in minutes. Shooting is too good a fate for such a customer. Sadly, there are limits to what even a Nevada jury would allow as an acceptable use of firearms.

In the Land of Free Enterprise, soaring pilots are indebted to these heroic entrepreneurs, who invest their life savings and toil unbelievable hours with no prospect of getting rich. However, bearing in mind the inherent risks of our sport, it is a sure bet that if they did make any real money, some lawyer would soon find a way of taking it off them.

A Decadent Decade – or the March of Progress?

A tremendous anniversary is upon us. Ten years ago I bought my first GPS, a Garmin 100. With its logger it cost £1,800 in today's money. To show how far we have come, last month I bought, for a tenth of the price and a fifth of the weight, a Garmin Emap with a moving map display, a built-in logger and a database featuring every airport, motorway exit, ski lift, pizza parlour and gent's lavatory from Anchorage to Istanbul.

In 1992 I decided that GPS stood for Gormless Pilot's Salvation, since after 33 years of getting hopelessly lost I now would never do so again. Henceforth I would focus every brain-cell exclusively on seeking out the best thermals in which to climb like a veritable dingbat, and navigating could go hang. Maps were for swatting flies.

A whole generation of glider pilots thought likewise, with variable results. Thus a friend, who shall be nameless, screwed up royally on a goal race to another club by executing a high-speed final glide into an empty meadow, thinking with misplaced and very temporary joy that he alone had completed the task. A single digit of Lat or Long had been mis-keyed – or, since the goal airfield was the Cambridge GC, he had forgotten to tell his GPS whether the goal was a few minutes and seconds East, rather than West, of the Greenwich Meridian – so easy to do. Worse was to come: the entire results of the British Open Class Nationals a few years ago were thrown into chaos by an error in the printed turnpoint coordinates of a little place called Burbage, and prospective champions were dethroned, justly or unjustly according to whoever was buying the current round of drinks.

Dead-reckoning is dead – long live dead-reckoning

Soaring one day over the Australian Outback in the early Nineties I heard the downside of GPS wonderfully demonstrated. Visiting pilots from South-East Asia had rented gliders (from a commercial operation, as it happens) each equipped with GPS. They disappeared over the horizon, enjoying the bountiful Aussie thermals, not to mention the exhilarating awareness of the vast open spaces over which they could roam freely, so unlike their home terrain.

A few hours later, however, there were plaintive calls for help on the radio. The batteries in their GPSes had given up the ghost (clearly the GPSes were not plugged into the gliders' 12-volt system) and they were now utterly lost.

The owner of the gliders was frantic, naturally. The gliders were in little danger of being damaged: over an area the size of France the paddocks were about a mile square and had no standing crop. But it sounded doubtful whether he would get his means of livelihood – his aircraft and his clients' wallets - back on the site within the next couple of days. Taking to the air to

old fogey

maintain radio contact, he kept asking three absolutely correct and logical questions of each pilot:

1) "Where were you just before the GPS stopped working?"
2) "At what time did the GPS stop working?"
3) "In what direction have you been flying since then?"

Armed with these pieces of information he could, in theory, work out where they each were, then ask them to look out for landmarks like towns (rare) or rivers (even rarer) and then shepherd them home before the antipodean night crashed down like a roller blind. Of course they could give him only the haziest answers to each question.

I never did find out what happened in the end: I was too busy thinking "There but for the grace of God go I!" and marking my position on a half-million as I went along. But an obvious lesson, apart from "Make sure the GPS is plumbed into the glider's 12-volt supply, or carry spare AA batteries with you" is that for inexperienced cross-country pilots the constant reliance on GPS will destroy any chance of learning to navigate as one should, namely with a map, a compass, a ruler and a watch.

And if that makes me sound like a harrumphing old fogey, so be it.

mdbird@dircon.co.uk

Lambada

Jochen Ewald tries out a Czech microlight motorglider that's both a tourer and a soarer

TOURING motorgliders give the pilot independent and comparatively cheap flying and soaring. But because production models are designed to do a lot more, like aerotowing, they can be quite expensive. Now the Czech microlight factory Urban Air, at Libchavy, are offering the UFM 13/15 Lambada, a touring motorglider, which can be certified as a microlight.

If it's fun flying you're after, then this is cheaper than conventional tourers and flyable on a microlight licence. The new model is based on the earlier UFM 11. In Germany, import, engine and finish are by Rudi Hackel and Cestmir Sebesta of Fläming Air at Oehna, near Berlin, JAR-certified for aircraft maintenance and repair.

The UFM-11 Lambada with 11.8-metre span and flaperons came with the powerful water-cooled 80 hp Rotax 912 as standard. When Urban decided to develop it into a soarable motorglider with 13-metre span (the UFM 13), he fitted airbrakes to the enlarged wing's upper surface. In the 13-metre version, the Rotax 912 kept the empty weight just within German microlight certification limits. But for the gliding version, with tips bringing the span to 15 metres, this engine was too heavy. Instead they used the 53.6 hp (40 kW) Sauer S1800, a lightweight, VW-based air-cooled four-cylinder boxer engine with single (magneto) ignition circuit. I flew Fläming Air's prototype shortly after delivery and engine installation, so some details were still "experimental".

Urban aircraft's craftsmanship and design is comparable to that of the German manufacturers. Apart from the wing spars of carbon fibre, the Lambada is GRP. Rigging is easy and takes no longer than any modern glider – if the 50 litre fuel tank in the right wing is empty, it can even be rigged by one person.

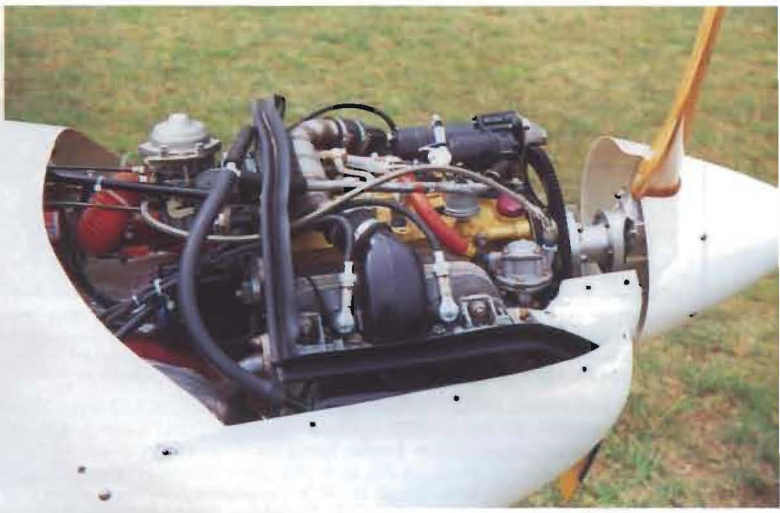
This prototype still weighs 290/295kg (639/650lb) with 13/15-metre span. This means, with the max permitted microlight take-off weight it is payload-restricted to 155-160kg (342/353lb) like many of the old B-Falkes. But the Sauer is not the only engine that will be offered: Rudi Hackel already got one of the brand new Hirth F-30E, a modern 83 hp two-stroke, four-cylinder engine with electronic ignition and fuel management. Using this very light engine, and calculating that for serial production more kilogrammes can be saved, the payload should come into an acceptable range for two people and some fuel. The Czech "Kremen" fixed wooden propeller was fitted when I flew it; better things like feathering props and maybe something folding forwards were planned.

Like most microlights today, this Lambada has a robust tricycle undercarriage; but a taildragger version is also available. Several screws are needed to take the cowling off for the daily engine check. To check the oil, there is a lid in the cowling. The fuel drain valve is within easy reach under the right wing, where the 50-litre (11 Imperial gallon) fuel tank is built in.

In accordance with German microlight certification rules, an aircraft rescue system is fitted behind the cockpit in the fuselage: its rocket would shoot out through a lid of thinner material in the upper surface of the fuselage. The canopy is locked by two levers on the left and right frame, and an additional lock at the rear. It opens at the front, swings upwards and slides backwards, with the rear end held in a guiding rail. The battery is in the fin to compensate for the weight of the engines and the nosewheel.

The wing section used is the SM 701, equipped with flaperons and known for its good performance. Urban has developed a brilliant connection system for the flaps and airbrakes operation: there is just one car-handbrake-type lever in the centre of the cockpit. Completely down, the flaperons are in the 0° position, and the airbrakes locked. Pushing the knob at the tip of the lever in and set it to the first step and the flaperons go down to the +4°, suitable for take-off and thermalling. One stop further and the flaperons go to 6° and the two-bladed Schempp-Hirth airbrakes are unlocked. For further movement, the locking knob needs to be left out: from now on you can move

UFM 13/15 Lambada: cockpit and instrument panel



Above: the Sauer 1.8-litre/54hp engine

both flaperons and airbrakes together, continuously out. With the airbrakes fully out, the flaperons reach 10°. With this system, the loss of lift caused by the Schempp-Hirth airbrakes on the upper surface is compensated by the higher lift of the positive flap setting.

The cockpit is a little awkward to enter and not very wide, the seats are comfortable but close together. Neither seats nor pedals are adjustable. The controls and levers are well positioned, although the fuel cock is hidden underneath the panel, and the rescue system release between the backrests should be within easier reach. The spring trim lever is sited by the left stick and the bicycle-type hydraulic wheelbrake lever is also here. It can be locked by pulling the lever and turning the screw underneath in; not very elegant, but it works. The panel is large. For gliding, the switches can be set so that the radio (and maybe an electric variometer) are working, but no other instruments drain power.

I flew the Lambada solo, trying both the 13- and the 15-metre tips. With a full fuel tank and me, the motorglider weighs about 410kg (904lb), and the centre of gravity is in the middle to rear position. Comfortably strapped in, I can close the canopy without difficulty and lock the three levers.

As usual with the Sauer, the engine starts immediately, but it does not run as smoothly as I was used to from other aircraft. The reason for this would be the very light wooden Kremen two blade propeller – these VW-type boxer engines need a bit of rotating mass to run really smoothly. A week after my flight I phoned Rudi Hackel, and he told me that a Mühlbauer propeller from the Falke had been fitted, reducing vibrations significantly, as expected.

The tricycle undercarriage with the rudder-pedal operated nosewheel allows easy and precise taxying. Although the main undercarriage is equipped with hydraulic disc brakes, the wheelbrake lever by the stick requires quite high forces to hold the aircraft with the engine running full throttle.

Flaps to stop 1, full throttle, and the Lambada accelerates straight ahead and in a stable way. Crosswinds cause no problems. As the undercarriage is relatively far aft, it is better to leave the stick only slightly behind neutral and wait; it leaves the ground smoothly at about 75km/h (40kts), when you need a small amount of left rudder to compensate for torque. Then accelerate to 90km/h (49kts) before climbing. The engine now runs with 2,850rpm, after reaching a safe height I set the flaps to 0 and reduce the throttle to the engine's max rpm of 2700 at 100km/h (54kts). It takes about 5 minutes 20 seconds to climb to 1,000m (3,281ft) AGL. Visibility and ventilation are both good, and the control forces are low. Indeed, if I move the pedals and take my feet off, they remain where they are and do not come back to neutral. For cruising with the fixed propeller, I have to take the throttle far back to keep the rpm needle at 2700. Finally, the ASI shows a speed of nearly 160km/h (86kts). Aileron forces increase noticeably with speed, while elevator and rudder forces remain low. The spring trimmer is effective across the whole speed range.

The Lambada's stalling characteristics seemed docile with either set of tips, and its handling feels well harmonised. Changing the power setting from idle to full throttle trimmed to 110km/h (59kts) results in a slight nose-up motion but after a short time the aircraft climbs with the previous speed again. The trimmed speed also remains constant during changes of the flap/airbrake setting. The controls' effectiveness and harmonisation are also fine: rolling between 30° and 30° bank and back at 90km/h (49kts) with full rudder and aileron causes no sideslipping. The 45° roll-rate at 100km/h (54kts) shows clearly that the wingtips are not equipped with ailerons.

In the 15-metre configuration I measured 4.3 seconds, not too bad, while you might describe the 3.4 seconds of the 13-metre wing as quite nifty.

Even better, the Lambada is fun to soar. Its light weight and short fuselage mean that thermalling in rough air demands more corrections than a normal glider. But the light, responsive controls mean this isn't a problem. And she climbs well: I estimate the performance as something like a K-8, maybe even a bit better with a feathered prop. Compared to the B-Falke, the Lambada is the clear winner! Besides that prop, I would recommend the taildragger if you intend to do much soaring; the price is the same, and without the nosewheel the performance should be even better.

The landing, at an approach speed of 95km/h (51kts), is easy. The airbrakes work well enough; for steep approaches the sideslip is very effective. Fully held off, the Lambada touches the ground softly and soon afterwards nods down on the nosewheel. Crosswinds are again no problem.

On the one hand, the Lambada 13/15 opens up soaring possibilities for the microlight pilot without reducing his touring fun. On the other, it is an interesting alternative for glider pilots wanting to convert to motorgliders. Thanks to its lightweight design and easy rigging, it offers even more freedom than conventional motorgliders. The 13-metre Lambada is nicely soarable and, with the Rotax 912 and variable-pitch prop, might be first choice for pilots who prefer fast touring, but soar if the weather is fine. For pilots primarily interested in soaring, I'd recommend the 15-metre taildragger, and of course, a feathering prop. Just one handicap remains: the relatively low payload. To improve this, Fläming Air has already got a new engine: the 83 hp Göbler-Hirth F-30E 2-stroke 4-cylinder with reduction gear and exhaust system is expected to come in at about 60kg (132lb). I have tried this engine on another microlight and was impressed. The basic price for the Lambada 13/15 with fixed prop is about 55,000 Euros – normal for modern microlights, but much less cash than the cheapest touring motorgliders offered today by the factories.

Text and photos: Jochen Ewald

http://aeroklubuo.macroware.cz/Lambadaen.html

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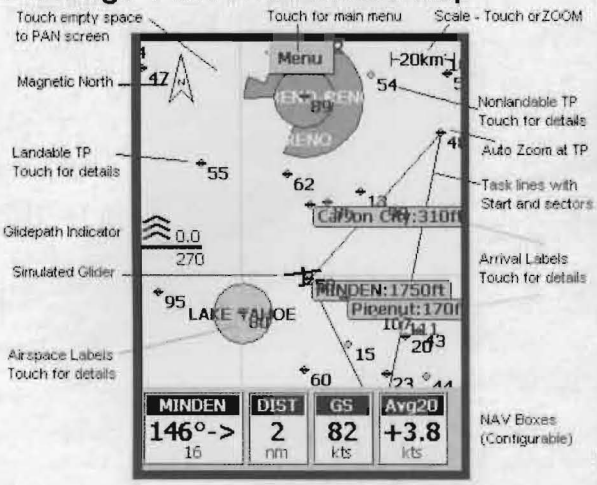

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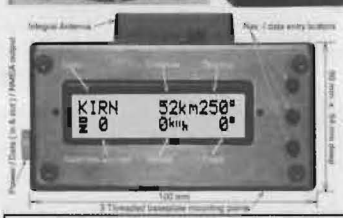

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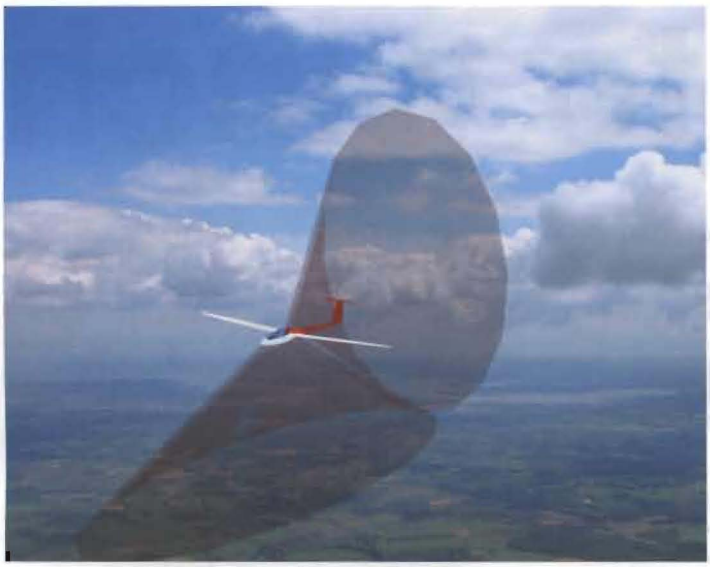
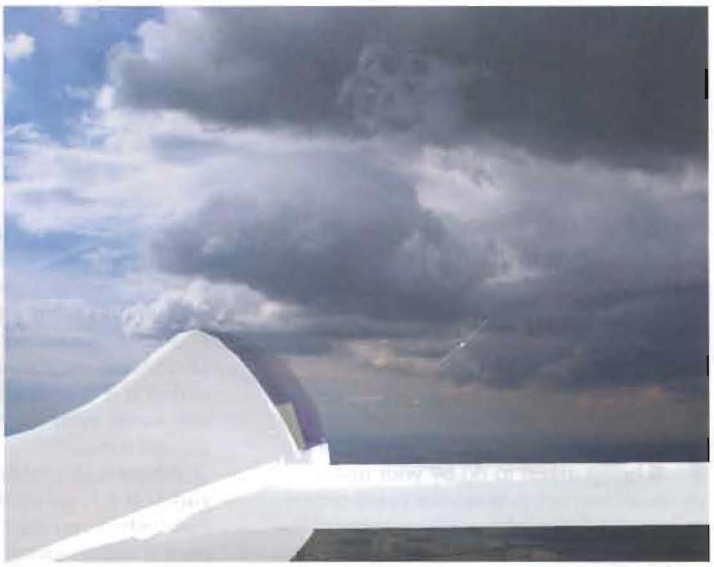
How to join thermals

National Coach Simon Adlard explains why and how to get your thermal entry right





Above: be aware of these two blind spots for the glider pilot. Left: Neil Lawson and (front) Al Greensmith in Lasham's Grob Twin Acro III (the **White Planes** *picture co.)*

Note the position of the thermalling glider's tail against a point on the horizon; this should be the extent of its turn (all diagrams by Simon Adlard)

FOR SOME years now, soaring pilots have found it beneficial to fly in pairs, and the recent results of our gliding teams have proved this to be a highly effective tactic. There are several reasons for this, one of which is the fact that two gliders flying in a co-operative manner will almost always centre a thermal faster and subsequently outclimb an individual.

Gliding, as a sport, offers us the chance to vent our competitive nature. Unfortunately, this often comes out in a thermal where two pilots have their own idea of where the core is and how to centre it in an attempt to outclimb the other. This in itself is not a bad thing – except that both gliders tend to get in each other's way, and so the overall climb rate deteriorates to below what would have been expected if either pilot had been alone.

As well as this, the risk of collision may become unacceptably high if the climb is conducted without regard for the other pilot.

This series of articles is intended to look at how we can maximise our climb rate by using other gliders while still minimising the risk of a mid-air collision. In order to do this, we need to obey a few basic rules (*see box, below*) and make some initial assumptions.

If we are going to be seen by the other glider and keep the other glider in sight, we must first understand the blind spots that gliders have and – more importantly – the situations that might lead to both gliders being in each other's blind spots.

Before we consider sharing a thermal we will have to think about how we are going to join a thermalling glider. This is where we will need to make certain assumptions.

The first assumption is that the circling glider has found a good climb and is already centred on it. This means that no time will be wasted trying to centre the thermal once we join. In order for this to work it is vital that the other pilot stays in the core and can concentrate on centring it without having to worry about avoiding you.

If we join the thermal in such a manner as to alarm the other pilot then they may move their turn to give them greater separation or comfort; this means that they lose the thermal core and you have to waste time recentring the thermal. In other words: you've blown it.

Apart from the obvious disadvantages of a lower overall climb rate, the consequences of joining a thermal badly can be that we conflict with the other glider, increasing the risk of collision. Remember rule 1.

This risk can once again be minimised by a few basic rules (*see box, top right*).

The perfect join is one that places you exactly opposite the other glider, sufficiently far away so that you can remain opposite them with a comfortable angle of bank and speed (*see diagram, above right*). Before we can do this we must first assess the extremities of the other glider's turn. This is easy to do but rarely explained. Simply watch the other glider's turn until you can see it rear-end on, then mark a point on the horizon, which will then mark the boundary of its turn. Provided we fly towards this point we will end up intercepting their turn at a tangent (assuming they don't alter their turn).

If it looks likely there will be no conflict then continue on into the turn (*see opposite, left*) keeping the other glider opposite you.

This method of joining another glider sounds simple enough but is in fact rather difficult to do, and the chances of entering the thermal when the other glider is not opposite you are high. If this looks like the case then we will need to enter the thermal in a spiral fashion (*see opposite right*).

The first thing we need to do is to reassure the other pilot that we have seen him and are doing something about it: remember, it is important to us that he remains in the thermal core. The best way to do this is while we are flying towards the thermal and the other pilot is in a position to see us, we should positively turn away from them so as to position our glider some way outside their turn. Exactly how far away you place yourself is up to you, however, put yourself in the other pilot's frame of mind and decide how close you would want somebody else to you. As you now fly around the outside of their thermal you will eventually find yourself opposite them, at this point move in closer until you can hold position with a comfortable angle of bank and speed.

Next issue: thermalling together

The rules (1)

Assume that the other pilot has not seen you and that – even if they have – they will manoeuvre towards you

An aircraft that remains stationary in the canopy and is growing larger *IS* going to hit you

Always keep gliders in the near area in view and make sure they can see you

The rules (2)

The first glider has right of way

Join the thermal so that you turn in the same direction

Join in such a manner that the other glider does not have to manoeuvre in order to avoid you

If there is more than one glider and they are thermalling in different directions then turn in the same direction as the one closest to your height

Do not pull up in front of another glider

The way to winch

Bob Pettifer takes a look at the basics of winching in the first of a series for anyone who's learning new skills or keeping existing ones up to scratch

HAVE YOU ever had that feeling that you are not quite sure what you are being asked to do by your instructor, or, as an instructor, that your pupil seems to be a madman who can't understand the simplest instructions? These things are inevitable, and most probably due to a lack of communication.

So, with some trepidation, *Coaching Corner* is an attempt to try to bridge the communication gap, fill in some of the details, and explain the reasons behind some of the basic flying exercises. It will not be an A to Z of flying training but will pick out some of the things that are causing problems round the country.

The winch launch

The most difficult part of the winch launch seems to be the ground roll and initial climb. They can be simplicity itself if a few basic facts are understood and implemented.

After carrying out the standard cockpit check CBSIFTCB – paying particular attention to T (trim) so that the aircraft is properly trimmed to the landing speed, not just pushed forward to between neutral and fully forward – we are ready for the most important part, E, for eventualities (Engage Brain). This is the point at which you can remove some of the difficulty of the launch and subsequent circuit. To avoid dropping a wing and cartwheeling during the ground run, check the following:

- ❑ Wind direction and strength. A crosswind will encourage a swing into wind (Figure 1). When the wind is strong you will encounter a significant wind gradient on take-off and landing.
- ❑ Where is the cable attachment on the glider? If it is to one side the glider will swing away from that side on the ground run.
- ❑ Where is the cable lying in relation to the glider? If it is off significantly to one side then, when you start accelerating, you will have a violent swing towards it.
- ❑ Which wing is being held? There is a possibility that it could be held back, also causing a swing to that side.

Assess whether these factors cancel each other out or not. If you think you are going to have a problem, don't launch until something is done about it. For example, ask for the cable to be pulled across, or change the wingtip being held etc.

If you are in a two-seater ask the instructor for advice. (Instructors – lead by safe example, rather than: "we'll probably get away with it". Remember that if you say it's OK, then you've made yourself responsible if the launch goes wrong).

Having minimised the chance of swing on take-off, we need to turn our attention to the launch failure; which can happen on the best of equipment, even if the probability is low. Again, wind direction and strength, and obstacles, will need assessment in order to determine which way you will turn if you can't land safely ahead.

Traffic in the circuit should be noted, both for the direction to turn at the top of the launch, or if the launch fails and a truncated circuit is necessary. "Think ahead" is a good philosophy to cultivate.

Ground run and initial climb

Now the cable can be accepted and the launch started. Left hand ready to release immediately if you get a wing drop on the ground run. The stick position should be neutral or slightly forward of centre (the actual amount depends on the aircraft you are flying. It will only take a couple of launches to find out).

As speed increases keep straight with rudder, and keep wings level with aileron. Be prepared to use coarse deflections if necessary. Wait for the speed to increase (how long you have to wait will vary with the power of the winch and the wind strength). If the trim position is correct (set for approach speed) then a combination of that and the cable/hook couple will rotate the glider (Figure 2) to the climb angle suited to the speed, but be warned that this doesn't work with all gliders. Above about 100ft a smooth transition can be made to a steeper climb if that is necessary, looking out to the side to assess the angle.

Now where can this go wrong?

If the wind speed is low and acceleration poor, the ground run will be long, so it is easy to think you are doing something wrong and that the glider "ought to have taken off". Resist the temptation to pull the stick back and pull the aircraft off the ground early (Figure 3A).

A steep climb angle with low speed will result in an irrecoverable stall or spin. If the speed is OK and you then pull up immediately into a very steep climb, you can still stall or spin, or the cable will break. It is possible to stall and have a cable break simultaneously, but normally one or the other happens, depending on circumstances.

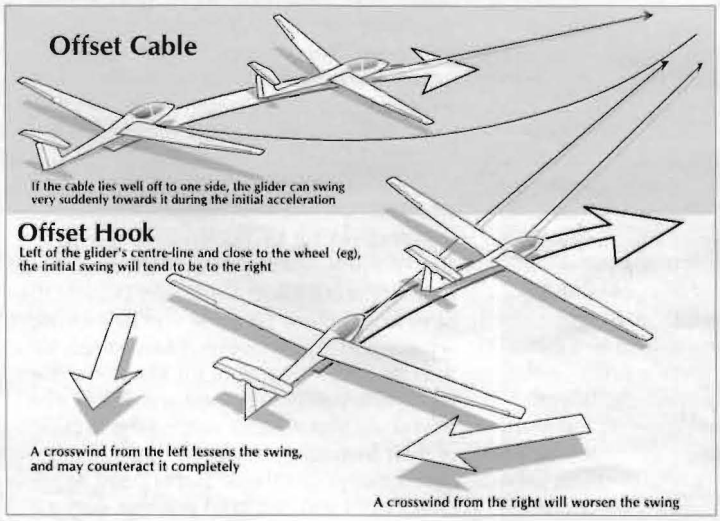
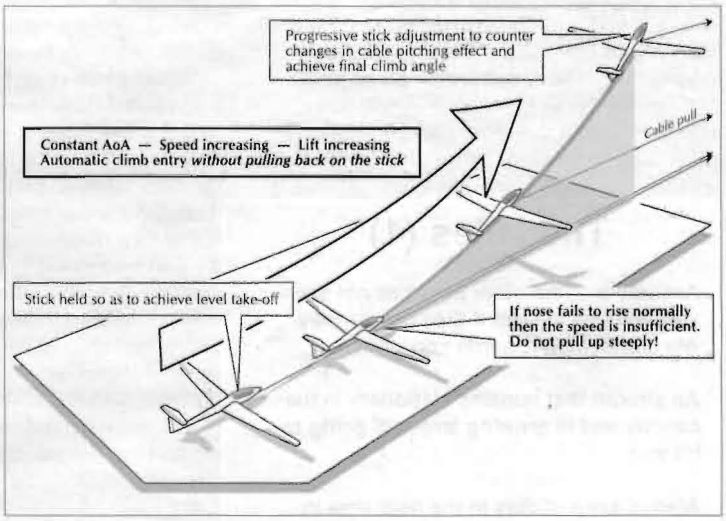


Figure 1: take-off swing



(all diagrams: Steve Longland)

Figure 2: perfect rotation on a winch launch

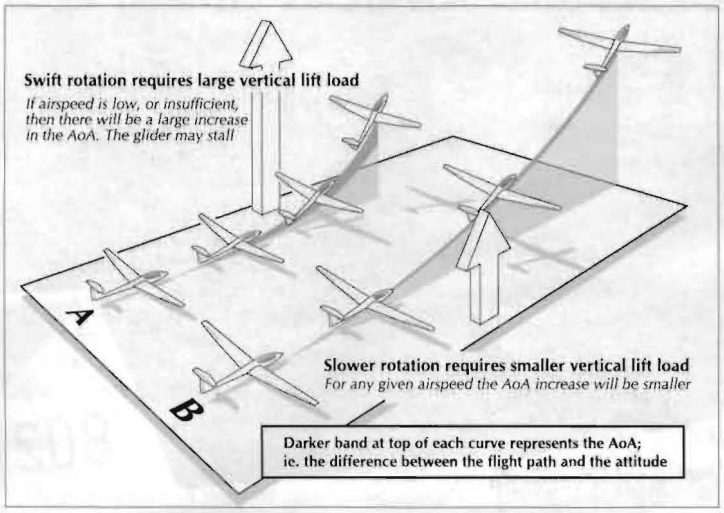


Figure 3: over-rotation (A) and correction rotation (B) into the climb

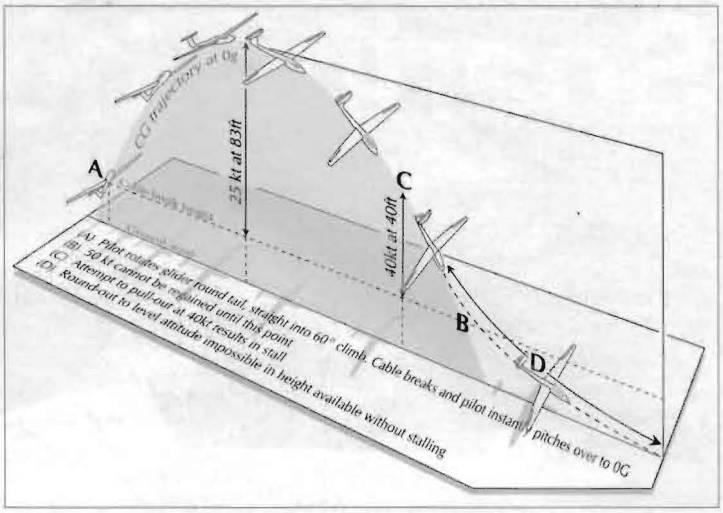


Figure 4: non-recoverable cable break

If you think you can pull up steeply at a higher speed and be safe, think again (see Figure 4). Say that you have a break at 50ft and 50kts, with the nose well up. Even if you follow the zero G ballistic curve – this is the same 'flight path' as the one taken by a stone thrown at the same speed and angle – you will only regain the initial 50kts at 50ft after the push-over, but then be unable to apply sufficient g to round-out without stalling or spinning.

If you take into account the delay in taking action at the point where the cable breaks (the speed will be reducing at about 20kts per second) aerodynamic drag will reduce the height gain, and a wind gradient will either reduce or prevent any speed increase on the way down.

In practical terms this makes a break during a steep climb at say, 60kts, and below 100ft, irrecoverable. (If, as an instructor, you teach inexperienced pilots to do this you are putting them at risk).

In strong winds a high climb rate can be achieved with a sensible climb attitude. It is a steep attitude that gives the problem.

Good winch driving can also help prevent excessive speeds at sensible climb angles.

If you think the probability of an accident is low, we have had five accidents in the last 12 months resulting in fatalities and serious injury.

Full climb and release

The main part of the climb is governed by the power of the winch and the minimum and maximum speeds. As the load on the glider increases, so does the minimum speed required.

Generally, the correct weak link is set to break at twice the glider's all-up weight, which means that initially the stalling speed can increase to 1.42 times the normal 1g value (the square root of 2 x V_S, where V_S is the unaccelerated stalling speed) before the weak link breaks.

For a K-13 this would increase the stalling speed to just below 50kts, so the minimum speed during the first part of the launch – if you unadvisedly had the stick well back or even on the back stop – would be 50kts.

The minimum speed is normally based on 1.5 x V_S as this is both easier to work out (V_S+50%) and provides a small extra margin – in this case 53kt rather than 50kt. The loading can increase towards the top of the launch, and if the stick is on the back stop, the stalling speed can increase to the square root of 3 x V_S, which for a K-13 would be 60kts!

In some gliders the square root of 3 x V_S can be higher than the max permitted winch speed, as defined by the manufacturer and stated on the placard.

In terms of stalling and spinning, the most critical area, largely due to the proximity of the ground, is the initial rotation and climb. Care has to be taken not to climb too steeply.

'If you think the probability of an accident is low, we have had five accidents in the last 12 months, resulting in fatalities and serious injury'

At the top of the launch one of three things will occur:

- The cable will automatically back-release under load. This is not recommended – the action is to treat this as a cable break and lower the nose to the recovery attitude and as speed increases return to the normal gliding angle.
- As the nose is pulled down the back-pressure on the stick is reduced and the pilot releases the cable. As before, lower the nose and resume the normal gliding attitude.
- The winch driver will cut the power, and as the nose is lowered the cable will be released by the pilot, or automatically back-release. Again resume the normal gliding attitude.

If at the top of the climb a slow rocking of the wings is noticed, then the aircraft will be close to stalling or spinning. A departure into a spin or stall during any part of the climb may be sudden and violent since it is an accelerated flight situation where some stall warning symptoms are less noticeable.

Launch failures

The only thing I am going to say about launch failures is confined to regaining speed and taking sensible recovery action. The details of what to do next vary from site to site.

If the speed is dropping towards the minimum safe speed, then reduce the climb angle. If the speed does not increase, release the cable and lower the nose to the recovery attitude. When the required speed is reached, land ahead if it is safe to do so, or take the appropriate alternative action.

If the speed is too fast (but not excessively so), check the climb attitude. If the angle is too shallow and the glider is at a safe height, then the climb should be steepened gently to the correct angle, but no further. If the speed continues to increase, the glider should be yawed left and right with the wings level. If the speed is still too high, wait until you have reached a safe altitude, release under tension, pause briefly – to allow the cable parachute, if there is one, to deploy and fall below the glider – and then lower the nose. An immediate push-over after the break in this scenario could fly you under the parachute and into the cable. Wait for the speed to stabilise, and carry out the necessary actions to make a safe landing.

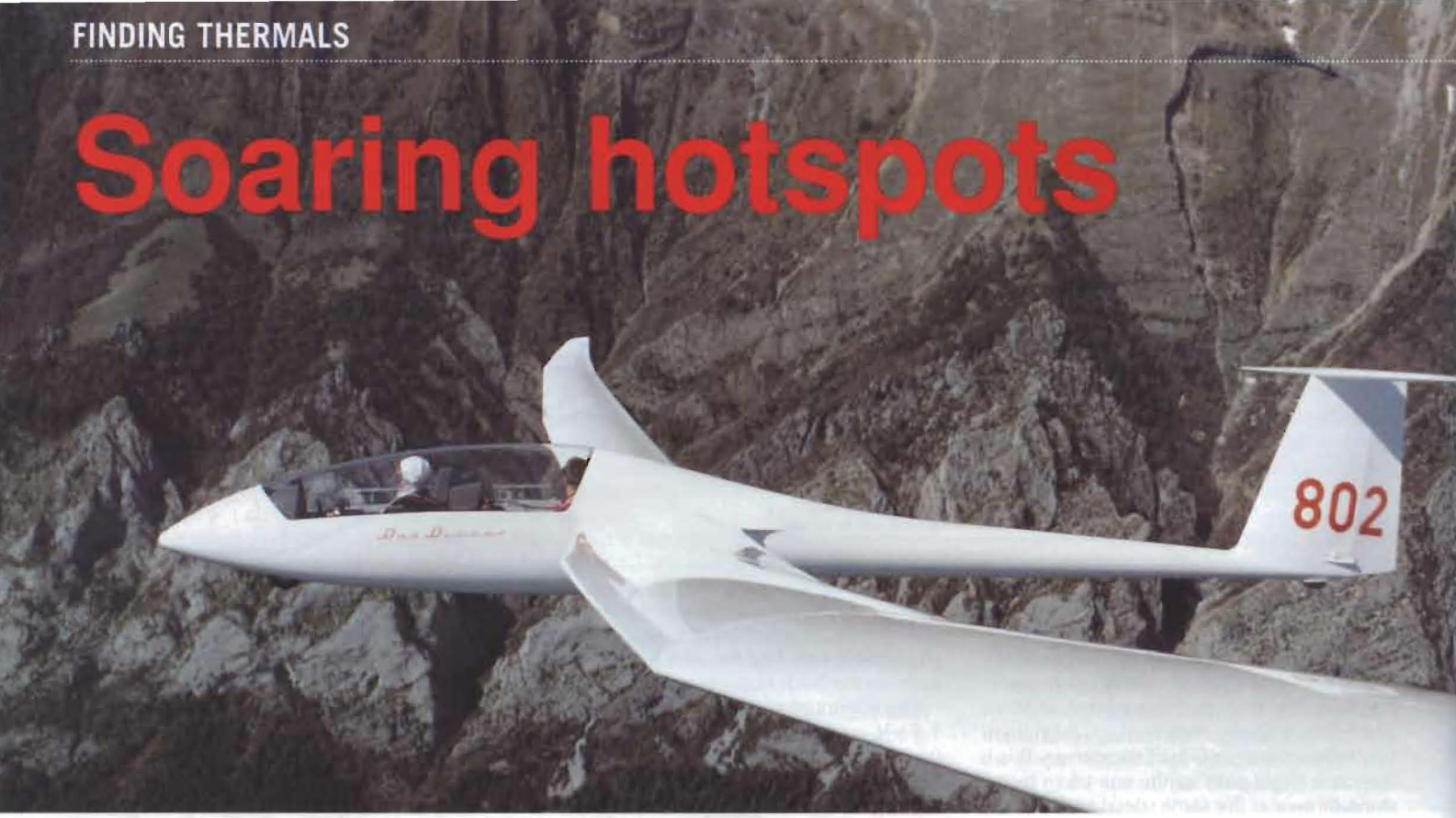
If the cable breaks, lower the nose to the recovery attitude. The steeper and slower the climb the more rapidly the nose needs to be lowered to the recovery attitude. Wait for the speed to increase to the approach speed then manoeuvre the glider as appropriate.

Conclusion

I hope this helps to understand the winch launch more fully but I cannot guarantee that what I meant to say is what you read. Please ask for clarification if you don't understand.

Bob, from Bowland Forest GC, chairs the BGA Instructors' Committee

Soaring hotspots



A web-based map that shows you where to find thermals? *S&G* investigates

IF YOU'RE a fan of gliding simulators, you've probably found the button that makes the sky display thermal indicators – handy when you've made a complete pig's ear of your flight. So far, the real world has failed to provide a similar service (variously seen as either the future of soaring or the death of it). But now an American website is offering the next best thing: a map of thermal "hotspots", based on GPS data logged on real cross-country flights.

The Soaring HotSpots Project is a website that allows glider pilots from 11 States in North America to share information about where they found lift. All they need to take part is an inexpensive GPS unit. They collect information while flying then upload it to *www.regnoc.com/hotspot* The locations where they thermalled are plotted on contour maps and show up as lines. Each new set of GPS data is added to the last, so that areas where many people found lift end up strongly highlighted.

This new venture is the brainchild of Jim Conger, a computer company owner, who returned to gliding in 2001 after a long gap caused by job and family, and is just starting to fly cross-country again. Here Jim answers *S&G*'s questions about the site.

What gave you the idea for the website?
It was driven by selfish self-interest. I wanted to know where the best places to look for lift were located. It worked!

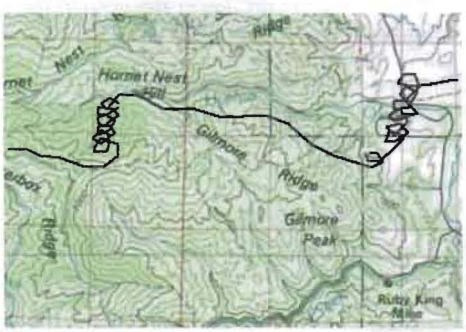
How has it developed so far?
The website (*www.regnoc.com/hotspot*) took about two months to get started, using space and internet services provided by a software company (which I happen to own) to keep the costs down. Since October 2001, 107 pilots have made contributions, adding up to 918 flights. About half of these have been direct uploads to site; the others were files collected by fellow-pilot Carl Herold for cross-country seminars and other projects. Most flights submitted are well over 300km. Wave flights are typically not useful because the algorithm used to detect "hot spots" does not recognise wave lift. The geographical area covered is the western US, and most of the soaring is in desert and mountain conditions. We think of it as thermal soaring, but the topography strongly influences where the lift is located, so there is a bit of "ridge" in there too.

At this point we have almost too much data around major gliderports (Minden is obliterated by thermals!) but want to expand coverage into areas where fewer people have flown and where knowledge of likely hotspots will help more pilots get into the area. Expanding the Nevada Great Basin, Southern California, and US North West are high on the list.

The hardest part of managing the site is getting access to good topographical maps that are not copyrighted. Most of the maps currently displayed are outdated US Geographical Survey maps. We have just had a breakthrough in that the good people from SeeYou software have allowed us to use maps generated by their software, which is ideal for our purposes.

What about the areas you don't cover?
I think the project has gone very well so far, but I can already see that one site cannot realistically cover the world. There are just too many maps to maintain and other maintenance issues that get hard to manage above about 200 maps.

I'm hoping other people will take the tools and build similar sites covering the areas where they fly.



Above: actual recorded ground track, showing circles

Above: the plotted HotSpots as seen on the web maps

Data shows that the steeper the slope, the more likely it is to be a hotspot (Duo Discus/Richard Hinley)

Have you done any data analysis yet?
This is where we hope to take the project in 2002. So far analysis has been limited to just looking at the data. It is clear that lift is strongly influenced by the terrain, and that the steeper the slope, the more likely it is to be a hotspot. We have several excellent meteorologists in the area, who are building daily computer maps of the expected lift conditions over the areas we fly. Another idea is to use the HotSpot data as real-world calibration to fine-tune lift and convergence predictions for the area. You can think of every flight you take as an atmospheric data collection exercise!

Sorting the lift by time of day would be interesting, particularly to locate morning thermals near the take-off points and "get home" thermals in the late afternoon.

Correlating our data with major weather patterns was suggested by several people: which areas work best when the wind is from a particular direction, or when a high pressure area is located near Y?

Finally, three-dimensional maps of the terrain could be used to do proper scientific correlations between the terrain features and the hotspots. High-resolution maps have just been released into the public domain – but it is a lot of data to crunch!

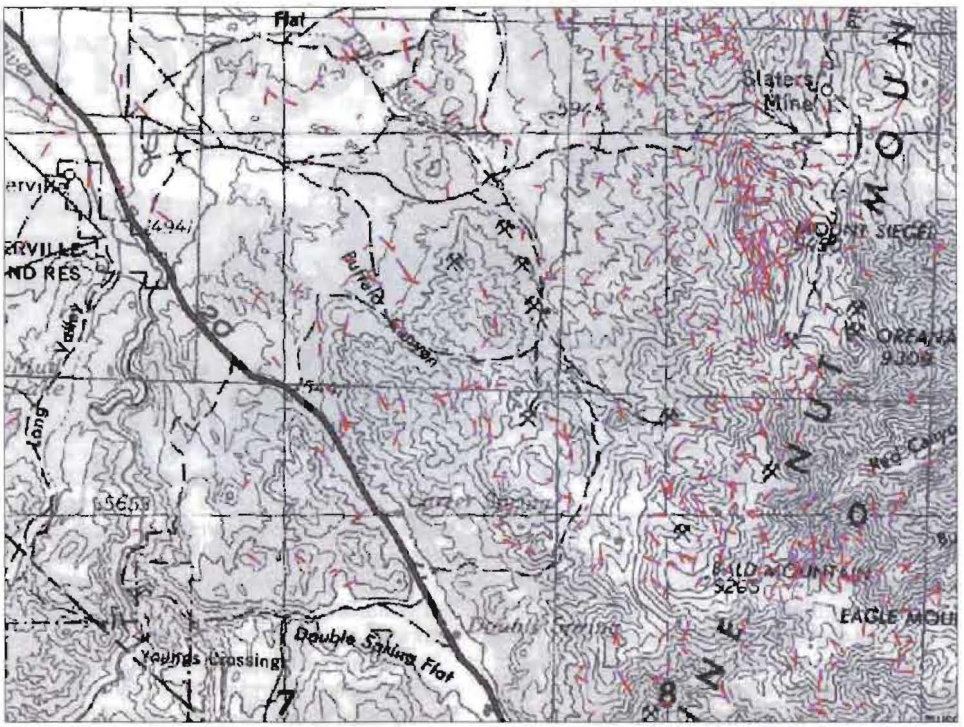
What exactly is recorded as a HotSpot?
I've ended up with two levels of submission. Hand-held GPS units do not store the altitude data, so the X,Y location of the thermal is recorded/plotted, but no altitude is recorded. I've just started recording the altitude of the start and end of the thermal when an IGC file is submitted. These files have altitude data, although it is fairly noisy due to limitations in the GPS system itself.

What shows up on the HotSpot maps are the start and end points of a location where the glider was moving, but stayed within a narrow area. The only way to do this is to circle, so you are looking a location where the glider circled for periods of over two minutes. We just record the start and end points of the thermal, and a magenta line connecting the two points is what shows up on the website plots.

Broad areas of lift where the glider may have climbed in straight flight will be missed. If the pilot circles for more than two minutes in sink, that will show up too (although they will probably find themselves on the ground before two minutes are up!)

The actual data for all of the thermals is available as a download. It is already over 10,000 data points (thermals), so people will need to contact me if they want to get the whole file. The file has latitude, longitude, and date/time of the start/end points of the thermal. Soon it will have the altitude, but this will not show up when plotted.

How can you check the data is real?
I'm not too worried about someone sending me a "fake" GPS track. Everyone's thermal data is merged, so there is no gratification in submitting a particularly good trace. Also, the algorithm used to pull the thermals out of the data has been tuned to be very picky. Data on tow, during straight flight, and on the ground, is quickly rejected.



Above: the area south-east of Minden. Magenta lines show house thermals and a few more remote areas of lift

How do you hope pilots will benefit?
I hope it will encourage people to fly in new locations. Each pilot who ventures out and then contributes the GPS file to HotSpots is paving a new bit of path for the next person. It is a bit like playing leapfrog.

What comments have you had?
I've had a lot of support from the pilots in the area, and a lot of good ideas about where to go next with the project. The main comment I get is that people wish there were more data in certain areas. I know a good way to fix that!

Are there any safety implications – an increased risk of collisions, perhaps?
I think we have that problem with or without the HotSpots data. The worst case I know of is along the western slope of the White Mountains (California/Nevada). The thermals tend to be strongest in a narrow north/south band, which draws all the glider traffic into the same zone. We have had a number of near-misses, where gliders are closing head-on at speeds over 250kts. A radio procedure ("alpha") has been initiated using 123.5mHz and six positions along the mountains so pilots can make each other aware of their position and establish separation approaching the same area.

On the plus side, flying with a GPS allows you to be very precise when communicating with other traffic about where you are located and your exact heading. I hope we can change glider pilots' behaviour to be less "chatty" and use their radio time in clear messages that help us avoid collisions.

Using transponders is also becoming a necessity in areas where we fly through approach patterns to major airports. I'm having a transponder installed in my glider this month. From my recent power training I found that it takes a fair amount of instruction to use a transponder well. I think we will need to add this to training programs at gliderports. Communicating with air traffic control is pretty intimidating for most glider pilots, but we are going to need to be good at this too.

Do you use HotSpots yourself?
I contribute all of my cross-country flights to the site. I use the HotSpot maps when planning long flights to try to align my course with the areas where lift is most often found. The combination of the HotSpots data and the SeeYou software works well when planning a long flight.

Of course, once you get in the air the lift is wherever you find it, not necessarily where the most people found lift before. We had a good example of this last Sunday where the statistically "dead" central California valley was providing much stronger thermals than the normally "hot" mountains. Too bad it took me two hours to figure this out!

Jim Conger, president of Regnoc Software Inc, started flying gliders in 1980 and got his Gold Badge in 1982. Children and job moves kept him out of the sport for many years. He has a Mini Nimbus, and flies mainly out of Northern California and Nevada. He has also just qualified as a power pilot

That was the worst moment

Dave Shorter recalls his terrible realisation that trees and gliders don't mix – as his sailplane headed straight for the forest

MY WORST nightmare was rapidly unfolding before my eyes. My glider was perilously close to the trees and sinking fast. My nose was down and I was heading straight for the trees! I hauled back on the stick – no response. The awful realisation hit me – stalled and no height to recover.

At last, the glider responded and I pulled the nose up level, but treetops were all around me now, at eye level. I attempted to pull up over the crown of the big tree dead ahead but the glider wouldn't respond.

Incredulous, I watched with horror as my right wing cut into the treetops.

Unable to exercise any further control, a strange detached curiosity took over: "what happens now?" flashed through my mind. Everything blurred – I guess my eyes were closed – but I vividly recall the hollow clunking sounds of wings hitting branches and the wild jumbled shaking of the cockpit around me. And then all was still.

I looked around and there I was, still in one piece; I seemed to be uninjured, and I was sitting in the glider, level and stationary and precariously balanced in the top of the forest canopy!

How did this sorry situation come about?

It's a story I'm not particularly proud to relate, as clearly it resulted from some grave errors of judgment in a set of circumstances that proved very tricky. I've learned some very hard lessons. Other pilots may benefit from my experience.

The flying camp

A group of us were having a week's soaring around Mt Kaputar in Australia, operating from John and Barbara Michell's farm, Castletop, on the Narrabri/Bingara Road nestled in a beautiful valley between the peaks. The Michells made their airstrip available to us, slashed safety runways for emergencies, and made us very comfortable in the shearers' quarters. We'd enjoyed their wonderful country hospitality and flown many stimulating hours here last year and were back for more.

Mt Kaputar at 5,423ft is the highest point of the Nandawar Ranges, which are the eroded remnants of past volcanic activity. Most of the mountainous country is now preserved as a wilderness area – the Mt Kaputar National Park. Rock formations and eroded valleys provide some of the most stunning aerial vistas, with wave-shaped cliffs, peaks like coronets, giant rounded rock platforms, cliffs of crystalline-shaped rock, deep gorges and, on top of one mountain, a group of pinnacles standing like a congregation of mourners at a funeral.

The north end of the ridge in Mt Kaputar National Park (a wilderness area in Australia) that Dave was soaring

During summer the Nandewar Ranges produce good lift and we often fly over Mt Kaputar on cross-country tasks from Lake Keepit, as high as possible and flat out, with little time to revel in the scenery. Flying from the Castletop airstrip, we were near at hand and could safely spend time exploring the rock outcrops and nearby valleys and peaks. In August, with prevailing winds from the west, there are good opportunities to soar ridge lift and even fly in wave. We'd had all of this the previous year and we were looking forward to more.

The launch

I launched on Tuesday at 12.45pm from Castletop (1,500ft QNH) into a 5-10kt westerly in my beloved DG-202, hoping for some interesting lift off the north-south ridge five kilometres ahead. Before launch I'd been discussing local knowledge with John Michell, the property owner, and days he'd spent in past years soaring the full length of that ridge in good westerly conditions. I'd also had one day myself last year where I'd found the cliffs on the north end of that ridge working, although then I'd been unable to climb much above cliff-top level. Today prospects for the ridge looked good.

I released into a non-existent thermal and scratched for a while, finally climbing near the airstrip to around 3,500ft QNH, then pushed west upwind through buoyant air to Killarney Gap where the Narrabri Road crosses the range, arriving at around 3,200ft.

The ridge

Killarney Gap (2,300ft) is the low point in the north-south ridge. The gap extends north about one-and-a-half kilometres to a bluff, Camelback (3,200ft), where westward-facing cliffs of the ridge proper start. The ridgeline gradually inclines upward for two kilometres to the northernmost high point of the ridge (3,500ft).

The ridge stands above a deep, thickly-forested valley that drains to the south-west, providing an escape route to the farming plains out from Narrabri. I'd marked a new agricultural strip just five kilometres south-west of Camelback, which was very handy. West-facing cliffs run along the ridge from Camelback for about three-quarters of the length of the ridge, washing out to a steep slope into the valley towards the top (north) end.

At the north-west end of the valley, about 500m across the valley from the ridge, Gins Mountain rises from the valley floor: a steep rock cliff face to 3,700ft. The northern end of the valley is in the lee of the mountain when the wind is from the west/north-west – something I gave insufficient thought to before joining the ridge.

Flying the ridge

From above Killarney Gap I turned north to look for lift along the cliffs. In light westerly conditions last year this strategy had worked and I'd flown some very enjoyable beats along these cliffs in weak ridge lift. Today the wind was stronger and I hoped to gain height on the ridge and perhaps find a thermal triggered by the cliffs.

Sure enough, alongside Camelback and approximately two-thirds up the cliff, I contacted lift and continued along the cliffs, climbing strongly. Wary of the restricted space for turning between Gins Mountain and me, I turned back after progressing about halfway along the length of the ridge. From a few thousand feet above Ian McPhee and Terry Harrison, circling in the Bergfalke, watched my progress below from the shadows on the cliff face.

I'd climbed above ridge height by the time I made this first turn. I was conscious of losing a lot of height in the turn and was maybe 100ft below the cliff when I rejoined the ridge – it's possible I'd had to lower my nose through the turn. When you're up high the loss of height is not noticeable, but when measured against a ground object there's a stark contrast. I thought no more of the height loss as it was quickly recovered in the lift along the cliffs and when reaching the bottom of the southward run was approximately 100-200ft above Camelback at 3,400ft, a net gain of 2-300ft for the return circuit.

Turning for a second beat north I quickly regained height and climbed above and over the ridge to stay in the best lift. I must have had some hundreds of feet clearance over the ridge. Watching the ground shadow, Ian Mcphee overhead remarked to Terry: "look, he's climbed up above the ridge now."

With the extra height I felt confident to continue further north this time before deciding to turn out again. The lift continued buoyant, I had room out both sides, and I had more room to turn inside Gins Mountain. I don't recall looking at my ASI, but the glider "felt" good and I would have

expected my speed to be around 48-50kts. I believe I was flying on a 0° flap setting.

I flew beyond the end of the cliffs to where the steep-sided valley merged with the top of the ridge. The lift tapered off so I made a normal turn to the left away from the ridge. I recall nothing unusual: no wing drop, my vents were closed and I noticed no noise change, and control response was okay – but I did lower the nose, so my airspeed must have been marginal.

I was probably looking back over my shoulder to the ridge behind as I turned because I got a horrible surprise when I glanced ahead again to see how suddenly things had turned bad. The glider was low and heading straight into the trees. I had the most awful feeling in the pit of my stomach as the realisation hit me that I was now in a desperate situation.

Anyone who tells you to put your stick forward when you're already pointed straight into the ground and only 100ft or so to go will never understand the desperate ground rush sensation that overcomes you in this situation. Up till now it had still seemed to be flying. I hauled back on the stick, to no avail – stalled. That was the worst moment.

After what seemed an eternity, probably a second or two, the glider responded and pulled up level, but with insufficient airspeed to pull up over the crown of the large tree thrusting out above the surrounding forest canopy. The right wing went into the leaves and the clunking of the wings hitting branches was the last thing I remembered before coming to a precarious halt in the top of the trees facing the opposite direction. The glider had sunk probably around 400ft!

People have said how their whole life flashes before them during the fleeting moments of a life-threatening experience like this. My brother, who was hit by lightning, said all he could think of was whether he'd paid up the life insurance policy. For me, it was a strangely clinical experience. As the branches started crashing around, and I was tossed wildly in the glider I was thinking: "I wonder what happens next?" Maybe I just wasn't going to die.

The crashed glider

When the movement stopped, I looked with amazement around me – I was sitting in the glider facing in the opposite direction. The glider was level in a slightly nose-down attitude and about 20ft below the tree top. Two metres of the right wing had broken off and was dangling by a tape from the gash, the right wing reasonably supported on a downward-sloping branch halfway out to the break.

Dave's DG-202 nestled in the tree-top

I was aghast when I looked to the left wingtip and saw the slender wisp of branch, bent over 90°, which was all that was holding up that side of the glider. The wing was gently wafting up and down in the breeze.

I couldn't see anything below the cockpit or behind. All I knew was I was awfully high as I couldn't see anything but a dark gloom below to the forest floor. I later worked out that the glider was about 100ft above ground. There were a couple of crossed branches and a broken stump supporting the fuselage with no support under the rear of the plane.

A large vertical branch about six inches in diameter, which had taken the impact of the wing, had broken and fallen across the cockpit, crushing the instrument panel, and was attached to the broken stump by not much more than a few strings of bark. The nose of the glider was shattered and broken off near the rudder pedals and the front of the cockpit was delaminated and distorted.

The canopy was shattered (I was sitting in fresh air) and I released the canopy frame

'Ian McPhee had been watching as I worked my way along the ridge. When he looked again he couldn't believe his eyes – my glider was stationary!'

with the jagged broken shards of perspex and threw it overboard. The MNAV and GPS were beeping their heads off, distracting me from thinking clearly, and I managed to feel out the switches under the crushed panel and turn them off.

Above me Ian McPhee had been watching as I worked my way along the ridge. He was turned away as I turned, and when he looked back again he couldn't believe his eyes – the glider was stationary! After checking again, he broadcast back to base that the glider was down in the trees. "It looks like a helicopter job," he said.

Hearing this, I realised that I still had a working radio and I reported my situation. I warned that a helicopter overhead could possibly dislodge the glider. Ian passed words of encouragement and suggested I drink plenty of water and flew off to organise assistance.

I heard one of the other glider pilots advising base to let my wife know that I'd "outlanded". I requested they give her the facts – it would be much fairer for her to know. Looking at my precarious situation I realised it could be my last chance to send her a "tell her I love her" message as well, but then realised if she received that sort of message she'd know just how extreme my position was.

"I felt so helpless, like a stranded kitten," says Dave, a forlorn figure in a fork of the tree that he encountered

Getting out of the glider

"What do I do next?" I had two options:

- stay with the glider and if it fell I'd have the extra protection of the fuselage wrapped around me, or
- try getting out to the safety of the tree, at the risk of dislodging the glider and free-falling without any support.

I firstly decided to see if I could get any attachment fixed to the tree. I managed to reach my tie-down ropes from behind my head and looped a couple of them around the branch lying across the cockpit and tied them back onto my parachute harness. They were only 6mm poly rope but I thought they might hold me if the glider let go. The branch was also pretty suspect, as it was only attached by a few strands of bark, but that's all I could reach while still sitting in the cockpit.

The right wing was creaking on its branch – sounded like it was moving on its support. It could let go any moment.

I radioed that I was going to attempt to get out of the glider into the tree and that I would then be out of radio contact. The moment came to undo my seat belt and stand up in the cockpit. I had trouble freeing my left foot, which was trapped under the panel, but after sliding out of my shoe it came free. I was very worried leaning forward to retrieve the shoe lest the change of balance upset the glider, but I figured I might need it. As I stood up I started to shake. Remembering Ian's advice, I gulped a mouthful of water and settled down.

There was another broken branch just ahead of the glider, leading to its broken stump but just out of reach – small, just about 80mm diameter. My best hope now was to get a rope over the top of this little stump so that if the glider let go I could still hang supported by this stump. Carefully, I leaned forward and managed to work another couple of strands of tie-down rope along the branch till they were across the stump, and secured it to my parachute harness. I quickly then separated myself from the unstable branch across the cockpit. I was beginning to hope that I might get out of this yet.

THEN... the glider let go! My heart

➢

➢ immediately jumped into my mouth and every cell of my body pumped an extra shot of adrenaline.

It seemed that the cockpit dropped six feet or so, but in fact the left wing had let go and the glider had twisted down about 45° to the left. The right wing and branches under the cockpit were still holding, the left wing hanging down in mid-air unsupported.

I was still standing in the cockpit. I was so relieved I hadn't had to rely on the tie-down ropes over the puny little stump.

After regaining my composure, I then had to step on to the loose branch across the cockpit and just hope like hell that, as I pushed off from the branch to reach out for the tree that the glider held. It did. Carefully tying my safety ropes around a large branch, and retying a couple of times to get past forks, I was able to slither down a few metres to the safety of a substantial fork. I was now about three to four metres below and away from the glider and behind a good bit of solid tree, so that if the glider now fell I reckoned I'd be safe.

Perched in the tree

At last I could relax and consider my options. I looked below and I tried to assess how far above ground I was – it had to be 100ft. The trunk of the tree was too large to embrace and hold onto confidently which meant I couldn't scale down any further. There were also a couple of forks below that I'd have to negotiate. The last fork, the one closest to the ground was still about 70ft up. Not on!

I had no option but to wait for rescue. When the wind dropped and all went still I could still hear the radio in the glider and was able to make out that the Westpac helicopter had been called and I strained to monitor progress. The Motorfalke and the Maule flew over and I waved to let them know I was okay. What else could I do? A thousand ideas and options went through my head, trying to assess how anyone was going to get me out. A ground party was coming in, but I couldn't see how they could reach me from below – it was just too high above ground. I felt so helpless, like a stranded kitten. At least I was reasonably comfortable – my parachute provided a comfortable pillow to rest on in the fork.

I was able to look back up at the glider at last and marvelled at the incredibly chancy weaving of broken branches pinning the glider in position. The branch across the cockpit was holding it down onto a broken stump with a couple of other crossed branches preventing further movement. (Later it withstood the full downdraft from the helicopter without moving. Six months later the glider was still up there in the tree).

After a couple of hours I heard the welcome sound of a chopper, which circled around a few times while I waved to reassure them I was okay.

Now I was clear of the glider I would have been happy for them to fly over the top but the guy coming down the wire would have

The DG-202's broken wing hangs in the branches, an estimated 100ft above ground level

to let down through some branches directly above me – the chopper decided it wasn't on and then flew off.

I was devastated, watching it recede into the distance. How else could I get out of this? I heard shouts from a ground party over near the cliffs and started shouting back. I'm not sure if they heard me. I kept cooee-ing every so often to give the ground party a direction.

Half an hour later the helicopter returned and lowered a couple of men. At the same time Scott Michell, the first of the ground party, arrived at the base of the tree – a two-and-a-half hour trek from the road through rugged wilderness country. (His local knowledge of the terrain proved invaluable, then and later trekking out). While the chopper hovered at a distance I talked with the guys on the ground and tried to convince them that it would be safe to come over the tree, but they were not convinced. I suggested that the helicopter could drop a rope to me which I could lower to the ground and let myself down.

'I thought what a grand irony it would be if I survived this far then froze to death overnight sitting in the fork of a tree'

From so far above it was difficult to hear what was going on, and when the helicopter flew off again I thought they'd given up. The sun was going down and the winter chill was descending on the forest. I was shivering. I thought what a grand irony it would be if I survived this far then froze to death overnight sitting in the fork of a tree.

My worries were misplaced and the helicopter returned and lowered a rope to me, including a bag with a harness and spare rope – even though it snagged in the tree (a couple of hundred metres of best climbing rope – still there!), I was able to lower enough to the ground party who passed me up another which I passed over a fork and hooked onto the harness. They had all the good rope handling gear on the ground and then lowered me gently down.

Mind you, as I let myself onto the rope and abandoned the safety on the fork, I fell 10ft off the tree until the stretch and slack in the rope took up... an unintentional bungy jump. It held, though!

Terra firma at last – the trek out

What a beautiful feeling of earth under my feet as I touched ground! No time to lose though, as dark was fast approaching and we had a long two-and-a-half hour trek out through rugged country. I realised then that my ankles were fairly badly sprained from the impact of the rudder pedals (some weeks later we also discovered a broken bone in my foot) but with difficulty we got out. Scott, the son of the property owner, carried my chute and led the way through the darkness using torches dropped from the helicopter – his local knowledge of the terrain proved invaluable. The SES (State Emergency Service) guy maintained radio contact with his base and managed to meet up with a 4WD rescue vehicle which had penetrated part-way along a fire trail.

Finally we arrived back at the operations base. The accumulated tension of the last seven hours finally caught up with me as I got out of the 4WD and embraced my waiting wife. I couldn't talk coherently for 10 minutes as the emotions washed through me. It all let go.

I was astonished to see the size of the rescue operation back at base, with the Bingara SES and Narrabri Volunteer Rescue Association, plus police from both Bingara and Narrabri, as well as the Michells and their neighbours and my gliding mates. A mobile canteen served up a welcome hot coffee and congratulations were passed all around – the rescue boys and police were all delighted, as their job so often involves pulling seriously injured (and worse) out of crash situations. It was great for them to get a live one this time. I owe enormous thanks to all these people who gave up their time, and combined in a coordinated operation to bring me back to safety. Without them, and the helicopter, I'd still be up there. It was a great rescue effort on their part.

What went wrong

Even now, six months later, my skin feels prickly and beads of sweat form as I think about it again. And I've replayed the mental video ten thousand times since, trying to analyse what actually happened in those few brief seconds. What would I do differently next time? Clearly there were some grave errors of judgment in a set of circumstances that proved very tricky. What lessons have I taken away from it all?

Lesson 1 – situational awareness. In less than one turn the glider lost around 400ft in less than 20 seconds. The glider lost all flying speed and was stalled. It appears that I flew into severe downdraft or even a reverse flowing rotor eddy in the lee of the nearby mountain. I was aware of the proximity of the mountain, but didn't think of the lee effect of the westerly wind flowing over the hill.

Lesson 2 – safe-speed-near-the-ground.

I can't recall checking the ASI, but "felt" that I was probably doing around 48-50kts. Flying low over the ridge a minimum of 1.5 x stall speed should have been maintained – 55/60kts minimum.

Lesson 3 – when flying in mountains, don't rely on the horizon. The ridge sloped gradually upwards. Also, there were other mountains and ranges on the horizon. Both could have upset my perception of horizon, resulting in even slower speed than I believed myself to be flying.– check the ASI more regularly.

Lesson 4 – complacency and over-confidence. The flight was going well, I'd climbed and was continuing to gain height. I felt good and decided to go further up the ridge than previously. Already a couple of hundred feet above the ridge, I felt confident (overconfident) to stretch the beat further up north above the shallower part of the valley.

Lesson 5 – Ridge soaring is different to flatland cross-country flying. Most of my experience has been flatland thermal soaring. Speed variations up high are of little consequence, close to the ground they are critical. Experienced cross-country pilots may be beginners on ridges.

Lesson 6 – carry an EPIRB whenever flying away from glider base – you never know. I was fortunate another glider was overhead when I crashed. I had no EPIRB emergency beacon with me and it could have taken days to find me in the dense forest.

All of these lessons learned are basics that as an instructor I've taught student pilots, which makes my experience very humbling.

Lucky me

Fortune smiled on me that day. A string of circumstances all came together to save my skin. Firstly, the accident was early afternoon, with four to five hours of daylight remaining. Another glider spotted the accident immediately. I was virtually stalled on impact, which reduced the force, and the wing took the major impact. I was not injured and was able to get myself out of the glider. The glider was miraculously balanced and pinned by a fallen branch across the instrument panel. The branch missed my head.

And a helicopter and teams of rescue workers were available to get me out.

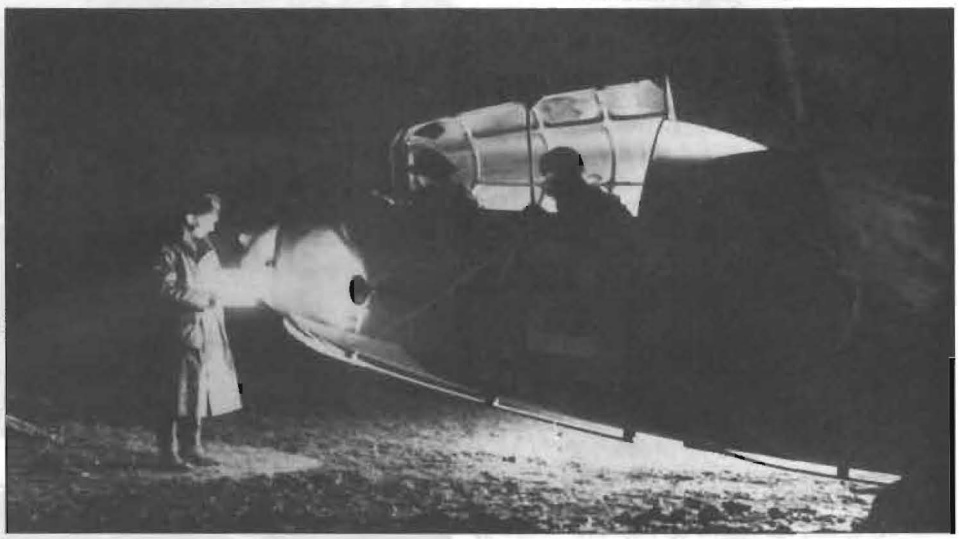
Maybe a million to one chance, and I don't plan to test my luck that way again. I'm back in the air again with another lovely glider (a Mozzie) and I can tell you I'm keeping a better eye on the ground these days.

First published in the April 2002 issue of Australian Gliding/Skysailor, *the magazine of the Gliding Federation of Australia and the Hang Gliding Federation of Australia (*www.gfa.org.au *and* www.hgfa.asn.au*).*

Photographs courtesy of NBN/Westpac Helicopter

A nightmare on tow

John Nesbitt-Dufort was a test pilot for part of the war – as a rest from operational duties. This previously unpublished account reveals what he and Robert Kronfeld did when a night aerotow went wrong...



ISO Publications

A Hotspur on night operations. For the flight described here, boffins fitted a large angle-of-approach indicator on outriggers behind the tug's rudder without – says the author – much thought as to the aerodynamic consequences

AFTER about three months of test flying, during which I had scared the living daylights out of myself more than once in various highly unsuitable tug and glider combinations, the vexed problem of positioning the glider behind the tug while on tow on a dark night arose.

I suppose that at the time I was the most experienced Lysander pilot in the unit, so it was natural that I should be detailed for the first night tug trial of the type. The glider for the test was a Hotspur, an eight-seater, with the famous Robert Kronfeld at the controls.

The problem was that, at night, glider pilots found it extremely difficult to maintain the correct tow position relative to the tug.

To overcome this, the boffins had stumbled on the bright idea of mounting an Angle-Of-Approach-Indicator on outriggers immediately behind the rudder of the Lysander – without, it transpired, much thought as to the aerodynamic consequences of the arrangement.

This now-antique piece of apparatus was a heavy metal rectangular box standing about 3ft 6in high, containing a bright light which shone through three strips of amber, green and red glass. The apparatus used to be carefully levelled on the ground to the left of the runway threshold, and when it was switched on, all the tired pilot had to do when returning from a mission on a dark night was to adjust his approach angle so that the light showed green all the time; if he got too high, it showed amber, and if too low, red. An excellent system for the ground, but would it work in the air?

On June 11, 1942, an extremely dark moonless night, with 8/8ths overcast at about 2,000ft so not even a glimmer of a star showed, I viewed with a torch and a considerable amount of misgiving the untidy arrangement at the back of the Lysander. The boffins had assured me that this heavy lump of metal would not put the centre of gravity out of the aft limit, or otherwise seriously affect the handling characteristics of the aircraft, and I, poor fool, believed them! At 23.30hrs that evening, Lysander 9276 lined up on the main runway with Robert in his Hotspur hooked up behind. He called over the intercom, routed along a cable attached to the towrope, that he was ready, so I took up the slack, and, obtaining clearance from the tower, opened up using the automatic boost control cut-out to obtain full power.

At first, everything seemed to be OK; naturally Robert was airborne fairly early, but I then seemed to be stuck at about 48mph, with my madly-shimmying tailwheel still firmly on the ground and half the runway gone already.

"High tow, now!" I yelled.

Robert, at the same time, had instinctively spotted my trouble; up he went slightly above the high tow position, up came my tail, and our speed slowly started to build again. With the stick hard forward and full nose down trim I saw the red boundary lights getting nearer and nearer. We had been committed to take-off as soon as the glider got airborne. Now at only 55mph, I had to do something about it fast.

'Robert did that take-off. With a less experienced glider pilot, we would have been ploughing a furrow in the adjacent field.'

"Down a shade, Robert, for Christ's sake!"

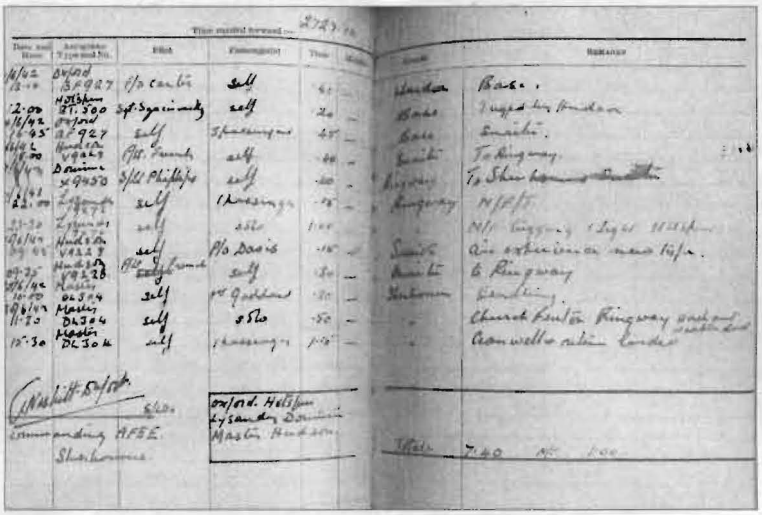
Again he had almost anticipated my trouble, as just before I eased a fraction of forward pressure off the stick, I got a slight acceleration, the tailwheel banged back on the ground, its oleo bottoming, and at only 57mph, with the good old Mercury screaming defiantly, we were airborne and the red lights flickered by a few feet below.

The boffins must have been joking about that centre of gravity, as it was certainly a hell of a way aft of limits. Robert, in fact, did that take-off, his superb skill being responsible for us getting airborne at all, as with a less experienced glider pilot, we would have been ploughing a deep furrow in the adjacent field. He permitted himself a mild "Phew!" over the intercom, and I mentally agreed, but was too busy to answer, as although our speed had now built up to 59mph, our rate of climb, which was showing as only 50ft per minute, seemed infinitesimal and the cylinder head temperatures were well over their limits already.

Normally the stalling speed of a Lysander was well below this, but it should be remembered that I had the additional weight of the heavy nylon towrope, not to mention the massive steel box on the outriggers behind me.

Anyone who has flown over England during the blackout on a really dark night knows that it is absolutely essential to stick on instruments, but I must admit that the temptation to look ahead for the inevitable obstacles which must have been tearing by a few feet below my undercarriage was nearly unbearable. At just over 60 feet, Robert called cheerfully that he was having no difficulty staying in the green, but how about a little more height? Sweating profusely, I was too busy to answer, but after an age we seemed to have wallowed up to a hundred feet with the ASI stuck at a steady 65mph, so I called Robert and told him that I would have to level out for a minute or so to try to build up enough speed to cool my engine, as the cylinder head temperatures were now off the clock. Reluctantly, he agreed, as a seized engine at that altitude would have meant curtains for both of us. In view of the fact that I had very limited forward movement of the stick to play with, I had some difficulty in getting the position of

Above: Robert Kronfeld, who flew the Hotspur and who died in a test flight in 1948



Above: the author during the war
Left: his logbook notes "N/F tug-ging light Hotspur" in different ink

the little aeroplane a fraction lower on the artificial horizon, but eventually the speed started to creep up without any perceptible loss of height. At 74mph and just over 110ft, the engine temperature was back on the clock but still dangerously high.

Wonderful! I'll see if she'd hold that speed in a shallow climb. I was about to ease off a shade of the forward pressure on the stick again when I noticed a slightly sloppy feeling about the rudder pedals. Before I could investigate, there started such a violent juddering of the tail that the instruments blurred in front of my eyes, and suddenly the rudder pedal snapped over to the full left position and the Lizzie slewed off course. There was loud yell from Robert of "Take it easy, John!" as I applied brute force to the right pedal and tried to centralise the rudder, but with a loud bang, it flipped over to the full right position, a savage correction and over it went again.

For what seemed an age I fought those madly-kicking rudder pedals, as, whilst still on instruments, I careered all over the inky black landscape with Robert grimly hanging on behind.

A snap glance at the engine instruments showed me that it would be suicidal to slow up again, and soon the cylinder head temperatures had gone off the clock again, but in addition the oil temperature was now also way above limits and the oil pressure about half what it should be. The unfortunate Mercury was still screaming away at full boost and revs in fine pitch with the cooling gills wide open. To bale out at that altitude was impossible, so I must at all costs save my engine, and this meant maintaining my present speed or better.

Eventually, by half standing up and bracing myself against my straps with my legs rigid I was able to keep that rogue rudder centralised, but it was a bitter struggle and before long both my legs were aching abominably.

There had been silence from Robert since his call on my first frantic swerve, but this was understandable. It must have been complete hell trying to keep line astern formation in the dark on an unpredictable and wildly weaving tug. Afterwards, he told me that he realised at about the same time as I did what was happening, which was that that damn angle of glide indicator, being immediately behind the rudder, had exactly the same effect as if it had been immediately in front of it. It blanketed the rudder off completely, actually creating back-pressure over the rudder and fin, and rendering them worse than useless.

I now reassured Robert, and myself, that things were more or less under control, and, subject to the engine not having an epileptic fit with a rate of climb of very nearly 20ft per minute, we might even gain sufficient altitude over base for a safe cast-off and landing. At peak revs we were galloping through the gravy, and as our weight slowly came down, our speed crept up, but with only an infinitely small improvement in engine temperatures.

At about 78mph, a further complication

'I longed to be rid of my towed burden, but there's an unwritten understanding between tug and glider pilots that the tug never releases...'

set in, and for me it was very nearly the last straw. With a gentle thud, the leading edge slots closed, also automatically raising the flaps, necessitating forward trim, which was something I had run out of from the start. Up came the nose out of control, down came the speed, the slots opened, down went the flaps again, and so on, with the rudder still trying to break free every few seconds. This was altogether too much for me. To hell with it! If the engine cooks, it cooks! After expelling every oath I knew, the next time the flaps came down, I caught her and kept the ASI at about 75mph or below.

I longed to be rid of my towed burden, but there's an unwritten understanding between tug and glider pilots that the tug pilot never releases, that is always the glider pilot's responsibility, and quite rightly so, unless there is an extreme emergency, such as a fire, in the tug aircraft.

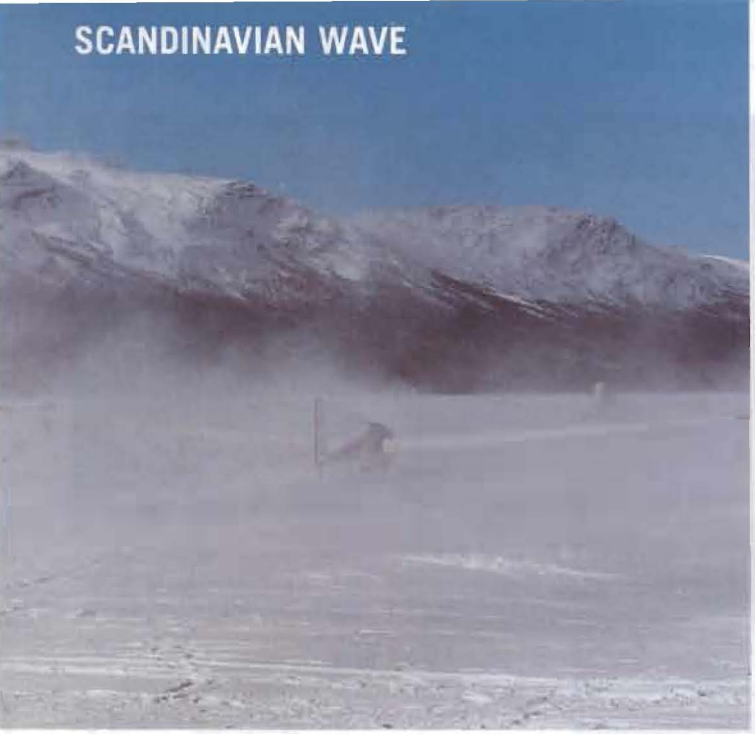
On eventually reaching 500 feet, I called for a back bearing and was lucky at that height to get a very faint Class C. Somehow I managed to get the aircraft round onto its reciprocal and we headed for home. Fifty five minutes after take off we were back over base at just under 1,000ft, and Robert gave me a brief "Cheerio" and cast off. The Lizzie leaped forward and I immediately felt the effect of the whole weight of the towrope as the aircraft reared up like a frightened horse.

Without the slightest compunction, I immediately dropped the rope and was myself on the ground four minutes after the Hotspur had touched down further up the runway. (The towrope was retrieved from someone's back garden a couple of days later). I drew a large exclamation mark on the otherwise blank test report on my kneepad, unstrapped it and handed it in. Silently, Robert and I made our way over to the mess, woke up the barman and dragged him out of bed.

After four double scotches – Robert was normally pretty abstemious – we looked at each other and started giggling. The tension was over but we were still both sweating.

For this and many other equally exciting exploits, Squadron Leader Robert Kronfeld became the first Austrian to be awarded the AFC, a common enough award for test pilots at Farnborough and Boscombe Down, but strangely very rare amongst the test pilots at Ringway. Tragically, not long afterwards, he was killed testing a tail-less glider.

This story by the late Wing Commander John Nesbitt-Dufort DSO, Croix de Guerre, is contained in an unpublished memoir describing his adventures after operational tours on night intruders and ferrying agents in and out of France in the early part of the war (these are described in Black Lysander, *obtainable from Whydown Books,* www.whydownbooks.com*). Sadly, he died in 1975, before this second book was completed. The flight related here occurred during an operational rest period, when he was posted as a test pilot to the Airborne Forces Experimental Establishment at Ringway in March 1942. As an experienced pilot and instructor, his main task was the testing of glider-tug combinations*



Above: the cloud of snow kicked off by the tug on the ground run
Main picture: Ottsjö on a good wave day, looking west with Ottfjället on the left; Right (top): the rigging area; (bottom): just before aerotow at Ottsjö. The runways, snow-ploughed out by the local farmer, are just 15 metres (50ft) wide
(Photos: Paul Bramley)

Diamonds and Dali

Ian Dunkley was at Ottsjö's frozen-lake airfield during the best week for 17 years. His account starts our look at Scandinavian wave camps

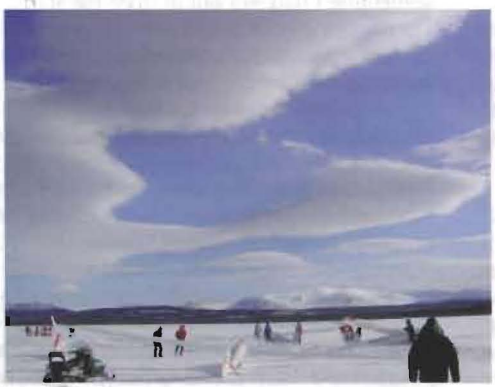
EVERY March for the last 42 years, the tiny Swedish village of Ottsjö has been invaded by up to 30 trailers – holding, they hope, airworthy gliders – and more than 100 pilots and hangers-on. The 50 or so permanent villagers rent out their homes and move into their basements or attics for a fortnight. The local shopkeeper stretches his credit limit with his suppliers and spends the evenings looking at holiday brochures. For the Swedish equivalent of £1,500, local farmers plough out a complex airfield layout on the frozen lake, hoping for more snow so they will have to do it all again.

The Ottsjö Fjällflygläger (Mountain Flying Camp) is a gliding "club" that operates for just two weeks a year. Its members are other clubs and there is no CFI. It does have a committee, which may seem to be its only downside, but it still works. Each club that takes part is responsible for its own aircraft and pilots, including check flights and flying limits. Tugs arrive from local clubs and Ottsjö Fjällflygläger rolls out the stored infrastructure before the mob arrives. It all works like clockwork. The rest is up to the weather.

Although 42 years is history enough, there is a story behind the operation. Carl Erik Öugärd, a well-known glider pilot in the 1940s and early 1950s, organised a small expedition in the area to search for a wave site. Whilst there was some success, and obvious wave activity, "the ideal site" was not found. Carl Erik went off to join the Sierra Wave Project in the USA and died, aged 36, when his oxygen system failed at 12,500m (41,000ft) in the Bishop Wave in California. The last of the photographs that he was taking regularly of the altimeter also showed the oxygen gauge; it indicated only 15 minutes left. A close study of the recovered, damaged barograph suggested that the glider with its unconscious, or dead, pilot went much higher before it began an uncontrolled descent. This is why the briefing at Ottsjö for pilots new to wave includes a detailed discussion on oxygen and a graph

Nine Diamond heights and 32 Golds in three days of wave

Ian Dunkley



Salvador Dali-designed clouds directly overhead

Ian Dunkley

Ancient meets modern: a dog team on the frozen lake

clouds

showing useful consciousness time at altitudes if the system fails.

In 1960, Rolf Algotson, who was taught to fly by Carl Erik and knew of the expeditions, visited this part of Sweden, and after looking at wave clouds and possible locations decided that Ottsjö in winter could be the place. Confirmation was obtained from locals who told him of the local winds, and that in south-westerlies, parts of the lake in the lee of the local mountain became quite rough. "Aha!" said Rolf (and he really talks like that) "Rotor!" and the rest, as they say, is history.

Incidentally, you can see from the air where the rotor has blown snow away from the lee side of the mountain and the lake ice where the turbulence occurs.

1986 was Diamond Year, when 83 height gains – and 233 Golds – were accepted, and a further 20-odd rejected; similar problems this year prove that some lessons are never learned. From 1961 to 2000 the total score was: 148 Diamonds (which shows how good 1986 was); 900 Golds and 1,091 Silvers. All this from a two-week-a-year "club", which flew 19,000 launches and 15,000hrs over the same period. They probably have more launches and hours each year than the average Swedish club flies in the whole summer. In fact, one day a few years back they had more movements than Stockholm's main airport.

The day that prompted this article delivered not only 12 Golds and six Diamonds, but other gains below 3,000m (9,840ft), the highest of all being a gain of 5,650m (18,540ft). ➢

What it's like for a 220-hour pilot

I STUMBLED upon the Ottsjö (pronounced approximately: "Oat-hwer") Wave Camp some three years ago – *writes Paul Bramley* – on a trip to Are, Sweden's largest ski resort, when I spotted a runway marked out on a nearby frozen lake. Last year, based in Stockholm through work, I secured an invitation for a colleague, John Bailey, and I to the second week of the two-week camp, which is also a wave training course.

It is a 20-mile drive from Åre along an ice-covered, forest-lined road, which suddenly emerges into the village of Ottsjö, with its panoramic view over the 12km long, 1km wide lake (500m/1,640ft ASL). On the lake's south is the 1,200m-high Ottfjället, its cliff face dropping to the shore, and insignificant-looking Middagsvalen (1,000m/3,940ft) – the source of good wave. On the other side is gently-sloping forested terrain – often a thermal source. The lake is aligned east-west, as are the two take-off and two landing runways. Ideal wave requires southerlies and runways 18 and 19 cater for it. I was assured the ice is safe to fly from when at least 25cm/10in thick!

The course runs from Sunday to Friday; we were pleasantly surprised to find only three of us on it, with two instructors and two K-21s. Flying mixed with theory lectures (technique, weather and physiological/medical effects). One limiting factor in this latitude is the weather's inconsistency; it can close in very quickly. With a ground temperature (excluding windchill) of –10°C, good clothing is a must. Out of six days we flew four, but the experience was very special. Lined up behind the Pawnee on a cloud-free morning, ice crystals sparkled in the sun. All-out is followed by an initially alarming gale of powder whipped up by the tug, but within seconds we are free of the lake and climbing towards Ottfjället – a spectacular ride along and over the escarpment until we pull off at 1,300m (4,265ft). Less than 50km to the east is Norway and its more mountainous terrain; south is a geologist's paradise of glaciated U-shaped valleys; 30km north is Åre. No wave on our first day, but we did soar for an hour or so in thermals, which bought me time to get to grips with circuit planning and radio etiquette.

After a couple of flights each with the instructors, John and I were allowed to fly together and enjoyed several fine thermalling flights. It really is a place where you are occasionally willing to enjoy the view! On the fourth day, we arrived to find a huge ➢

➢ lenticular parked over the lake; the camp became a hive of activity. Although not spectacular by Ottsjö standards, we still achieved 3,200m (10,500ft) and I had my first taste of the site's potential. Limited by lack of oxygen and time (etiquette dictates a handover of shared gliders after around one hour), we returned. Over the week John and I had only five and seven flights respectively, but each averaged an hour. The flying as well as the camaraderie was enough to lead me back a second time.

This year I decided to spend two weeks there; I arrived to be greeted like an old friend. Swedish is not a prerequisite (most people speak good English), but the morning briefing was usually in Swedish, which after 18 months I was just about able to understand! Ian Dunkley joined me. After check flights we were cleared to fly together in a K-21 or Puchacz. Having lost two days to snow showers we had thermal flights until the Saturday – when the most amazing lenticulars appeared. Two huge wave clouds dominated the sky: one parallel to Ottfjället, the other like a Dali masterpiece, with a huge hole in the middle. The southerly wind was strengthening all the time. Ian and I launched in a 10kt slight crosswind and quickly reached 3,660m (12,000ft) in 10kt climbs. Lacking oxygen, we topped out at this height before descending to enjoy the magnificent panorama. Frustratingly, the radio crackled with pilots reporting their heights, the highest 6,100m (20,000ft). After landing in a 30kt-plus southerly, I took two more flights that day, reaching 4,270m (14,000ft) and 3,355m (11,000ft) as late as 4pm. Wave was weaker the next two days but we still managed 2,440m (8,000ft). Weather then deteriorated to snow, diverting several of us towards the ski slopes, but by then I, for one, was happy to live off the memory of half a dozen fantastic flights. This had been the best wave since 1986: 32 Gold and nine Diamond heights in three days.

Over the fortnight I did 10 flights of about an hour each on seven flyable days. By contrast, three other UK pilots who came out in the second week were not so lucky, missing the good wave days and suffering from a rather high pupil:glider ratio of 5:1. Variable weather can result in a brilliant or disappointing experience, but at least you can go and ski! Hosts Lennart Zetterström, Pall Einarsson and Jan Mattsson, and all the other Swedish pilots made us so welcome. It was refreshing to be in such a well-organised and non-competitive environment, where every pilot's aim was to catch, as Rolf put it, "*bacillus lenticularis*".

Paul, 41, from Lasham, has a half share in a Discus and 220hrs. He worked in Stockholm from 2000-2002 as Chief Financial Officer for a financial services company

➢ Barograph or logger problems will prevent some other claims, but what a day! I left 4m/s lift at 3,700m (12,140ft), 4,000m (13,125ft) being the Swedish limit without oxygen. Old men are on borrowed time, lake elevation was 500m (1,640ft), so why push it, when you have to be back in an hour (ish) anyway?

The average age of the pilots is quite high. Some have been coming for the entire 42 years. I am not sure if the longevity is due to gliding, diet or Swedish women – I would rather hope a combination of all three – but if so I have left it a bit late for two of them. Rolf Algotson considers the reason is *Bacillus Lenticularis*, which – despite causing some marital problems – delays cell degeneration. Whatever the reason there are lots of old men hidden under layers of warm clothing and very woolly hats, as well as welcome young pilots.

The impressive organisation of the fortnight is worth describing so you can compare it with your own club expeditions – or your own club, for that matter. All the equipment needed to operate from the lake, short of tugs, gliders and pilots, is stored on the lake; that way, nothing is left at home. Electricity is even laid on to the rigging area on the ice for tug-engine heaters, and for hairdryers to unfreeze wheel brakes. Stored equipment includes fuel trailer, oxygen trolley, control tower (I thought this was a portaloo with a view when I saw it) caravan, and a very slick logging/departure and arrival system.

Tugging from the lake provides interesting flying for the pilots, one of whom has accumulated more than 55,000 tows. Three tugs, one equipped with skis, were available and it was the wheeled versions that had the hardest time. Fine on packed snow but tricky on polished ice, when directional control can be hard to maintain, particularly in a crosswind. Quick thinking prevented a nasty accident when a gust blew a turning tug, with engine running, sideways along the ice towards the ready glider with crew standing round the cockpit. The pilot promptly shut down and usually sedentary glider pilots rushed to grab the wings... The skied aircraft lands fine on snow but slides gracefully on ice so it was generally partnered by wingtip holders, a tight turn earning the outer wing holder sixes if they remained standing.

At Ottsjö I first learned from Rolf, who may be his inventor, of a mythical Swedish pilot named "Edvin Byström", who makes all the collective mistakes that can be made. No-one knows when he will arrive, but they know he will. Over the years, he has tried to climb in rotor, entered cloud deliberately, refused to take advice, failed to allow for wind gradients, and flown long low base legs (in the turbulent areas), approaches at high speed and low turns.

In fact, if it can be done wrong he does it... but of course it's never his fault.

This year he arrived too late to be at the first morning briefing. Everyone there was reminded of the need for every aircraft to carry first aid, flares, a torch, matches, and

Above: the airfield on the frozen lake at 500m (1,640ft): the runways (centre right) kink to create separate landing and take-off sections (Ian Dunkley)

emergency food etc and heed the survival guide. Overkill? Within five hours "Edvin Byström" got lost after needlessly penetrating a regular snowflurry, iced up his canopy (despite double-glazing), landed out, reported by radio and then disappeared.

Two tugs spent two hours in poor flying conditions searching, without success, the rescue services were called out; everyone worried; and "Edvin" was finally spotted – buying food in the village shop, with his mobile and GPS in the car, where they had been all day.

The aircraft had landed about 15km from the airfield, in a remote area of frozen marshland, at a higher elevation than the airfield, in snow one metre deep, "Edvin" reporting that he did not know where he was but that his altimeter read zero, which of course it did not. Not a good start, but he then left the aircraft to go to a hut he had seen from the air – without telling anyone. This meant the search was conducted in all areas at the same elevation as the airfield, that is, in the wrong places. Just before dark, flights were made over the landing area, but the white aircraft with orange wing strips was not seen, buried and partly snow-covered.

Even if the aircraft had been found, what about "Edvin"? That night the temperature dropped to –15°C. Had he read the survival advice sent to him before the camp?

After struggling 100m through very deep snow, "Edvin" found the hut uninhabited – hardly surprising. Who did he expect, Eskimo Nell? He was by now too exhausted to return to the aircraft and was very lucky that he had crossed a ski track that led him to a hamlet of two houses 6km away, where he was picked up by a passing snowmobile (in time to do his shopping). By the time he was "found" in the shop "Edvin" had made nine identifiable mistakes from take-off. This worked out as £86 per mistake and after a "club" meeting he had to pick up 50 per cent of the cost. It took two members of the rescue service, three local farmers with three snowmobiles and toboggans plus a few fit club members all the next day to get the K-21 over 5km of deep snow to the nearest road and back to the lake. This event brought home to everyone the potential

The lake and main runways are east-west but other runways cater for southerly wave. The ice is safe to fly from when at least 25cm (10in) thick (Paul Bramley)

dangers of flying here: it is remote, cold and apart from skimobile tracks has to the south only one dead-end road. From the air, though, it is a beautiful, peaceful, arctic landscape.

The snow-covered ice runway also provides potential problems for the glider pilot, not least because it is under 15m (50ft) wide and has snow banks either side. Where the snow has blown away, shiny ice is revealed and this can make life interesting in a crosswind, as directional control, once lost, becomes debatable. Gliders can slide quite a long way sideways on the ice before stopping very quickly when the snow bank is hit. (One "Edvin" of course demonstrated the need to keep pointing at the tug on take-off and land without drift as well showing how an improvised snowplough can be made from a groundlooping glider, especially if the brakes are open.) There are no real problems if good flying practices are followed, and of course they generally were, damage being unpopular at the start of the season.

An "Edvin", if not demonstrating a snow plough wingtip final turn, which uses little runway, shows the alternative braked stop into the pile of safety snow at the "kink" at the landing runway's end. This is cleverly intended to prevent him hitting a queue of waiting gliders; at least, that was the idea. "Edvin", after one of his high-speed landings, found he could not only reach the end of the landing runway but also perhaps taxi to a stop in the kink, just like the pundits. He not only taxied into the kink but continued onto the take-off runway, and then cleverly dropped one wing in the snow so the other scythed over the top of a glider and crew, thus demonstrating another snowplough instead of removing two heads and two expensive canopies. It was not his fault, of course: the wheelbrake didn't work.

If the mythical "Edvin's" exploits make the standard of flying appear low, this is not the case. It is taken very seriously and is, in fact, high. Over the 42 years only one aircraft has been seriously damaged – by an "Edvin", of course. He is a very useful character as his errors are publicised which, hopefully, ensures that no one without his luck tries them.

I expect a relation of "Edvin's" is a collective member of your club; if not his exploits may come in handy.

Wave is wave, so the actual flying was no different to anywhere else, and the main differences were only local and the hostile environment. It helped a lot that the tug pilots know the "hot spots" (if that's appropriate at sub-zero temperatures, although there was good thermal flying as well), especially as wind direction on the lake could change dramatically: 180° for only small changes in upper winds. This meant that the towing route changed frequently but if there was wave the tugs invariably found it. The only decision left to the glider pilot was when to pull off – generally too early, in my purse-pinching case – and what to do next.

Cloud cover could be a problem: wave slots closing, lower cloud forming, or the wave moving rapidly in some wind directions. Snow falling over part of the lake, almost to according to Rolf's timetable, whilst leaving another area relatively clear of cloud was a problem on some days. Lift was often in the order of 4-5m/s (8-10kts) or more and very smooth, whilst this year the turbulence was mild. This may have been because the briefings made it quite clear which areas not to fly in. On the Diamond Day the sun was shining, the sky was full of wave, with quite varying orientations, and with up to 12 stacked layers. No photograph, unless taken with a 360° fisheye lens, could show how dramatic the sky was. In 1986 one photograph shows a wave looking just like a 747-approaching head on; this year we had Salvador Dali-designed clouds.

As any pilot will know, to get two weeks of gliding over a two-week period is quite improbable. We flew for nine consecutive days until it snowed for three days, covering the aircraft and filling in the airfield. The prayers of the owner of the big tractor were answered. Unfortunately, he had undertaken to finish a house he was building – a multi-talented man – in a week's time, and his new assistant "chippy" had cut off his thumb. His name? "Edvin Byström", of course.

No runways could have meant no flying, with the exception of the skied tug. So the farmer with a small tractor cleared narrow runways on Wednesday evening, in time for them to be filled in again on Thursday. I am writing this on Thursday, and looking out of my cabin window through snow falling from low cloud can see in the distance a control tower and caravan gradually hibernating in drifts...

Total score nine Diamonds and 32 Golds, and the days that were non-flyable were almost as enjoyable. As is often the case, flying was a bonus, the two weeks again showing that the gliding fellowship is truly international. I am lucky that the flying time I lost when younger due to work can now be regained all over the world and amongst pilots that one can relate to straight away (except, I hope, "Edvin"). As Rolf puts it: "It is great to see so many old friends you have never met before".

A typical wave flight at Ottsjö

It all starts, *writes Ian Dunkley*, when the tug opens up and promptly disappears in the cloud of snow that you will shortly fly through, conveniently hiding wingdrops or sideways skids from spectators, who in any case turn away to avoid the same cloud. The tug turns towards the mountain that drops to the lake, turns again and begins its climb along the steep snow-covered slope, with only the near-vertical rocks showing through. On your right is the rotor with the rotor cloud above it.

As you reach the summit (if you haven't pulled off already) you can see its undulating, glistening peaks, the morning sun casting shadows over the tree-lined valley and lower slopes, contrasting with the ice and snow below you and the higher, snow-covered mountains to the south. The lake gets smaller, your feet get colder, and you start looking for gliders, appreciating their orange stripes, and marvel at the views, which get whiter and bleaker by the minute. Two cross-country skiers, lunching on a peak, share the panorama that you have achieved with much less effort, and give scale to the vastness.

As you get higher – in very smooth lift, but in often quite short beats with frequent "stitching" into wind – distant mountains appear as does the glacial valley that funnels the wind to produce the waves. Away to the south-east, a textbook U-shaped valley under frozen snow looks as if the glacier is still there. To the west, the mountains of Norway can be seen beyond a large frozen lake, which is your goal.

Eventually the local wave tops out at about 4-5000m (13-16,000ft), and you move to another system at almost right angles to the first, generally above the lake's edge (most Diamonds are reached here). Quite often the transition is seamless; the systems combine. The sky is full of wave, each valley and hill seems to be getting in on the act, so often two parallel clouds are "connected" by another at right angles. Having to descend can be frustrating: wave that may have been hard to find low down is now all around you.

Each circuit has a descending sector, where you report by radio then spiral down with others to 300m (985ft), having been given, if necessary, your landing order. Then you call downwind, receive runway/surface directions, fly a high base leg clear of rotor, and line up to land. The sun is behind the mountain: the lake is in shadow and the runway is not as easy to see. You appreciate the use of a reference point and the kink halfway down, say, runway 27, between landing and take-off sections. Gliders go a long way on ice, so you make sure you don't land too fast, too far down, or with drift, and you keep your wings above the snow banks. If you need the wheelbrake you realise this as you roll on to clear ice, when it makes little difference.

Extreme altitude

Robert Danewid ends our look at wave camps with a day that yielded 32 Diamond heights

Main picture: Looking west, cloud cover is blocked by the Jotunheimen massif (Anders Skifjell) Top: It took all of the best wave day to retrieve this Blanik: two course members had been told not to fly in the lee of a mountain... (Wollmer Jorgensen) Above: Janus descending from 7,000m (23,000ft): photo by Anders Skifjell, Norwegian 15m champion

SCANDINAVIA'S two highest peaks, Galdöpiggen and Glittertind (at c 2,450m/8,000ft), are in a National Park, Jotunheimen, in the mountainous south-west of Norway – known for its great wave.

North-east of Jotunheimen is a long lake, Vågåvatn, and a little town, Vågåmo. The lake (elevation 370m/1,215ft) is about 20km long and a few kilometres wide. Every Easter since the 1980s, Scandinavian pilots have met here for the wave camp organised by Drammen GC. The lake, its ice a metre or so thick, is a splendid airfield (one of the largest in the world!). Wave is found in all wind directions; the best in south-westerlies to westerlies, when Jotunheimen is the main generator. (The Swedish for wave is våg. And våg is to be found in Vågå!)

Very often, the mountains block weather systems: no wonder that Vågå has Norway's lowest annual rainfall – virtually none. There are lots of good ridges, too, and very often the strong, turbulent, narrow thermals so typical of spring in the mountains. An average Easter week gives a couple of good wave days, plus ridge and thermal days (with a cloudbase of c 2,000m/6,500ft).

For me, a fanatical cross-country pilot, Vågå is a fantastic place. I discovered wave late in life and the camp is the only gliding event the whole family attends; my wife and children are even keener than I am! Most pilots stay at a small hotel in Vågåmo, with marvellous cooking and a swimming pool.

Norwegian instructor Raymond Dahlen became president of Drammen GC last autumn and decided to make the camp a little flashier. So this year it was branded: "Vågå Wave Camp – the Extreme Altitude Challenge". As last year was extraordinary (seven out of seven flying days, two with wave over 8,000m/26,250ft), I warned him to prepare for an anti-climax. How wrong I was!

About 70 pilots from Sweden, Denmark and Norway gathered in late March 2002. During the seven-day camp we had wave on six days and thermals on one. The 26 gliders did 412 launches, yielding 112 Gold heights and 62 Diamonds; 45 of these were above 7,000m (23,000ft). On March 27, 23 gliders did 63 launches (including basic training flights), giving 32 Diamond heights. Every second launch produced a Diamond. I guess that must be some kind of record! The highest flight was on March 28, when Christer Lie set a new Nordic and Norwegian absolute height/altitude gain record. He left 3m/s (6kts) lift in the LS7 at 10,349m (33,955ft) AMSL after a gain of 9,271m (31,895ft). Next year, Drammen plans to invite British and German pilots.

The scenery is fantastic. Mountains, snow and sun produce unique colours and images. I still remember my feelings when I flew my Diamond height at Vågå in 1994, sitting at 6,500m (21,325ft) over the snow-covered Jotunheimen, with an intense sun above, unrestricted visibility – the Atlantic ocean could be sensed in the west. Sun, the deep blue sky and snow almost blended together: I was thinking that I must be dead and in heaven (so I did a 360° to convince myself that I was still very much alive)!

Robert's BGA Conference presentation on boosting gliding's membership is at **www.gliding.co.uk/bgainfo/onlineforms.htm**

Confront the unknown

Perhaps, as John Bridge suggests, you could achieve more by allowing curiosity to overcome fear

A NARROW shaft of sunlight squeezed through a tiny wood-pecked hole in the shutter, piercing the silent darkness of the room and, for a moment, I was mesmerised by the dust waltzing and sparkling across the sunbeam. I listened to the clinks and clatter of plates and knives being gathered for breakfast, until the rich smell of coffee lured me out of bed.
I opened the heavy wooden shutters to let in the blue-white brilliance of a Provençale morning and felt its heat push into the room. Blinking, I gazed southwards to a sun-washed mountain that glowed under a deep blue sky. Small puffy clouds were already forming over the montagne de Lure, on the far side of the Durance valley. "Here we go again," I thought, with a curious mixture of excitement and resignation.

Outside on the patio we ate our breakfast and assessed how this morning compared to previous Alpine spring days. Experience told us that we would be enjoying many hours of soaring that day, so we quickly cleared away the breakfast debris and drove down to the airfield, just in time to rig before briefing – six pilots can rig six gliders in 20 minutes if they are up to speed and we had already had a week there to fall into step.

Briefing at Sisteron is a casual affair, although pilots are generally not encouraged to fly unless they attend, or at least come armed with a convincingly original excuse. We had just enjoyed a number of hot days with good soaring and today's official forecast was for more of the same. After the usual round of verbal admonishments fired at transgressors of the previous day, the duty instructor glanced out of the window, as he always does, looked at the windsock hanging helplessly in the still morning air and advised, as he always does, that we would be using the *piste face nord*. We returned to our gliders, finished taping them up and shuffled them closer to the runway. This was a holiday and there was nothing more that we needed to do before launching began. Apart, of course, from lunching.

I chose a light salad and drank lots of water in the shade of the airfield's restaurant terrace. Many of us were planning to fly north, past the lac de Serre-Ponçon and on towards the high mountains of the Ecrins and the Queyras.

I shall be telling this with a sigh
Somewhere ages and ages hence
Two roads diverged in a wood and I –
I took the one less travelled by.
And that has made all the difference

Robert Frost, *The Road Not Taken*

Further north still lay the mountains of the northern Alps, out of reach to many of us, myself included, although I always liked to delude myself that next time, I will cross over, I *will*...

At the now-traditional hour of 1.00pm we heard the sharp burst of a tug engine firing. A glance at the windsock confirmed that the valley breeze had started and so, once again, we would be launching at 1,800ft above sea-level, at a temperature of over 30° Celsius, with a tailwind. There was no rush to the grid, with only a score of gliders to launch and three tugs available to help. We pushed our gliders onto the runway, switched on their instruments and made our final checks. We looked at the sky for a suitable drop point from our tow, listening out on the local frequency for any scraps of information. The half-dozen gliders ahead of me on the runway quickly dwindled to one and I strapped myself into my LS6c to wait for my tug. In order to avoid roasting under the perspex I postponed closing my canopy until the last moment, as the tug was taking up slack. At last, rope tight, the wing was raised and I began to feel some relief from the heat as we started to move, the canopy scoop forcing warm but welcome air onto my face. Off the ground at last, we made a left turn above the nearly dry riverbed, over the power wires and into the blue.

Above: the mountains of the Ecrins, in the French Alps

The tug took me towards some other gliders circling in the house thermal behind a small hill called l'Hongrie. Releasing just over the mast at its summit I quickly found 3kts and took a blue thermal to 6,000ft. Although the Sisteron valley was still cloudless, I could now see that there were cu towards the mountains of Colombis and Guillaume and that their bases were well above the summits. This indicated that there was at least a 10,000ft cloudbase near the lake and, if the weather went to form, perhaps another 3,000ft towards Briançon.

I flew to the rocky scoop of Malaup, to the north of the winch-only site at la Motte du Caire, where I took another climb before moving on to Monsérieux, abeam the

airfield at Gap-Tallard. The day was looking good. A steady 5kts over Colombis got me into cooler, more comfortable air at 9,000ft, giving me easily enough height to get to Mont Guillaume, just to the north of the lac de Serre-Ponçon. I have often thought that Guillaume is a useful mountain but one does have to fly uncomfortably close to its steep slopes to get any real benefit. I had noted in the past that, sometimes, sad reminders were left on the mountainside.

Perhaps I should have heeded Eddie's advice – always fly straight to Prachaval, near St Crepin, which works from any height and goes well without the added stress of having to hug every little nook and cranny. But I happened to be at Guillaume and I eventually managed to make it work, S-turning up its slopes until I flew through a particularly strong surge that teased me into making a turn. Still below the summit, I checked that I had adequate clearance from the mountain before starting to circle tightly in strong lift, carefully, carefully watching the rocky slope as it swung back in front of me at the end of my first turn. Now well established in my thermal, I quickly left the mountain and its lonely summit chapel well below me. An excellent day, I repeated to myself, much better than average. With the bonus of an 11,000ft cloudbase over Guillaume I no longer needed to fly around the corners of Clotinaille and Furan but instead could follow a short cut, over the snow-covered wastes of the high-level col de Couleau.

An unexpected and startling 9.8kt climb swept me up to 13,000ft just to the west of the tête de Vautisse, allowing me to make short work of the next couple of ridges on the way to the tête d'Amont, a little to the south-west of the town of Briançon. The air in this valley was crystal clear, quite unlike the hazy hot conditions that I had left behind at Sisteron. I passed the static, fractured white streak of the Glacier Blanc, pouring down from the summit spade of the Barré des Ecrins. To the north lay more cumulus and more opportunities – I had made good progress so far and there were still many hours left in the day.

I glided high above the deserted ski stations of Serre-Chevallier towards the north-east side of la vallée de Guisane. The col de Galibier lay a little further to the north-west and I knew that I would soon have to make a decision. Topping up once again to 13,000ft, I looked 80km further north to the majestic Mont Blanc, standing proud over its siblings, beckoning me to come just a little closer, just for once, to step across the divide. I recalled a conversation I had once had with Klaus Ohlmann during a visit to his airfield at Serres. He explained what I had already guessed, that a pilot's skill often progresses in jumps, from one plateau of expertise to the next and that one of the biggest obstacles facing pilots who fly in the mountains is a fear of the unknown. Many experienced pilots from southern Alpine clubs will soar quite happily up to the peaks overlooking the Modane valley but, when they get there, they look towards the lowered cloudbase to the north, consider the limited outlanding opportunities and turn back, preferring comfort to uncertainty.

I recognised myself immediately in his precis. A great deal of soaring expertise depends on what is going on in a pilot's head and Klaus's argument was that when faced with this sort of choice on a "good" day, one should always be adventurous.

All things being equal and with one's final glide calculator set onto a reliable safety field, what is the worst that could happen? A landout, yes. An expensive retrieve, certainly. But that's all, and the pilot would have learned something.

Sitting under my cumulus over the col, I still had my doubts. Logic doesn't conquer fear easily and I was definitely looking *down* on the cloud-tops over the northern mountains. A glance at my L-NAV told me that I was 12,000ft above the level of the airfield at Albertville, which was only another 60km away to the north. And there were one or two safety fields on the way there. And the airfield at Sollières was only a short distance away in the other direction along the Modane valley. And I could see cu ahead, albeit lower than I would have liked.

'Sitting under my cumulus over the col, I still had my doubts. Logic doesn't conquer fear easily and I was definitely looking *down* on the cloud-tops over the northern mountains...'

On the other hand, the pull to return to base was strong and I was attracted by the prospect of a simple downhill glide across known mountains with plenty of landing opportunities and the certain knowledge that I would easily make it home. I dithered for several minutes under my cloud before I made my choice, plucking up the courage to set off northwards, into the unknown.

Well ahead of me I saw a single well-formed cloud, although it was difficult to determine just how far away: its ground shadow was masked by an intervening ridge. When I reached the south-western edge of the Vanoise National Park I realised that the cumulus was much further away than I would have wished but I carried on, aware that I was getting closer to my escape field at Albertville while my height margins for arrival were becoming even more comfortable. As I approached the cumulus I felt a familiar, anticipatory tingle creep up my spine. Sliding underneath the cloud I flew straight into the core of its thermal where, grinning like an idiot, I pulled back hard on the stick and heaved the glider onto its wingtip. From despair to supreme confidence in three seconds flat...

I looked down at the emergency field at the village of Landry and decided that it was best to pretend that it didn't exist – it looked so small and difficult from where I was. In the valley just ahead lay the town of Bourg St Maurice beyond which lay my goal, only a few kilometres further, the huge expanse of rock and ice of Mont Blanc, rising in steps into a layer of cumulus clouds.

Mont Blanc had looked impressive enough from 80km away but seen from its flanks it was absolutely massive. I was enjoying the moment but still had difficulty in appreciating the sheer scale of the rock and ice spread out before and above me. I toured along its upper slopes, aware that I would be unable to reach its summit that day, although this was no disappointment to me whatsoever. If I had landed out then, the flight would have been worth it.

That's not to say I didn't want to try to get home. It was getting late and, although I had only spent a few minutes at my goal, it was time to move on. The clouds to the east of the Vanoise looked the highest so I set off along the Isère valley, taking any strong climb I could find. Near the ski resort of Val d'Isère I spotted a couple of high-flying paragliders and quickly found their thermal, rising again to 11,500ft and within gliding distance of the airfield of Sollières. Although I was not yet half-way home I was almost within reach of known territory, just needing a climb at Petit Cenis to get over the pass at the col d'Etache. The mountain was in silhouette as I approached from the east but I reckoned that the sun was still high enough to throw off thermals from its western face. Sure enough, as I flew from the mountain's shadow I found a climb and slid back over the pass to familiarity.

I continued to the Pointe de Pecé, a massive, west-facing ridge to the north of Briançon, clearly created solely for the purpose of growing thermals. Now within reach of St Crepin, the remainder of the flight would be easy, just another 100km or so down the hills. Back at the tête d'Amont I decided that I had enough height to get through the pas de la Cavale which, at 9,000ft in the heart of the Ecrins, is a handy short-cut back to the Gap valley.

I had forgotten that the gliding gods rarely provide gifts for free and little did I realise that I was about to be asked for a token payment. As I crossed the valley towards the tête de Lauzière I lost more height than I would have expected but carried on anyway, expecting lift along the sunlit face of the ridge that led up to the col. More sink. A nagging doubt crept into the back of my mind. Should I turn back? If I did, given the lateness of the hour, I would probably end up on the ground at St Crepin airfield – no big deal in itself but the lure of getting back to base on my own had the greater appeal. I continued along the ridge, dropping through 11,000ft with 10km to go. The ridges looked threatening amongst the dark shadows of early evening and were now giving sink rather than lift. I kept my eyes fixed on the pass, which was getting closer and closer but not moving relative to the canopy, indicating just how marginal the glide was becoming. With growing concern I

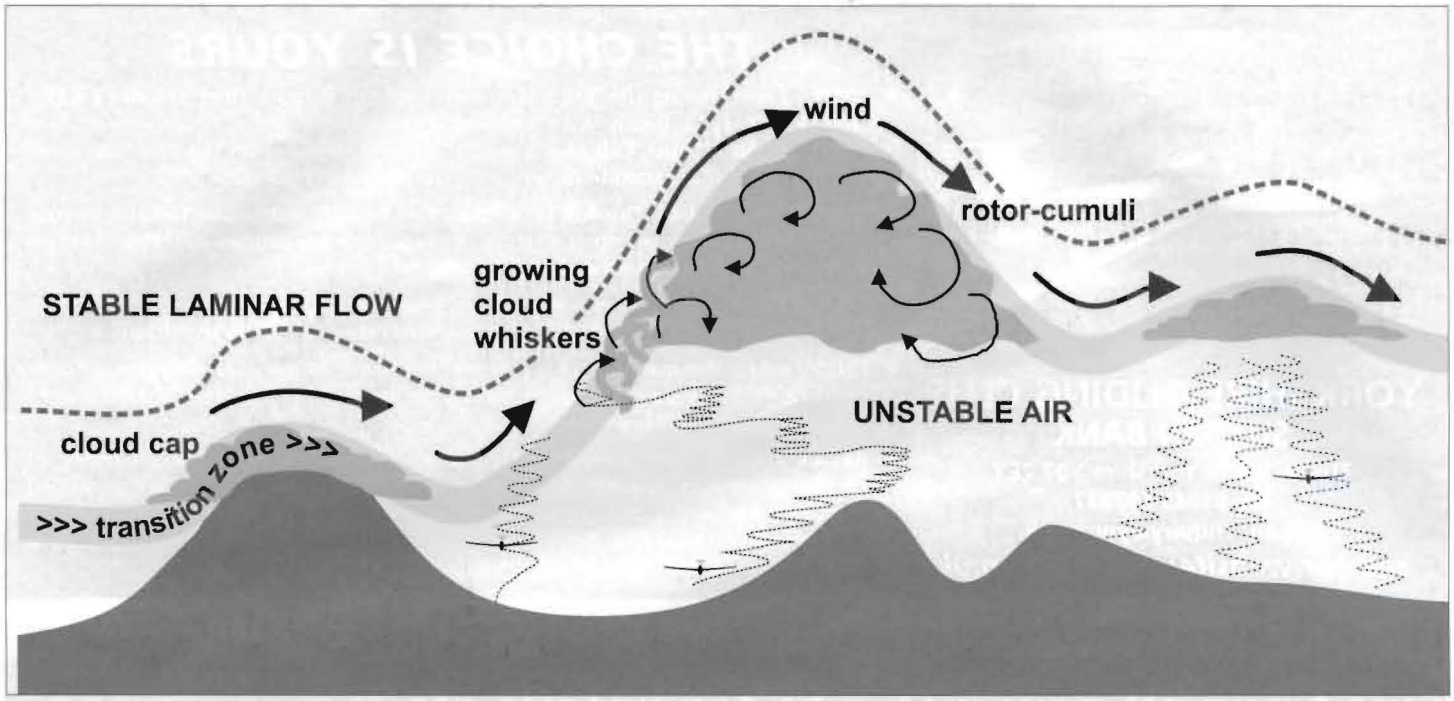
noted that the ridges either side of me were starting to converge and every few seconds I repeated to myself: "I can still turn back," aware that St Crepin was still well within reach, just around the corner behind me. I watched the altimeter unwind to 10,500ft, then 10,000ft, still with a few kilometres to go. I was not sure I would be able to get through until I was about 2km out, when I could see that the pass was starting to move underneath me. I scraped through with less than 300ft to spare.

The gods still weren't finished with me. Yet another pass still lay ahead of me, one I had never noticed before, because I had never been that low before. After this startling discovery I realised that it was a lot lower than the previous one and that I would easily make it over the top. My heart was hammering away and I became very aware that my entire nervous system was on its stops. I resolved that there would be no more adventures today, so I followed the ridge into the wide, welcoming Gap valley. I traced a path back over Colombis, Monsérieux and Malaup, mountains that now glowed softly in the evening sunshine. Once back in the warm haze of the Sisteron valley I flew some lazy circles over the local hills before finally calling it a day, joining the circuit for a landing.

After the world stopped moving I opened the canopy to let in the hot evening air. Other returning gliders threw up dust from the parched strip as they rumbled to a halt behind me. I derigged the LS and was still coming down from my emotional high as we set off for our evening meal in our village where, after the day's excitement, my post-flight beer never tasted so good. Our friends had enjoyed their own flights too, so we drank wine and ate our way through the evening, swapping stories and watching the mountains blush in the setting sun.

After our meal Ariane and I walked back to the gîte under an ink-black sky sprayed with brightly shining stars. The moon began its rise over Trainon as I reflected on my two moments of drama, of reaching the mountain and of edging through the pass. Had I really achieved the former? Would I ever again have the courage to try the latter? To more experienced pilots my flight had been no more than a milk run but for me, during that one brief moment over the col de Galibier, I had let my curiosity overcome my fears. Now, another day beckoned, only hours away and promising its own opportunities to accept or reject as we chose. Such is the tyranny of soaring that, despite the volume of adrenaline I had pumped during my flight, I couldn't wait for another day of burning blue sky, of snow and ice on heat-soaked mountains, of being given the chance to sit underneath another cumulus over another remote and desolate high pass, to discover whether I would have the courage next time to face the unknown.

S&G is planning a comprehensive look at flying in the Alps. If you have stories or photographs you want to contribute, please contact the editor



Jon Hall, HRA

Catching the wave

In his fifth article on mountain soaring, Gavin Wills describes how to get into wave

WHEN, from the Nor'west, the dust streams off the river beds and the poplar trees bend double above the rattling glider picket lines, small cows may sometimes be seen soaring inverted over the Omarama wind-sock! It is then, above tortured bands of rotor-cumulus, that hard-edged lenticular clouds stretch in stacks from horizon to horizon. On the ground the wind gusts to 40kts. Bold glider pilots dress for 10-hour flights at 30,000ft. Nervous tug pilots run for cover.

After releasing the towrope, the wave surfer's first challenge is to find a way through the maelstrom to the powerful lift in the smooth air of the wave above. Of course, you can bribe the tug pilot to tow directly into wave but then the aspiring wave master may never learn the crucial skills required for catching waves.

To be successful, you need to understand the atmosphere's structure from the ground to the wave's laminar flow, to recognise suitable stepping stones that lead to the wave, then, utilising a range of special techniques, cajole the glider skywards. This is the art of soaring into wave.

Structure

The diagram above illustrates the bottom of a primary wave triggered behind a mountain range. Due to the atmospheric conditions at the time the wave train happens to peter out downwind. A couple of random mountains are positioned downwind of the trigger.

The "transition zone" is the boundary layer between the stable laminar flow of the wave and the unstable turbulent flow below. A temperature inversion and a strong wind shear mark the top of the transition zone. The thickness of the zone varies, as it relates to the strength of the wind shear, and grades out downwards. It may vary from a few tens of feet to several hundred feet thick.

If you can see the transition zone then you can visualise the shape of the wave above it. Recognising the transition zone, both from afar and when you are in it, is an important factor in catching waves. The transition zone is often marked by certain clouds and/or by the onset of the short sharp turbulence associated with wind shear and rotor.

Fortunately, when the wave is marked, several types of cloud form in or near the transition zone. Note, on the diagram, the clouds that lie directly under the transition; the cloud cap on the mountain trigger, cloud whiskers in the transition zone and rotor-cumuli beneath the wave itself. The dynamic shape of the top of these clouds actually marks the top of the transition and outlines the shape of the wave. Compare the shapes and positions of the clouds marking both the primary and secondary waves and you may see why in this case the shallow flat secondary wave is more difficult to get into than the steep primary wave, extending well below cloudbase.

Rotor-cumuli are the dominant cloud form below the wave system. These clouds are fed by thermals broken into rotating bubbles by the wind shear. Sometimes hard to distinguish from regular cumuli when viewed from below, rotor-cumuli line up crosswind and often form bars of solid cloud. They appear not to drift downwind but condense on the upwind leading edge and dissipate on their trailing edge. If the top of the rotor-cumulus reaches into the transition zone it will be shaped by the wind shear into a typical lens shape. This may be impossible to see from under the cloud.

Cloud whiskers form along the transition zone as wind shadow thermals rise to the wind shear. These whiskers are important markers of the transition zone and hence the position and shape of the wave above. Typically, they mark rotating bubbles of thermic air that climb and grow up the transition to join the main rotor-cumuli.

Thermal activity is common in the unstable air below the wave. On days when thermal activity does not occur the overlying wave tends to be a flatter shape and shallower. Thermals are inhibited beneath the down of wave and enhanced where the wave is going up. Downwind of a rotor-cumulus the thermals may climb into wind towards the cloud if local wind reversals take place beneath the rotor.

Ridge lift may also be enhanced or inhibited by wave. If a ridge is working unusually well then it is likely to have a wave overhead. If mountain and wave are out of phase ridge, lift will be weak, broken and not carry you much above its crest.

Stepping stones

The soaring pilot generally has to step through several different kinds of lift in order to climb into wave. The object in using the following series of stepping stones is to arrive at the transition zone at the leading edge of the best looking rotor-cumulus. From this point you can accelerate through the final part of the transition zone and burst into the smooth laminar flow. Here, as you catch the wave, the wind speed and the climb rate may both double. This is the entry to glider pilot heaven!

Over flat ground thermals are used to climb to the rotor-cumuli. Remember that unlike regular cumuli these clouds are being rotated by the wind shear and the rising thermic bubbles become broken and torn up. Therefore one must continually search upwind for a new thermal until the glider arrives at the leading edge of the rotor cloud.

In mountainous terrain move around to find a ridge that is in phase with a wave above. Occasionally, in-phase ridge lift will lead directly to the transition zone and into wave. More commonly, ridge lift will give way to broken thermals which must be worked upwind in a soaring dance called the rotor-walk.

Wind shadow thermals from sheltered hotspots in the lee of the mountain trigger may burst upward through the cooling, descending air to reach the transition zone. These thermals are very narrow and strong and are surrounded by areas of intense down-draughts. They can make for a wild ride!

The wave trigger itself offers an interesting opportunity for getting into the wave. If one can climb on the upwind side of the trigger a daring dive over the back of the mountain may lead the pilot straight into smooth lift. At least the glider should arrive near the desirable entry point on the upwind edge of the rotor. This is an exciting but committing route to the wave!

Soaring techniques

Rotor-affected thermals may require adapted techniques for a successful climb. Think of a rotor thermal as a rotating sausage of air. It is rising strongly on one side and descending on the other. To remain in the rising air on the upwind side of the sausage one must either make very small circles, or into-wind beats. The thickness of the sausage will determine whether small steep circles or beats are best.

The rotor-walk is the strange dance that the glider makes as the pilot works his way into the transition zone. Pull up in lift and turn through about 60°; if the lift is weak turn back and make slow beats until the lift dies, then accelerate into wind in anticipation of being dumped by the next sausage.

If the lift is strong make one or two quick turns but always search into wind for the next burst of lift.

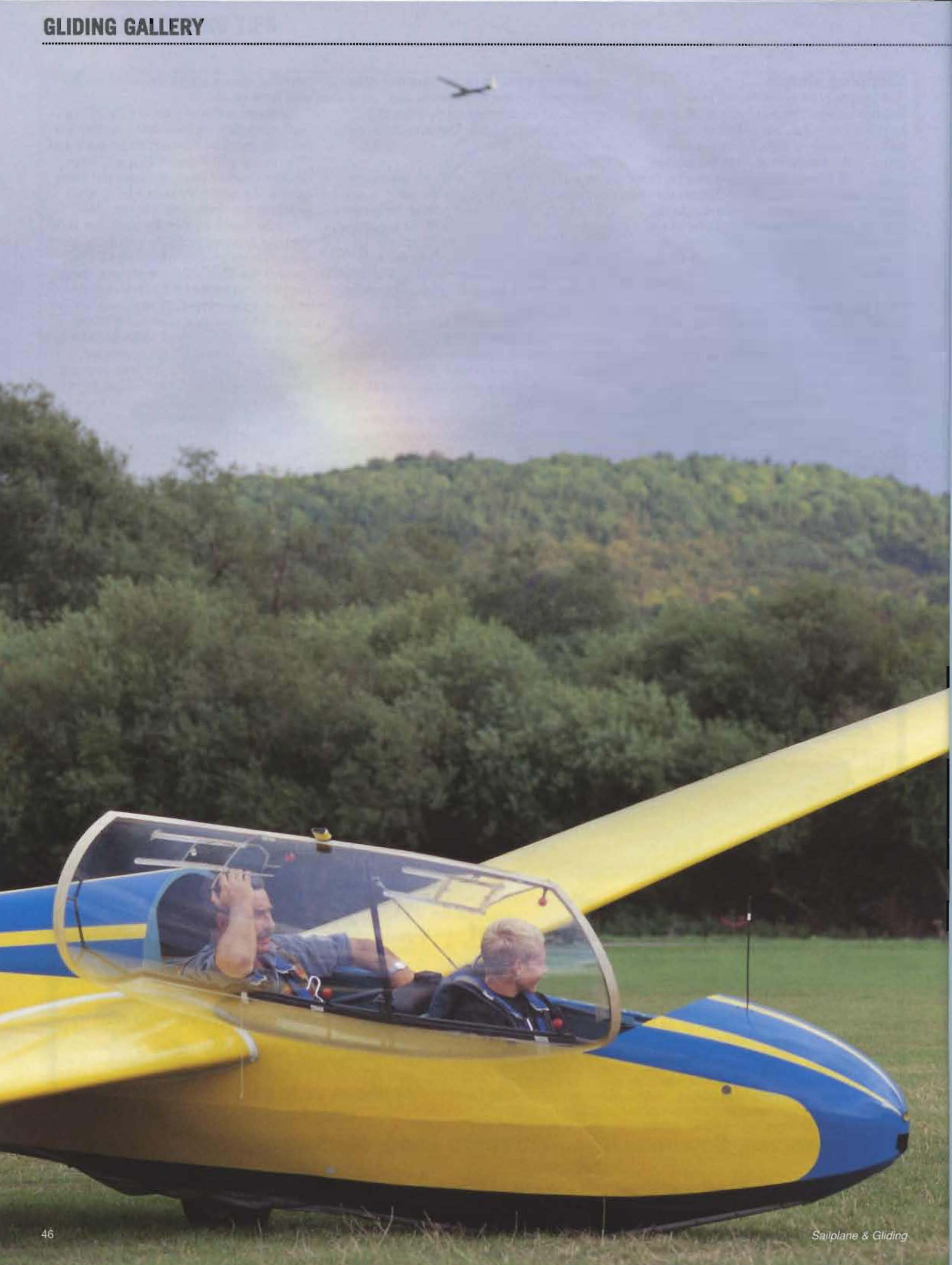
Turbulent bursts of rotor are the pilot's lead when dancing rotor-walk. Airspeed will typically oscillate between about 40kts and 70kts as the glider describes a seemingly random series of beats, pull-ups and steep circles. The wilder the dance becomes generally the closer one is to the wave.

On the upper edge of the transition zone the pilot is poised to break into the wave. If whiskers of cloud are growing up and towards you then you have it made. Simply punch out in front of the nearest whisker and catch the wave. If the whiskers are still above then you must continue to climb below each whisker until at about cloudbase an upwind push will catch your wave.

If the whiskers remain both elusive and above you, you may have to climb right to cloudbase on the leading edge of the rotor cumulus, accelerate in the lift and then punch up into the wave. If that does not work try a cloud climb!

A successful wave-catching battle may be turbulent and tough but it is well rewarded by the smooth power of the wave, the peace and quiet and the view. Once in wave and tracking, a whole new soaring opportunity opens up; Diamond height gains, world record distances and phenomenal speed triangles. But tracking wave is another story.

Next issue: Gavin on tracking wave
For details of Gavin's mountain soaring school, see www.GlideOmarama.com



The beauty of flight

Above: End-of-task exhilaration as two finishers, photographed by Stephen Kirkby, swoop towards the line in last year's Open Class Nationals at Lasham
Left: Matt Crane's picture of a K-13 at RAF Halton with a rainbow and a K-8 in the background reminded us of this year's spring showers
Below: Mike Fox of Wolds GC took this atmospheric shot of a tow plane

30,000ft in a cu-nim

Midland GC's Mark Wakem suggested this classic tale from 1960 by Gordon Rondel

SATURDAY the 18th of June was a very warm day at Marham with slight haze and one or two Oktas of cumulus, base 4,000ft. Surface temperature at 14.00 hrs. was about 80° F. Instability in the local areas was not very marked, although isolated thermals of the order of 300 f.p.m. could easily be worked up when found.

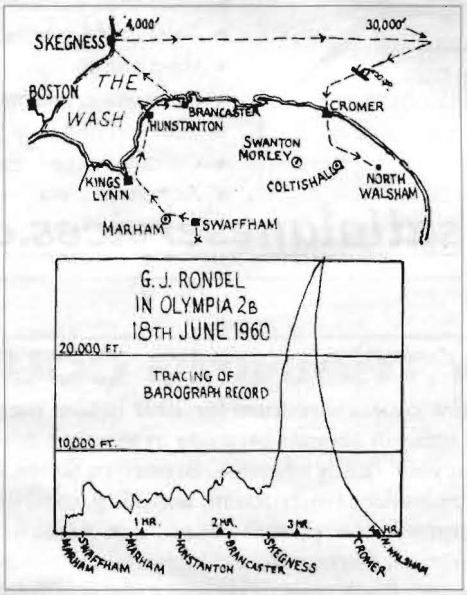
Pilot Officer Ian Strachan towed me off in the Olympia 2B, the machine which he had flown to 25,900ft. two weeks before. At Hillborough, four miles south of Swaffham, I cast-off, 1,900ft. above Marham airfield height. My intention was to soar locally with the possible aim of gaining a Gold C height if the opportunity arose, although at the time it seemed extremely unlikely.

The first hour of the flight was most unrewarding: just a series of fumbles with thermals barely worthy of a name. Then at 1,400ft. near Marham, whilst considering the advisability of prolonging the flight, I found a 400 f.p.m. thermal under the most unpromising looking cloud. I soon climbed to 4,000ft. and looking around I was able to pick out, with the aid of polaroid sun glasses, a row of cumulus clouds breaking through the haze layer to the north. The wind was westerly, and the possibility of extensive cumulus growth in the Coastal convergence zone of the North Norfolk coast led me to fly in that direction.

At four o'clock I had reached Hunstanton. At this point it became obvious that the really big stuff was on the other side of the Wash, near Skegness. A further half-hour of fumbling and I managed to climb to 7,000ft., a sufficient height from which to attempt a crossing of the water lying between me and the Cu-nim, which was obviously at least 20,000ft. high, comprising many separate cells stretching from Boston to Skegness. In the ten-knot head-wind I set myself a minimum contact height of 4,000ft. and headed towards the cloud.

The coastline behind had disappeared from view in the haze when, at 4,100ft., I saw the first very welcome flicker of green ball on the Total Energy Vario. In the next half hour I had ample time to ruminate on the advisability of the steps which I had so far taken. This was undoubtedly the most inactive Cu-nim base ever. Eventually I found the first decent updraught, about 120 f.p.m. I climbed laboriously to 7,000ft. in torrential rain, which came into the cockpit through every chink, then set out to find the real core of the storm by flying towards the noise and the lightening. The artificial horizon was working perfectly, but already the Cook compass was feeling the effect of the heavy static discharge.

The Oly was behaving very nicely showing remarkable stability despite the turbulence. The only worry was a particular high-frequency vibration on the elevator control. This disappeared as the lift smoothed out and the climb continued through hail and lightning, at speeds in excess of 1,000 f.p.m. up to 12,000ft. At that height I switched on the oxygen at the regulator and put on my mask. There was no more rain to stream into the cockpit and my clothes soon dried out; no doubt I was sweating sufficiently to assist this.



The rate of climb was by now completely off the clock: a fair guess would be 1,500 f.p.m. I started to fly race-track patterns, with 30 second legs. The rate of climb increased still further. By calculation the core of lift in excess of 1,000 f.p.m. measured 1,000 yds. by 300 yds. with its axis N.E. to S.W., although by now the compass was not too reliable, and it may have been nearer to N./S.

By now Diamond Height was in the bag, and I was intrigued by the possibility of beating Ian's Club Record. Still with the green balls in the top of the tubes I continued to climb. Very fine grains of rime ice blew into the cockpit in clouds now and then. The elevator control was becoming less and less effective, and soon the only method of reducing speed increases due to the turbulence was to take off bank and so utilise the control force, which had been used to maintain the turn, to raise the nose. This resulted in some rather gorblimey orbits.

At 27,000ft. I remembered that Ian had just fallen short of John Williamson's record, so, as the climb was still a respectable thousand feet per minute I continued the climb up to nearly 30,000ft. At this point I decided to leave cloud and head west. The forecast wind was 40 knots at this height and I must be well over the sea by now. At first I lost a few feet, then I hit another upgust which stalled the Oly and carried me up another seven or eight hundred feet. After five minutes the air smoothed out and I realised that I was in the clear. The direct vision panel was iced up and I had no visible proof of being out of cloud.

Relaxing once more, I looked around and saw that the ice which had begun to form on the cockpit walls and canopy at 20,000ft. was now almost a quarter of an inch thick. I scratched some of it off and was relieved to see, when I had descended to 25,000ft or so, that there was very little airframe icing on the wings.
I had kept the controls free on the climb by exercising them to full travel every time a large change of attitude was called for.

The direct vision panel was still firmly iced up, partly due to the heavy rain at low level which had frozen during the climb. The ice on the wings was in the form of isolated water droplets which had frozen there. During the late stages of the climb it had been necessary to wipe the instrument glasses fairly frequently in order to keep them legible, and the T.E. head had blocked up. I was wearing barathea slacks, light shoes and socks, and a service issue parka which provided completely adequate protection in view of the short time I spent at altitude. Whilst wearing silk inner gloves and cape leather outers I had felt frequent slight electric shocks from the control column.

It seemed an awful shame to throw all this height away, but in view of the 50-knot headwind any flight to the west was strictly impossible and I had no map coverage for the North Sea. Subsequent calculations show that I could in fact have reached the West German border without any further gain of height.

I descended to the west at 60 to 70 knots, and when the canopy eventually cleared sufficiently I saw that I was flying down a valley between two forty-mile long rows of Cu-nim. Beneath, there was complete cover of stratus at five or six thousand feet. After 30 minutes on a westerly heading my estimated position was near to Brancaster. I saw the only break in the cloud cover below. Through the gap I could see hazy patches of green and yellow: land at last. I put the airbrakes out and threw away 10,000ft. as my oxygen supply ran out. As I went down into the break in the cloud a ship steamed into sight; I had no alternative, there were no more breaks in the cloud cover.

At 4,000ft. I was clear of cloud and heading west once more, resolved to return to the ship if the shore did not soon show up by 3,000ft. It very soon did, about six miles on the port side. I coasted in at Cromer and decided to try to make my way back to Marham. The rate of movement of that Cu-nim had been at least 60kt.

I was baulked by flat air over the rain-drenched countryside. I was down to fifteen hundred feet skirting a storm over Coltishall when I saw a suitable field on the outskirts of North Walsham and I decided to land there. I was met by the local police constable and schoolmaster, an ex Flight Lieutenant. These gentlemen treated me with the utmost courtesy. The retrieve crew arrived at 9.30 and we were on the road home by 10 o'clock. The journey home with the barograph was a greater nervous strain than the flight.

The Fenlands Olympia 2B was presented to the R.A.F.G.S.A. by the Nuffield Trust in 1958. Its equipment includes a suction drive Artificial Horizon by Ottley Motors and an oxygen system capable of operation up to 42,000ft. I installed these items last year in preparation for the Nationals, and excepting failures to top up the oxygen bottle and/or accumulators they have functioned perfectly ever since. The accumulator which drives the electric vacuum pump is provided with an in-situ charging plug, so that the accumulator is charged by the power supply to the trailer during the retrieve.

I would like to take this opportunity to thank all those people who helped me to make this flight, Ian Strachan particularly he was Official Observer, Tug Pilot, and Retrieve Crew Chief – which didn't leave much else to be done.

Sailplane and Gliding, October 1960, page 277

Go fly a kite?

Forget paragliding – these days, kitesurfing is cool. Gliding's Jay Rebbeck gives it a go

I'M STANDING in knee-deep water in a muddy lagoon in Perpignan, southern France, and it's snowing. This is my first kitesurfing experience, and I'm fortunate enough to have former hang-gliding and paragliding world champion John Pendry holding on to me as we fight against a biting winter gale.

After a frozen hour failing to get up and going, luck prevails, and I find myself with my feet wedged in the board's foot straps and the kite swooping down in front of me. Launched full-speed downwind, I'm filled with a split-second combined dose of elation and terror before I lose control and catapult out of my straps into the icy water. This is serious fun. John explains that we're out in somewhat extreme conditions to be learning, but it doesn't matter. I'm hooked.

And I'm not alone. The kite revolution has been under way for several years. Kites now power three main sports: kitebuggying on land, kitesurfing on water and snowkiting. They are the ultimate cross-over sports, and the kite world is experiencing an explosion of design influences from paragliding and windsurfing as well as from traditional power kite manufacturers.

Photos: Jay Rebbeck

So, what equipment do you need to take part in this expanding sport? The board is completely independent of the kite, and you stay attached to it through either a pair of foot straps, or a set of bindings. Kitesurfers typically have three kites, covering sizes between around 5 and 15 square metres, and these are inflated at the end of lines normally around 20 metres long. You are able to control the kite through a control bar that you hook onto with your harness, and this is very similar in feel to holding onto a windsurfing boom.

As a glider pilot, you'll understand the dynamics of the kite – after all, really it's just a very inefficient wing! As well as steering the kite through the control bar, you are able to adjust its power by pulling in on the back lines to increase the kite's angle of attack and provide more lift. Another area where your gliding knowledge will help out is in your understanding of thermals! An unsuspecting Hawaiian kitesurfer was lifted off the beach to over 500ft when a thermal dragged him from the competition launch area. Remarkably, he walked away unscathed.

Club news

Andreas (Isle of Man)

"THE winch engine needs a quick overhaul," says the Tech Officer. "Quick strip down, check the pistons, valve guides, head rebuild and slap it all back together again – won't take long". Why do the simplest of jobs take three times as long and cost twice as much? Seriously, the club is grateful to Dave and Tom Wiseman, who spent many a long hour overcoming just about every difficulty going, to rebuild the engine. The hurricane season finally gave us a break over Easter; we got some much-needed currency check rides with a little local soaring. Six members and an L33 Solo were made very welcome at Bowland Forest GC soon afterwards. We were joined by our good friend from Dorset GC, Pete Molloy, who came up to "bag" another type. Dave's L33 is his 115th. Our host, Bob Pettifer, made sure we all had some interesting flying. Our thanks for his time and enthusiasm and the club's hospitality: we will be back!

Brian Goodspeed

Aquila (Hinton in the Hedges)

SOARING best describes our spirits – and our gliders for that matter! The season is under way and we look forward to welcoming visitors and pilots alike. Our K-21 has been beautifully restored in Poland, and is dazzling everyone at the launchpoint! Indeed, many members have been unintentionally landing it long, such is its newly-acquired slipperiness. We are taking Evening Flying Groups on a pre-booked basis (*groups@aquilagliding.co.uk*). Serious fettling of club and private gliders has begun, some in our new workshop. With the Regional Task Week running from July 27-August 4 and our involvement in the Inter-club League, Aquila looks forward to an unrestricted season. Keep up to date at *www.aquilagliding.co.uk*

Hugh Gascoyne

Bath, Wilts and North Dorset (The Park)

THE workshop has been busy as many pilots finish their Cs of A, but so far this season the only soaring weather seems to be on Mondays. We have a growing number of new members, some *ab initios* and some joining from other clubs after moving into this area. Congratulations to new solo pilots Malcolm Rouse and Andrew Percival, and to Chris Braithwaite and Mark Radice, who have re-soloed. Doug Mills has gained his Cross-Country Endorsement. We welcome Simon Housden, who joins our instructors. Wednesday flying has been resumed and is increasingly popular thanks to the small band of enthusiasts who help.

Joy Lynch

*At **Andreas** (from left): Gareth Claydon, Bob Fennell (CFI), Dave Wiseman, Bob Pettifer (Bowland Forest), Tom Wiseman, George Bridson and Brian Goodspeed*

Bidford (Bidford)

BIDFORD welcomes our new tuggie and course instructor for the season 2002, and is looking forward to a good season ahead. We have, however, lost one of our greatest sideline icons this year: we regret that Pam Bailey, Roly's wife, has passed away. Many of those who have visited our club would have spotted her catching forty winks on the bank in the shade. We will always think of her with the fondest memories. On the brighter side, G-CUBB is back on line and our weekend tuggies are champing at the bit to get back into the swing of it.

Lynne Taylor

Black Mountains (Talgarth)

AFTER a rather protracted C of A, our Pawnee is now back on line thanks to some timely help from the Long Mynd with spares. Thanks, guys! Apologies to some of our visitors from East Sussex over the problems. The day the tug returned, we had Gold height easterly wave right over the clubhouse plus fantastic ridge flying for six consecutive days. Work is racing ahead with the new clubhouse/hangar with several pairs of willing hands all getting stuck in and a super club spirit everywhere. A "new" fitted kitchen has been obtained but we have had to keep it under lock and key until it is installed as several members mumbling something about "better than I've got at home" were seen acting suspiciously in the vicinity! Lembit Öpik MP has kindly agreed to perform the formal opening of the hangar at the start of our annual task week on August 24 so now we just HAVE to finish it! On a sad note, Tony Burton has passed away *(see obituary p61)*.

Robbie Robertson

*Bob Cassidy took this shot of the tug at **Borders GC**'s site at Milfield Wooller*

Booker (Wycombe Air Park)

WE'VE just had a successful expedition to Shobdon and are, at the time of writing, about to leave for Jaca, Spain, led by DCFI Jed Edyvean. We are taking our Duo Discus and a club Discus – more than ten gliders in all, including those belonging to the private owners. After over 20 consecutive dry days, the first small front brought a couple of 500s, including a possible record-breaking flight by Matt Cook in Booker's Duo. Our congratulations to Martin Ffoulkes of the BBC Group on becoming a BI. Currently we are selling intensive courses at a remarkable rate; perhaps it's the free reservation system for instruction, now running seven days a week. At the recent AGM, the fireworks were not confined to the discussion: the OHP intended to be used for a presentation burst spectacularly into flames. We have just sold another 180hp Cub, to be replaced shortly by another 260hp Pawnee. Our free highly-competitive regionals will be held at the end of August, entries are still welcome; see *www.bookergliding.co.uk/*

Roger Neal

Bernard Smyth

*Mike Harris with the cup he received for services to **Bristol & Glos GC**. It was awarded in memory of club member Malcolm Gay, who died in an accident in 2001*

Borders (Milfield)

AT the AGM in March, Ian Sim stepped down as chairman, to be replaced by Alistair Fish. Ian was awarded our President's Cup for service to the club. Yours truly got the height trophy for two 18,000ft climbs (but still failed to get Diamond height!). Richard Abercrombie got the trophy for best achiever, having soloed in style with a two-hour flight and a 7,000ft climb. He has since maintained his record, logging more than 10 hours solo in less than two months. Andy Henderson has been appointed deputy CFI with Ian Sim, to assist Bill Stephen, our new CFI. Andy is particularly keen to develop cross-country soaring from the site and will use the Scottish ASH, when available, for lead and follow.

Bob Cassidy

Bowland Forest (Chipping)

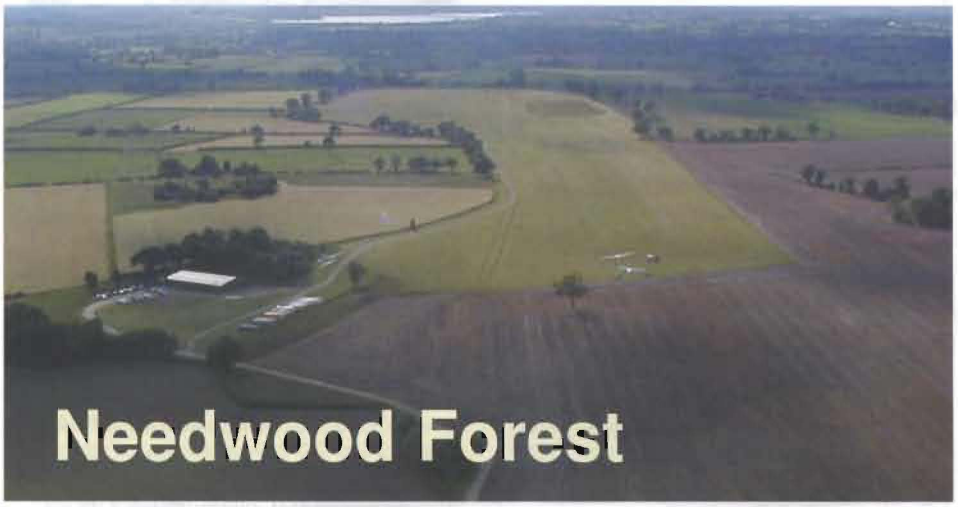
WE were very pleased to welcome members of Andreas GC. Unfortunately, the weather was rather unkind, but they thoroughly enjoyed flying our ridge. The field has now dried out wonderfully well and we are all busily getting current! The weather has now improved, thus allowing cross-country flying to start. Our Super Falke motorglider has now come into service.

Eileen Littler

Bristol & Gloucestershire (Nympsfield)

AN excellent curry night was held when BGA chairman David Roberts visited the club to speak about the BGA and answer questions. About 30 members were attracted by Ray and Jackie Lemin's meals and David's talk. Congrats to new BIs Kevin Neave and Alison Mulder; also assistant cats Matt Crane and Mark Parker. We are to do some flying for the Faulkes Foundation, organised by Simon Robinson. A committee ban on smoking in the bar was rescinded until it is considered at the AGM. Richard Smith, Ray Payne, Graham Morris and chairman Steve Parker explored downwind to the Blorenge and along to Hay Bluff on two days in April and two made it back from Talgarth after finding wave to

Please send your entries to *helen@sandg.dircon.co.uk* or Helen Evans, 7 Ollney Road, Minchinhampton, Stroud GL6 9BX to arrive by **June 11** for the August-September issue (**August 13** for October-November)



Needwood Forest

NEEDWOOD FOREST GC, in the heart of the Midlands, is at the north end of the corridor between East Midland and Birmingham CTAs. We're a small but lively club with around 60 members from 14 to 80 years old. We run a highly successful cadet scheme and have several young solo pilots, while most of our Wednesday flyers are retired.

The club was formed in 1965; a group of local gliding enthusiasts obtained a T-21 and formed the Burton and Derby GC, operating from the disused WW2 airfield at Church Broughton in Derbyshire.

In the early 1980s, the club bought an area of land next to the village of Marchington and changed its name to Marchington GC. Members cleared the site of bushes and trees to create suitable runways and, as before, the club occupied a site used in WW2. This had been a camp used by American forces; one of the roadways was used as a runway until the 1990s, when the Home Office announced plans to build a prison on the site.

When the club was forced to move again the search for another site began. It was clear that this was going to be no easy task and to everyone's relief, Mike Shelton the club's CFI and operator of nearby "Tatenhill Airfield" agreed to the club using a grass strip alongside his main runway as a temporary base, a liaison that lasted some eight years.

The club eventually succeeded in negotiating a 25-year lease on a 70-acre greenfield site at Cross Hayes, just five miles from its previous home. Development work involved preparing the flying areas, building a sizeable glider store (that's what the planners call it!), a small but pleasant clubroom and, yes, another change of name. The gliders were flown to their new home in November 1998 and, overnight, the previously all-aerotow club became a winch-only operation.

The site lies west-north-west/east-south-east and is 1,200m long. A Skylaunch winch offers consistent launches to 1,500ft (2,000ft on windier days). Our launchpoint frequency is 129.9. Airspace is open up to FL45 above site; local agreements with East Midlands Airport allow access to several areas of Class D airspace up to 5,500ft. The "club triangle" gives safe cross-country flying for early solo pilots, using turning points near Ashbourne and Newport, the more ambitious pilots set 300km tasks to the west or circumnavigating the Birmingham CTA.

If you fly power, we're sorry that planning restricts us to gliding only – no power aircraft or motorgliders are allowed.

Visitors are always welcome. We do not charge *bona fide* members of other clubs a reciprocal membership fee; we have a first-class fleet available and you will be guaranteed a warm welcome if you call in.

Andy Chapman

At a glance

Membership: £190

Launch type and cost: Winch, £5.50

Club fleet:
K-21, Super Blanik, DG-500 Elan, K-23, K-6CR

Private gliders: 10

Instructors: 10

Type of lift: thermal

Operating days:
Weekends, Wednesdays and Bank Holidays
(also club weeks: see website for dates)

Contact:
01283 575578
nfgc@GoGliding.co.uk
www. GoGliding.co.uk

Both the privately-owned and the club gliders at Needwood Forest GC range from modern glass-fibre sailplanes to beautifully-restored classic aircraft

➢ 10,000ft. We want an LS4 to replace the ASW 19, sold to a members' syndicate after re-gelling.
Bernard Smyth

Burn (Burn)

THERMALS at last! Early April gave us 6-8kts and cloudbase over 6,000ft – but very poor vis. On April 12 the north wind blew in, lowered cloudbase to 3,000ft but improved the vis considerably. Our new launchpoint control is nearing completion after the old one flipped whilst being towed by – if you really want to know, ask any Burn member. We are still experiencing a steady flow of new members from both ends of the age range, which is very encouraging. Our landlord has been taken over by a German company; as the lease renewal is due soon, we hope it will understand the needs of gliding.
John Stirk

Cairngorm (Feshiebridge)

SPRING is finally here and every young glider pilot's heart, and thoughts, turn to CFI Andy Carter's "*ab initio* course week", and what a tremendous success it was this year. Three first solos (two in one day!). This was surely a great introduction to Scottish mountain soaring for our future pundits, helped along by the good example set by Nick Norman and Ian Carruthers who both completed a 320km task on the last day. Our sincere thanks go to Alister Morrison and Andy Carter for their hard work in running this fantastic course. Badge claims this month include: Jim Riach (Diamond goal); Chris Fiorentini (Diamond goal); Sandra Forrest (First solo); Mike Morrison (First solo); Sarmed Mirza (First solo); and John Whyte (Silver duration). Our thanks also go to John Whyte for building the new clubhouse porch. Dates for your diary: Mayfest, May 6-17 (great opportunity to shed the winter blues and enjoy some superb Scottish mountain soaring/scenery); Inter-club League: August 10-12; and of course our famous and celebrated Octoberfest Sept 30-Oct 25 (great fun for all!). Please book early for Octoberfest (no booking fee) with our secretary Ruth on 01667 493459 or the club on 01540 651317. See *www.gliding.org*
Chris Fiorentini

Cambridge (Gransden Lodge)

THE winter party was another great success, principally due to the untiring efforts of Clare Colton. The start of the soaring season gave Chris Millson the chance to complete two Bronze legs on the same day, and the excellent conditions of April 16 saw Phil Jones set a new 15-metre 500km triangle record. Richard Wass and Clare Hooper have both re-soloed. We seem to be attracting new members as the weather improves and quite a few former members are rejoining. Perhaps this is a sign of revival in the number of active UK pilots.
John Birch

*Robin Dransfield went solo at **Deeside** on his 16th birthday; father John tugged. They were the club's third father-son combination in a year. Is this a UK record?*

***Burn GC**'s under-16 brigade (standing from L): Karl Zatorski, Raymond McLearnon, Matthew Raywood, Adam Walker, and Matthew Walker (who soloed on his 16th birthday). Michael Walker and Tony Flannery are the oldies in the cockpit*

*Nosey Parker, a bear who does things he's a little bit scared of to help children overcome their fears, went flying at **Dukeries GC** courtesy of the local paper. He's the one in the rear of the cockpit (Photo courtesy of Jon Knight)*

Clevelands (Dishforth)

DESPITE an inauspicious start to the year, two students made good use of the circuit-bashing weather and achieved first solos. Congratulations to Tim Digins (LUUGS) and Andy Peet. Jim Donald managed to find something to stay up in and completed two Bronze legs. We hosted the Yorkshire Inter-club League over the Easter weekend. The haze only allowed us one task day, and Clevelands came out on top with Derek Smith winning the Pundit Class and Alan Jenkins the Novice class. The top holiday destination for glider pilots this year appears to be Chile. Mr and Mrs CFI (Kevin and Liz Kiely) visited the gliding site in Santiago early in the year on holiday, shortly to be followed by Dick Cole, who took part in the official RAFGSA expedition in February. By the time this goes to press, James Prossor and Baldrick (Paul Mason) should have completed their Assistant Instructor ratings. Webmaster Robin Sinton has revamped our website – take a look at *www.dishforthairfield.freeserve.co.uk*

Polly Whitehead

Cornish (Perranporth)

AFTER the last dismal report we can now be a little more optimistic. For a start, we're flying again! A new committee has been beavering away at revamping the club's image and fortunes, and we're making good progress. We've kitted out a new caravan to replace the rather run-down and battered previous one, all very smart. New promotional material is now available and being circulated to the masses, hopefully giving us a more modern and dynamic image. We have started offering trial lessons to varying heights in response to people asking for set times in a glider, to give longer flights. The Rolls-Royce flight is the Mile High Club (no sex required). It is heartening to see that one in three people elect higher tows, and this, it is hoped, will bring about a big change in the fortunes of the club. What we woefully lack at present is enough instructors to make life easier, but we are in the process of bringing more on line. It will be hard work, but we are determined to succeed. I am sure we will.

Dean Penny

Cotswold (Aston Down)

OUR summer courses and evening flying have started, and we welcome Bo Nilsson, the course instructor. We now have an L-Spatz on site and the club has acquired a Pilatus B4 for pre-Silver pilots. Gary Fryer and Helena Brogden have been co-opted to the committee, and we expect great things from them. The MoD buildings at Aston Down have now been sold, but since we own the airfield we expect only minor changes to our operations. Best wishes for a speedy recovery to David Roberts after his accident.

Frank Birlison

Cranwell (RAF Cranwell)

THE seemingly endless winter finally faded mid-March and we began to log some significant soaring times. Our second K-13, obtained when Phoenix (Bruggen) disbanded last year, finally emerged from the workshop and took to the air in new livery following a major rebuild. The club AGM took place in early April with prizes awarded to Sue Wood, Mick Lee (three), Pete Kingwill, Ben Cluderay, Arthur Docherty (two), Ian Mountain (two), Mick Baker and Charles Skiera. Bouquets were presented to June Mills, Sue Wood, and Vanessa and Richard Gregory for their sterling efforts in keeping us nourished throughout the year and especially during a particularly inclement winter.

Paul Skiera

Dartmoor Gliding Society (Brentor)

WIND and water, cleverly alternating, prevented any flying from our site for the first three months of this year. The chairman, John Bolt, with Ians Reedie and Rolfe and Steve Lewis, spent many hours improving the field surface. Nothing, though, can alter the basic geology – a few inches of absorbent topsoil covering a deep layer of impervious clay – with even very minor changes needing approval by the National Park Authority. Fortunately, when flying began easterly winds set off local wave giving all members a stimulating start. Peter Stapleton, visiting from North Hill, took his Astir to 15,500ft and was still climbing when stopped by an oxygen problem – confirmation that the Dartmoor wave system has much more to offer than generally recognised. Pilots with the kit and desire to explore it for themselves from a winch launch – still only a fiver – will be welcome visitors. A well-attended AGM was delighted to re-elect the present committee *en bloc* with a great deal of valuable and varied advice about how to improve finances and recruit the young members the club so urgently requires.

Phil Brett

Deeside (Aboyne)

THE year got off to a great start with three soaring flights of more than two hours on January 1. Graham Mann and Richard Kalin flew 250km in Duo Discus 3D. The Pirie brothers achieved their usual New Year's

*Sandra Forrest (left) and Mike Morrison were two of the three pilots who soloed on **Cairngorm**'s course for* ab initios *(Alister Morrison)*

*Sarmed Mirza was **Cairngorm**'s third soloist in a week. You may recall his account of starting to learn (*New Kid on the Block, *February-March 2002, p28)*

*The refurbished R59 (which came to the UK from the now-disbanded **Phoenix GC** at Bruggen) takes to the air again at **Cranwell** in its new livery*

Club news

soaring flight, with their usual gusto; Terry Cawthorne was the tug pilot. Don't these guys celebrate Hogmanay? Congratulations to Ron Ogston and Robin Dransfield on their solo flights. Robin went solo on his birthday; his father John was flying as tug pilot. This makes the third (CFI present/past) father – son combination within a year, is this a new record for a UK gliding club? We are pleased to have Dave Hallsworth as tuggy for the season; Dave is a DGC member and experienced in flying gliders at Aboyne. We are looking forward to a great soaring season, and the 5th UK Mountain Soaring Championship in September. This competition is becoming famous not only for its soarable weather, but for the number of bottles of whisky offered as prizes. The club is open seven days a week; Roy Dalling is happy to take course bookings.
Sue Heard

Denbigh (Denbigh)

THE annual dinner was well attended. The Catalyst shield was presented to Tony Cooper for the fastest ridge run and a trophy went to Steve Butler for the most improved pilot. Scrolls were presented to Robin Filer and to John Friend in appreciation of their outstanding services to the club. A new gearbox has been fitted to our Rolls-Royce standby winch and the area around the hangar has been improved. At our AGM, Neil Kyte retired as chairman and Chrissy Thompson as secretary. We thank them for all their efforts. Malcolm Austin was elected as chairman and Brian Allen as secretary. CFI John Dean has decided to move on to Bidford and the chairman thanked him for his sterling work. We all wish him well. Tony Dickinson has been appointed as CFI. Visitors from Usk, Cosford and East Sussex made the most of the flying conditions and Terry Banks climbed to 18,000ft in elusive wave while most of us were thermalling. Improvements to launchpoints and our new retrieve track have helped the launch rate – and we can now get into our gliders with clean shoes!
Brian Allen

Derby & Lancs (Camphill)

ON March 5, Ron Farnell jumped from the K-18 over countryside near Abney. He parachuted down and is safe and well. The accident is being investigated by the AAIB. We're now operating seven days a week. In April, 20 members took a Camphill Puchacz to Pocklington for an aerotow training camp. With over nine hours flown there were four new first aerotow solos and three re-solos. All of this was pulled together by Dave Martin. On March 28, Christopher Chalmers-Brown took the last flight of the day. His first solo. He flew it impeccably. Well done!
Diane Reid

Devon & Somerset (North Hill)

ONE of the problems of writing these entries is that you have to do it almost immediately the previous issue appears in the clubhouse. Consequently, if we at least attempt to appear up to date we have to be a little bit of a mystic at times. When I said the tug was back, I meant I hoped the tug would be back! Well it wasn't and I got a lot of stick, and then it was – briefly. Now I hope it will be back by the time you read this. OK? The season has started with encouraging easterlies and good wave flights: Peter Stapleton took a winch launch at Brentor and raised their club record to 15,500ft. Ron Johns and CFI Malcolm Chant flew the ASH to Roadford Reservoir and back, stopping to enjoy the easterly wave at Dartmoor on the way. They are also the North Hill entry in the overseas nationals in Spain. Pressure, what pressure? We have had club expeditions to Wales, the Mynd and Portmoak, meanwhile Steve Westlake has been doing the rounds encouraging members to participate in the Inter-club League; let's hope we can make a showing this year.
Phil Morrison

Dukeries (Gamston)

WE played host to the *Retford Times*, who brought us a new day member, a rather large bear by the name of Nosey Parker. He specialises in doing things that he is just a little bit frightened of so that the local children can be reassured. In this case he was a little worried about heights. After filling in the required forms (so the treasurer could ensure the BGA got its £1.50 temp membership fee), Nosey flew with Glen Barrett. Can the BGA tell us if a pawprint is a legal signature? Matt Copestake, who went solo a few days after his 16th birthday, has left us to specialise in aerobatics at Syerston, we wish him well.
Mike Terry

Essex (North Weald/Ridgewell)

AT last it seems that the good weather has taken its first steps out of the shadow of winter (how lyrical can you get!), enabling us to open up our Ridgewell site for the soaring season. We have enjoyed some super evening talks by members. Ralph Hawtree on cross-country navigation and Ian Barnes on the more technical innards of our gliders. Many thanks to John Whitwell for organising these evenings. Our AGM was well attended and our Chairman Brian Murphy donated a superb silver cup to be awarded annually to the member who has been outstanding over the year. This was duly presented, deservedly, to Assistant Instructor Geoff Martin. Tony Hampshire was appointed the club's Building Manager following the excellent job he and his team did in redecorating the premises. We are indebted to The Squadron at North Weald, who lent us their mess for our annual dinner. Thanks also go to: all the committee for their hard work during a difficult year; Sue Martin and Lin Brennend for providing the refreshments for all the evening activities; and not least to Gordon Horscroft from the Essex and Suffolk club and Phil Duffin from Bidford for their help whilst some of our instructors forsook us for warmer climes!
Peter Perry

Essex & Suffolk (Wormingford)

WE have negotiated with our landlord to lease more land to enable us to extend our runway by an additional 400-plus metres, giving us 1,500 in total. When this comes into use we will be able to move our launch-point to enable aircraft to land downwind of it thus not blocking the launch run, which should improve our launch rate no end. Three of our number have recently been to Bicester and gained assistant ratings so congratulations to Robbie Nunn, Alan de Tourtelon and Eddie Leach.
Steve Jones

Four Counties (Syerston)

WE had a very successful Easter task week, flying every day in the sunshine for 10 days. Penny Mason and Matt Copestake have gone solo, and Andy Langton, Ewan Burnett and Huw Williams all gained Silver distance. The expedition to Portmoak was enjoyable for all despite the lack of wave. The cross-country season is now under way and the queue for the motorglider is finally dying down! Don't forget that you can keep up to date with the state of the crops and fields by visiting *www.field-landings.co.uk*
Sue Armstrong

Fulmar (Easterton)

WE are still sharing the site at Easterton with Highland GC but we have decided to split the club news, so both clubs can report their successes fully. Success is one thing we are not short of, starting with Stuart Naylor, who achieved Gold distance on the GSA expedition to Australia in November then completed Gold with a wave climb to 16,500ft in April. Ian Thomson went solo aerotow and will no doubt take over as CAH (chief Astir hog). Trevor Cook is about to leave with the GSA for their annual Sisteron expedition, hoping to also complete his Gold. We have also started going cross-country: I flew 200km in thermals on the last day of March. I also gained the "monkey of the month" award for making a Gold height climb without a barograph! Finally we have several new *ab initios*, many of whom should solo over the next few months. If this is what we can achieve over winter then roll on the real weather!
Mark Brown

Highland (Easterton)

WE have had a good start to the year, with plenty of ridge and wave flying and the first thermals. We hope to start work on the new clubhouse in the next few weeks. We've just had our first flying week, which resulted in some good cross-country flying in both thermal and wave. The week finished with a barbecue, thanks to Guy Davidson. Congratulations to David Chalmers for his Gold height and the completion of his Basic Instructors course; Roger Christie on his 100km Diploma (In a little over two hours), which gave him his Silver, followed a few days later by his Gold height; and to Colin Conti on going solo. I got my Silver height. Congratulations to CFI Robert Tait on being awarded the BGA De Havilland Trophy.
Roy Scothern

Imperial College (Lasham)

WE held our traditional Easter course at the end of March and, unlike recent years, only one out of the seven days was lost to duff weather. No first solos to report from the course, but Alan managed his first solo soaring flight for his Bronze. April saw the arrival of a static caravan at Lasham for the use of IC and Surrey University GC students. Many thanks to Horizon Technology for donating this. Having a nice place to stay should encourage more students to stay at Lasham over the weekend and get more flying done. By the time you read this, we should have L-Navs installed in both our ASW 24 and our Discus. We are very grateful to the Harlington Trust for their financial support. The L-Navs will be put to good use, as we are hoping to enter an IC /ex-IC team in the Inter-club League.
Katie Sykes

Kent (Challock)

WE have had some soarable days in recent weeks with several Bronze legs achieved in both thermal and ridge lift. A number of members are just finishing their Cross-Country Endorsements so we are hoping for a batch of Silver distances before long. The recent expedition to Spain did not find much wave, but everyone enjoyed some fine flying with spectacular views. On the ground, we have had some very successful evenings. The first was a quiz night, then a symposium for official observers and, most recently, a talk by Derek Piggott on his adventures as a pilot in films, such as The Blue Max.
Caroline Whitbread

Kestrel (RAF Odiham)

MARCH and April have provided some welcome relief from circuit bashing with the opportunity for some good soaring. After refurbishing our K-13's wings two years ago we have taken the psychological step of committing to doing the fuselage by ripping all the fabric off. No going back now. Well done to Barry Sealey who is leading the project. We are working to get our Tost diesel winch operational again and so cut our petrol fuel bills. At present it is very cheap to run but gives a poor launch – because it won't start. There has been much debate about Granny's, sheepshanks and halibuts as we struggled to find a knot that the gales would not undo when we secured a new pelmet to our 1914 Bessonneau tent hangar. In the end a half sheepshank fisherman's friend with a double cow's head hitch seems to have done the trick and we now have several applications pending for membership of the International Guild of Knot Tiers.
Simon Boyden

Lakes (Walney Island)

WE'RE finally a gliding club again, the fair weather has returned, all the gliders now have Cs of A, so the mood of the club is a bit more upbeat. We have already planned a couple of trips away to sample the delights other clubs have to offer, Hus Bos is first over the Jubilee Bank Holiday. We can try out their thermals to see if they differ from ours. Our workshop is now well used by members for inspections and general maintenance, the only thing that won't fit in is the bus and the tugs. Speaking of tugs, it's now time for their annual checks, let's hope all goes well and they return with a clean bill of health.

Peter Seddon

Lasham Gliding Society (Lasham)

PATRICK Naegeli has retired as chairman after six years' service to Lasham, during which time the purchase of the airfield was completed. Patrick thanked Mike Gee and Patrick Garnet for their professional expertise that helped make the purchase possible. The final payment for the airfield will be made in June, with the help of The Lasham Trust and Wally Kahn. We welcome our new chairman, Ross Stuart. Mike Miller-Smith has been re-elected on to the committee of management. We regret the departure of Janice Butler, who has been part of the office team since 1988. Her cheerful personality will be missed. A volunteer team of Brenda and Joe Pridal, Jim Pereira, Colin Raisey, Alex Truman and Al Greensmith has assisted in our in-house engineering team in the C of A and repair work on our K-13 fleet. The following annual awards have been presented: David Penney (for his outstanding work in developing our evening BI flights); Gerry English (for the earliest Silver distance of the year); Richard Whitaker (for the first 300km badge of the year); Steve Jones (for the best placing in the 15-metre nationals); Merv Saunders (for the most outstanding flight, 483km in eight hours in an Astir); Roy Pentecost and Hugh Kindell (for the most meritorious flight in a two-seater, 521km in a Duo Discus); David Masson (for the fastest Chilbolton-Hungerford 100km triangle, 1 53 minutes); Merv Saunders (for an outstanding contribution to a flying group); Sian Lane (for the best female pilot); Gerry English (for the best progress of a pilot trained at Lasham in the past two years).

Tony Segal

Lincolnshire (Strubby)

CONGRATULATIONS to Pete Carrington on going solo. Our Wednesday instructors will soon have no one to fly. The AGM has come and gone with changes at the top. Bert Barker takes over from Mike Fairburn as chairman; Ken Allen assumes the role of air tech and Pete Carrington takes over the ground equipment. That'll teach him to go solo. The weather is picking up with more dry days than wet and the fleet is coming out to play. We are planning a flying week from June 3-6. The club's social side is booming with events planned every three months.

Dick Skerry

London (Dunstable)

"DON'T lie in bed all miserable if it is cold and cheerless on an East wind run," said John Jeffries, "when some exciting and fascinating soaring adventure may be waiting for you to have a go." This was after his first cross-country return flight of the year on January 3. From a winch launch he flew 100km out and along Chilterns ridges to the west end, then reaching 5,500ft returned with P2 in a K-21. Five first solos have been achieved this year. Congratulations to cadet Andrew Mays, who soloed aged 16 in March. The successful Cadet Scheme is running well. Congratulations to Martin Smith and Anthony Clayton, on their Silver distances. Thanks to Shobdon for giving our visiting group in March some nice wave flying days and good heights, with Rob Brimfield topping out at 15,500ft. The

***Mendip**'s seasonally-appropriate latest arrival is this Swallow, being flown by Ian Phillips (Keith Simmons)*

aerobatic crowd descended upon us in March for Sports level excellence in K-21s only, won by Guy Westgate. The Dan Smith Trophy went to the first Sports pilot Richard Chapman from Bidford. The Dunstable Regionals entry (August 17-25) is looking good with just a few places left. We are sharing a stand with the VGC at the PFA rally at Cranfield on June 21-23, come and visit us. A very big thanks goes to Duggie for his dedicated work renovating our bar and Clubhouse over a long period of winter months. Our Open Day, with lots of new ideas, is on May 19.

Geoff Moore

Mendip (Halesland)

BY a combination of luck, determination and sheer bloody-mindedness we have continued to fly throughout the winter. One major deterrent has been the continued attention we receive from local(?) thieves. Not content with stealing the wheels off our glider trailers, the diesel from our fuel tank and the gas cylinder for our kitchen, their most recent "visit" resulted in the loss of the replacement gas cylinder a trolley jack and two of our three tractors. The third tractor saved itself by defeating their attempts to start it (there is a knack). This almost certainly saved our K-13, which was between the tractor and the door. A footprint on the wingtip indicated their lack of concern. To gain access to the tractors the thieves cut through a padlocked gate and padlocked hangar doors. Police told us that 10 tractors have been stolen in our area recently and that there is a trade in used tractor parts with the Irish Republic. YOU HAVE BEEN WARNED. On a more pleasant note, Dave Bassett, our tame electronics wizard, has come up with a gadget that monitors the glider's ASI during a winch launch. A trip speed is pre-set and activates a small transmitter which uses the cable as an aerial and sends a tone to the winch until speed drops below the set value. This promises to make ballistic launches a thing of the past, make life easier for the winch driver and allow pilots to climb at any angle they choose. Initial trials are very encouraging.

Keith S Simmons

Midland (The Long Mynd)

AMONGST the glass ships, the glamour and the high intentions, we are looking for a K-8! The last one was Dutch-capped by our otherwise very welcome visitors from the Kennemer Zweefvlieg club in Holland. On a bungy day one man was on the wing and another lifting the tail but they didn't realise that the Mynd winds can think like weasels. As a consolation they gave us a group photograph of themselves – in front of a wrecked Dagling! The Easter weekend saw our big, special-offer recruitment drive. The weather gods heard of the plan and fell about laughing. We still managed seven new members for certain and a possible eight in addition. The first cross-country was on March 5 to Llandudno. Later that month we flew a cameraman from the Western Tourist Board and a reporter from Radio Shropshire, who was more interested in the swish of gliders than the sounds from the bunkhouse. Where are the imaginations of these people? Ann Parry organised the annual dinner at The Feathers in Ludlow, where there was something much better than music: an enthralling and memorable talk by Ann Welch.

Roland Bailey

Needwood Forest (Cross Hayes)

THE first week in May saw us running a flying week just for pre-solo/pre-Bronze pilots, with an instructor to pupil ratio of 1:4, individual attention was guaranteed. The course was booked up well in advance and a series of classroom sessions tailored specifically to the group were prepared and delivered. Improvements to the site have enabled us to resume "full scale" flying weeks earlier compared with last year. At the time of writing (April 16) we have seen a good number of lengthy flights but unfortunately no cros-countries for the club ladder yet, most importantly our treasurer is very happy at the increase in the number of launches this year. The annual dinner is planned for a new venue this year and we have a bumper number of tickets sold with a couple of weeks still to go. The presentation of awards will take place during the evening. We have booked the finest weather for our two flying weeks at the end of May and end of July and anticipate flying to match. Our drive for new members is proceeding well: welcome to you all!

Andy Chapman

Nene Valley (Upwood)

THE club fleet is ready for the new season as are most of the private aircraft. The site improvements seem to have slowed down a bit with the coming of better weather. One of our members visited Minden in the US and climbed to 26,500ft to gain his Diamond height. The same member completed the first cross-country from Upwood in early April. The only consolation the rest of us have is that he seems incapable of flying straight and level; at the end of most flying days we see our poor old K-7 in some strange attitude. Other members have taken the opportunity over the winter to complete their Bronze in preparation for sampling some cross-country flying. Tracy Meech (K-6) achieved Silver height and Paul Daley (K-8) Silver distance by mid-April. The Sedbergh is rigged and, once the north-easterly winds moderate, is ready to demonstrate the pleasures of open cockpit flying to those members who thought that gliders were made only from plastic trees. Our competitive pilots are intent on performing well in the Inter-club League and the Anglia Cup and bookings are slowly coming in for our Friday evening Trial Lesson flights. Task week this year is July 27 to Aug 4 and open Day on June 25.

John Bennett

Norfolk (Tibenham)

HAVING carefully spread the rumour that spring and summer might just be on the way, John Kinley once again organised the annual work weekend at Tibenham. After much cleaning, clearing, repairing and drinking the soup provided, John was able to record that all jobs were done, with thanks, ready we hope for a good soaring season. Also ready is our second Astir, which was bought from Germany and will no doubt be popular with aspiring pundits. Ray Hart is relinquishing his office as CFI this summer after his self-allotted, productive, if somewhat stressful three years, to concentrate more on his cross-country and competition flying. Given the amount of silverware he carried away at this year's annual dinner, this bodes ill for his rivals at NGC. Ray will be succeeded by his deputy, David Munro, with Andy Vidion taking over David's post. We wish them well in their new roles. Our Cadet Scheme, started ➢

in January 2002 under the leadership of Phillip Burton, has now attracted a full complement of 16 young people with more on the waiting list. So far, two cadets, Jamie Leeder and Adam Chapman, have soloed with high hopes of more to come early this summer. The enthusiasm and commitment of the members of the group is first class. An added bonus for the senior citizens who fly on Wednesdays is, of course, that when any of the cadets fly on our day, the average age of those present can come down to as low as 65. A Cadet Festival is presently being planned and will take place at Tibenham over a three-day period at the end of October. We hope to be able to offer a variety of flying and other activities to a wide range of cadets from as many clubs as possible.
Alan Harber

North Wales (Llantisilio)

LIFE is looking up out here in the top left-hand corner of Wales. We are starting to realise what stunning (and infuriating) places mountain sites can be, bogged in completely or sitting there in soaring perfection. We seem to get the lot at one time or another, wave, ridge and thermal. Whoopee! Our training week in April went down very well, with publicity officer Brian Portlock finally going solo and then topping it off a week later with a Bronze half-hour flight. Some people get all the right conditions for flying. (His beer bill has risen sharply.) Me, new chairman, still to go solo, gained a lot from the week and even had the bung pulled a couple of times by the bloke in the back. I think they call it progress! Must try harder so that the CFI will let me near my Skylark 4, which is waiting patiently in its trailer. The year's silverware was handed out at the AGM, where young pilot Neil Hughes took improver of the year and Dad, Dave, not to be outdone, got the perseverance award. Mike Carlin and John Farley took the longest flight in a dual effort. Height record for the site so far goes to Ken Payne, who has managed 9,000ft in one of our K-8s. See, who needs a hot ship? This was done in our last season when we only had a few months on site due to you-know-what. Now we are having our first full season at Llandegla and there are plenty who want to beat that one.
David Trotter

Oxford (RAF Weston on the Green)

THE efforts of a multitude of matelots finally bore fruit as the recovered K-13 was rolled out shortly after Easter. The shiny fuselage is now painted in a very nice magnolia to offset the deep red of the wings, with grey detailing in the cockpit. Both Stuart Otterburn and Steve McCurdy completed a BI course and are now showing keen members of the public what a wonderful experience gliding is.
Steve McCurdy

Peterborough & Spalding (Crowland)

THE annual dinner dance in March provided a much-needed reunion of familiar faces after the dismal winter.

*South London Gliding Centre's motorglider at its home base of **Kenley***

*Inter-Varsity co-operation began in December last year with the first of several joint training weeks organised by **Oxford Uni GC** and **Cambridge** students. Oxford scored four solos but Cambridge did better, apparently, at pool. The course participants are seen at the RAFGSA Centre, Bicester, where the first week was held*

Prizes awarded were: The Glen Williamson Memorial Trophy to Richard Thornley; The Club Ladder Shield and CFI's Cup to Robert Theil; The Ladder Runner-up to Laurie Clarke; The Club Cross-country Ladder was organised and won by Jim Crowhurst. The Wooden Spoon was presented to Les Rigby for a memorable Basic Instructional lesson (complete with amusing expletives) heard by all, over the airwaves. Finally, a special Memorial Trophy – "Lois's Night Cap" – in memory of a previous club member and very colourful character, was awarded to Dave Crowhurst for his prolonged efforts to provide a fuel pump for the bowser. Congratulations for further achievements go to Robert Theil for completing his Bronze with Cross-Country Endorsement and gaining Silver height on the first good soaring day of the season. Also congratulations to Mick Burridge and Gerry Pybus for achieving their Basic Instructor Rating; Gerry has also added a TMG rating to his PPL and has recently soloed as a tug pilot. In the near future Crowland and Upwood are to have 'exchange' visits in order that we may have winch and Upwood aerotow experience; we at Crowland hope that this will be the start of many more inter-club exchanges. An eager group of 12 members are to visit Talgarth in late May. The next important dates on the agenda are the Inter-club League weekend and our annual Open Day on Sunday, June 23; we look forward to welcoming friends old and new. Visiting pilots please note that our radio frequency is now 129.975Mhz – we will be pleased to see and hear you.
Joan Pybus

Portsmouth Naval (Lee on Solent)

SOARABLE skies returned to the South Coast, with Jerry Lee flying the second longest flight out of Lee ever. Unfortunately the lure of beer was too great and he landed by the pub next to the CFI's house. Total distance 498.8km. Mark Holden gained his Silver, Jay Stewart got his first Bronze leg and Jerry and Henry Freeborn became Ass Cats. Is youth taking over?
Henry is our youngest-ever instructor at 15 (he reckons he's 19) and the trophy for most improved pilot went to Sam Hepburn for achieving solo standard within a year. It's just a shame he will have to wait five years to his 16th birthday.
Pete Smith

Scottish (Portmoak)

WE'RE just getting over the storm damage (the new roof leaked at the beginning of April!). Our Easter visitors have now gone and are soon to be replaced by others during the summer. As usual we are hosting the RAF with their six-drum winch for the summer ATC courses. The BGA's Harry Middleton and Gordon Pledger attended our annual Information Meeting in March. By the time you read this, we will have had our 64th AGM. Thanks to Jim Provan and Alisdair Stewart, who are stepping down from the Board. The club website will soon be hosted by Bob Adamson; thanks to Colin Hamilton for looking after it for the last four years. Thanks also to Neil Irving for his previous contributions to Club News. *www.scottishglidingcentre.co.uk*
Ian Easson

Shalbourne Soaring Society (Rivar Hill)

HINTS of glorious weather to come have had us busy preparing for the season ahead. In anticipation of finding the colossal thermals that are invariably located in Class D airspace, we have spent Tuesday evenings practising for our radiotelephony licences, so that we can get at them. Many thanks to Colin Baines, who ran a tremendous course, and to Chris Marren of Upavon, who put us through our paces for the exams. We have also been puzzling our brains with Bronze confusers on a Wednesday evening. Our trusty instructors are giving up their free time, and tea and cakes, with the aim of getting us to understand gliding theory. We have enjoyed a full round of Bronze lectures and are grateful to the many people who have given up their relaxing Wednesday evenings to explain all the tricky bits. April has also seen our second trial aerotowing weekend. We are allowed to run just a few dates each year, whether actually flyable or not, to determine whether we are a noisy nuisance to local villagers or whether we are responsible enthusiasts trying to enrich the opportunities for our sport in an environmentally-conscious way.
The Pawnee tug was very quiet and we had over 80 launches on a brilliant Saturday. Sunday saw our Instructors' Fun Day, when we were also pleased to welcome Tappo, our Senior Regional Examiner, who recklessly risked his own health and can now wear his "I survived the Roundout Butty" T-shirt.
Wendy Coome

Shenington (Shenington)

ANDY Moore and Paul Duffy have finished their Bronze Badges, whilst Tim Parker has completed Silver with a duration flight. Our big news is that Turweston GC has recently been incorporated into Shenington GC, giving us a welcome influx of enthusiastic members and excellent kit. The Turweston members brought with them a Skylaunch winch, various ground vehicles and two gliders – it's just a rumour that we're working up to a K-8 for every member! At our annual dinner, prizes were awarded to Gary Brightman, John Whiting, Paul Duffy, Trish Langlands, Graham Bambrook and Roger Andrews and Jon Sherman. At our AGM, Elaine Crowder, Jane Jervis and Keith Marchant stood down – thanks for all their hard work over the years. Our new chairman is John Vella Grech, and the committee welcomes Graham Bambrook, Barry Ellis and Shaun Badby (our new social secretary). We're once again

Club news

operating intensive courses midweek under the expert instruction of Lu Kennington and Steve Codd – bookings are already very good. We are also busy at weekends, with future events including a "Bring a Mate Day", in early May, and Fly-Ins for the Beagle Pup Club (July 6-7) and the BMPA (July 27-28th), as well as the usual Inter-club activity. Visitors welcome as always – please call the office in advance if you wish to come midweek. Keep up with our news at *www.gliding-club.co.uk*
Tess Whiting

Southdown (Parham)

NEVADA USA conjures up images of gambling casinos and wild, wild women but the Southdown contingent had their sights set on higher things. The Giant Monster wave at Minden was the main attraction that enabled Phil Kirk to complete his Diamond Badge. Daryl O'Flannagan and Dick Thirkill gained Diamond heights, while Tony Challoner, in doing the same, obtained an unofficial record with a "notch" of 18,000ft. Mo Davis, already qualified, revisited the celestial realms along with the rest. Back at Southdown, a prolonged period of dry weather, accompanied by a strong north-easterly breeze, brought out the winch and some tentative hill-soaring pilots. Dick Dixon led the way with a five-hour flight while fainter hearts kept within range of the airfield. Eventually the rest of us rediscovered the joys of winching and our Winchmaestro Malcolm French demonstrated the almost-forgotten art of "kiting" the glider. Despite an increasing level of hangar rash and unnecessary minor damage on the field, our engineering and maintenance crew still manage to keep the fleet operational. Without them, our flying would be limited to the virtual reality kind on the clubhouse computer. So, to Ron King and his boys, many thanks.
Peter Holloway

South London (Kenley)

ANOTHER winter has passed and there's a new soaring season to look forward to. What seems to have become a regular trip to Jaca, in Spain, has been and gone. Silver height claims were made by Philip Skinner, Mark Corrance, Ben Watkins and Brendan O'Brien, not to mention the cementing of Anglo-French-Spanish relations (courtesy of one San Miguel, whoever he may be). Our annual charity day fly-in aid of Marie Curie is on May 6 and we look forward to beating last year's total. Plans have been discussed with a view to replacing at least one of our trusty K-7s with something shiny and a very positive atmosphere prevails – it's going to be a good year!
Alan Seear

South Wales (Usk)

WE are delighted to report another winter when our field remained dry enough to fly throughout, as a result of improved drainage and the absence of ravaging sheep. Membership remains high and the social side of the club is particularly strong with Easter Egg hunts, quiz nights and our famed barbecues, improved recently by the introduction of a herb garden. The annual dinner was a great success and trophies were awarded to Justin Fitzgerald, Hugh Rattray, Andrew James, Ian Kennedy and Tony Parker. Many thanks to Dave Jeffries for his work as chairman, and to Peter France for standing in as interim chairman. Louis Chicot has joined the committee, after several years away from gliding. Congratulations to Enzo Casagrande on flying his first 300km.
Maureen Weaver

Staffordshire (Seighford)

THE recent spell of good weather and mid-week soaring opportunities has led to a significant increase in our launch rate. Mid April saw John McLaughlin (DG-400) take the Early Bird Trophy with a 300km – many other members have enjoyed shorter cross-country flights and local soaring. Congratulations to David Bray who went solo just before Easter. Ian Taylor now has his BI Rating. Thanks to Chris Jones for his continued efforts on the PR front. The next event is the display in Stafford Market Square (April 27) ahead of the forthcoming Open Days (May 5 and 6). The field is in good condition, and is still improving due to the continued efforts of the members. FFA (K-13) has returned from C of A looking damn fine, and the ground equipment continues to be in top shape – thanks to all concerned for their hard work. The tug continues to be a useful asset to the club – people are now asking the question "however did we manage without one?" The continued programme of instructor training is still ongoing, with a BI course being held at Seighford in April. The end of April will see the start of a four-week R/T course for members.
Paul (Barney) Crump

***Lasham** visitors to **Ulster GC** were met by a Mayoral reception: (from L) Mervyn Saunders; Limavady Lord Mayor Dessie Lowry and Ron Lapsley UGC Treasurer*

Stratford on Avon (Snitterfield)

CONGRATULATIONS to Birmingham University GC's Matthew Owen on his first solo and to Rachel Brewin for re-soloing in a K-21 at Portmoak on a week's university gliding holiday in April. Mark Laver had over four hours in the Junior.
Harry Williams

Strathclyde (Strathaven)

AS we return to *S&G* after a long break, we have scheduled our annual Open Day for Saturday, June 8, which will coincide with Strathaven's Gala Festival, with trial flights available from 11.00hrs. We recently had our first flying day of the season in glorious sunshine – after months of rain, our members' efforts and a new drainage system finally saw the field recovering. Work being carried out on the fleet is nearing completion, with our second single-seater about to come back on line following repair. For further details please visit: *www.strathclydeglidingclub.co.uk*
Scott Neilson

Surrey and Hants (Lasham)

THE latest addition to the Surrey and Hants fleet, our third Grob 102, came on-line in March and is already proving popular; she'll get an SH number in due course but for now is JZY. As this is written (early April) we have already had several days when all 12 gliders have been flying – a good omen, it is hoped. We set the AGM for Easter Saturday, 4.00pm – or 6.00pm if it turned out to be a soaring day, to let everyone get back. With so many land-outs, at 5.00pm we were losing our quorum to retrieves faster than we were getting people back from flying! Eventually, a good meeting was held, hearing encouraging reports from Chairman (Acting) (he insists!) Graham Garnett, amongst others. Colin Hunt won the Dukinfield-Jones Trophy for the first 300km claim of 2001. David Masson is organising teams for the southern Inter-club League, this year taking the form of two four-day meets.
Graham Prophet

The Soaring Centre (Husbands Bosworth)

CONGRATULATIONS to Richard Blackmore, who flew his 750km in Australia over the winter, Tony Lintott, who has completed his Bronze, and Simon Ramsay, who flew his Silver distance. Mike Jordy and Basil Fairston completed the first 100km and 300km flights of the year in April. Following the club AGM, new committee members include Tom Burton and Lou Glover; Bob Brown, who is now treasurer; and Toby Wright, who was elected secretary. We have an aerobatic instructor, who is teaching glider aerobatics each Tuesday evening. The Inter-club League is once again under way with the first leg held at Hus Bos in May. The Tuesday, Wednesday and Thursday evening courses have started again now summer is here. We are holding a club flying week during the first week in June. We also have a new tractor and mower, so expect lots of very neat grass! A new challenge for the club is its work with the ExtraCare Charitable Trust to provide glider flights for elderly people in the Midlands region.
Siobhan Hindley

Trent Valley (Kirton-in-Lindsey)

THE new soaring season is upon us with the first cross-country falling to Steve Wilkinson; Paul Nock has a Cross-Country Endorsement and Paul Daubany has a Bronze Badge. The club fleet is back to full strength with the return of the Astir and the addition of a K-6CR. Barry Pridgeon is the new owner of an ASW 15. Ray Parkin and Steve Wilkinson join the committee as a result of the AGM. We now have mains electricity, which is very illuminating, but on the darker side we have suffered another break-in.
John Kitchen

Ulster (Bellarena)

EXCELLENT flying conditions in March helped kick off the season early and yielded some 70 hours flying from 60 launches for our visitors from Lasham and enabled J Woodcock to get his Silver duration. The week ended with a special function for the group, hosted by the Mayor of Limavady Borough Council, when Mervyn Saunders accepted on behalf of Lasham GC a plaque of the Limavady coat of arms. Jay Nethercott returned exuberant from his five-day trek to the Himalayas and ascent to the summit of Mount Kilimanjaro, having raised over £5,000 in sponsorship from members and friends for children's charities. In a successful break with tradition, the club's annual function was held at the end of Easter flying week in the Shanvey bar close to the site and coincided with a particular celebration for Richard Charlesson, who chose the day to attain his Silver height (7,000ft in wave). The distribution of awards for the year, whilst restricted due to foot-and-mouth, did not detract from the achievement of the recipients: Maurice Evans, the FSP Alarms Trophy; Jim Weston, Height and Distance Trophy; Ron Lapsely, The Robin Snow Plate; and Harry Hanna, the Mackie-Metcalfe Trophy.
Seamus Doran

Vale of White Horse (Sandhill Farm)

WE have now begun to make enthusiastic use of our aerotow facilities, courtesy of Hinton-in-the-Hedges, and this has enabled us to take advantage of some quite good spring weather. Our congratulations go to Richard Chapman, who was awarded the Dan Smith Memorial Trophy for the Sportsman Class at the Easter aerobatics competition at Dunstable. We also congratulate Jane Nash, who has been first this year to get around our local 100km – "Bob's Triangle" – Chieveley and Oxford East, and Paul Harris, who has recently gone solo. As well as our weekend and Bank Holiday operation the club is holding a task week from June 10-14, and as

always visitors from other clubs will be very welcome.
Graham Turner

Vectis (Bembridge)

EASTER weekend was once again the start date for VGC's flying programme, with the exception of early January for those souls who braved the weather! As the year progressed, wet weather made the grass unusable and even movements onto the concrete proved well-nigh impossible. Annual inspections for the tug and two-seaters then ruled the day, but the silver lining was that the enforced break enabled some much-needed work on the hangar doors to be carried out (tracks, doors, repainting and all things that needed many hands to make light work). That completed, or at least into reasonable shape until poor weather forces a halt in flying, members took a deserved break from DIY and flew as often as possible. A few fortunate members (three actually) managed some successful soaring on the southern side of the globe (and missed the joy of some of the DIY). We hope for good conditions so members and visitors can enjoy gliding again.
Peter Seago

Welland (Lyveden)

AT the March AGM Chris Curtis and former chairman Meyrick Jones were elected to the committee. Meyrick subsequently agreed to be chairman, proving that once bitten is not always twice shy! The early spring saw a good turnout at the Bronze and cross-country lectures, with a 100 per cent pass rate on the Bronze paper. A bowling competition against Nene Valley GC resulted in heavy losses for the Welland team, and can only be attributed to the fact that we spend the winter reading soaring manuals and polishing wings rather than loitering around leisure venues. Just wait for Flying Week!
Jane Cooper

Wolds (Pocklington)

THE annual trip to Portmoak didn't bring a crop of badge flights, although most members had a good time. Graham Wadforth, who wants a five-hour flight, has had to make do with three four-and-a-half hour flights so far. Apparently he slips into another time/space continuum after four hours, where Earth time ticks much more slowly – on our sister planet Zog he has all three Diamonds. Congratulations to Terry Winn and Simon Barker on Assistant Instructor ratings, both well deserved. The flying for the disabled group has arranged for Polly Vacher to do an evening presentation about her solo flight around the world, which should be entertaining. Our Supacat winch has now been taken off for a complete refurbishment, so it's aerotows only at the moment. It will be back in time for the national competitions that we are all looking forward to.
Ged McCann

Wrekin (RAF Cosford)

THE club has taken delivery of a two-seat Janus, which will open up the opportunity for cross-country training during the summer. Congratulations to Ian Jackson and Stewart Duncan, who have both soloed. We are looking forward to the task week at the end of April and hope for good weather.
Sheila Russon

York (Rufforth)

THE Faulkes Flying Foundation (FFF) DG-505 has been well received, and had its maiden UK flight at Rufforth on April 10 on a fine spring day. We hope this is a portent of a good soaring season. The Falke 2000 motor-glider is away for refurbishment, and will come back with a new engine, recovered wings and in FFF colours. The clubhouse is being repainted by Roy Ingamells. The club continues to attract new members, and we will be especially pleased to host flying for many more young people in the FFF aircraft.
Mike Cohler

Yorkshire (Sutton Bank)

STRONG westerlies during late February and March provided excellent ridge and wave soaring, much appreciated by members and our many visitors. Some weekly cross-country courses in the summer months aim to build confidence in less experienced pilots and allow others to polish their techniques. To facilitate this, the instrument panels in the Club DG-500 have been upgraded with L-Nav and new GPS, to complement the full blind flying panels. The club has added a K-13 to our two K-21s and DG-500, bridging a gap until a DG-1000 can be delivered. We are back to our full complement of three tugs, the Cub having been refurbished following a minor accident. The annual dinner dance finally took place on March 9; the foot-and-mouth epidemic limited awards to height gain and the most-improved pilot. The club apologises for any inconvenience caused by computer failure resulting in the loss of our email connection and web site.
Bryan Boyes

BGA Badges

	Pilot	Club *(place of flight)*	Date
Diamond distance			
1-868	Edward Norman	Bicester *(McCaffery)*	02/12/01
1-869	Phyllis Neighbour	Derby&Lancs *(Benalla)*	28/12/01
Diamond goal			
2-2808	Jim Riach	Cairngorm *(Benalla)*	19/01/02
GOLD BADGE			
2212	Steve Turner	Cambridge *(Sutton Bk)*	29/10/01
2213	Colin Stevens	Borders	12/10/01
2214	Gerald English	Surrey&Hants *(Benalla)*	07/02/02
2215	Peter Whitehouse	Kent *(Aboyne)*	06/02/02
2216	James Riach	Cairngorm *(Benalla)*	19/01/02
Gold height			
Steve Turner		Cambridge *(Sutton Bk)*	29/10/01
Gareth Francis		Scottish GC	09/10/01
Joseph Westwood		Staffs *(Sutton Bank)*	*02/11/01*
Brian Brown		Borders	12/01/02
George Emsden		Lasham *(Minden)*	05/12/01
Adrian Loening		Scottish	16/09/01
Colin Stevens		Borders	12/10/01
Paul Clarke		Booker *(Aboyne)*	11/10/01
Peter Whitehouse		Kent *(Aboyne)*	06/02/02
Gold distance			
Gerald English		Surrey&Hants *(Benalla)*	07/02/02
James Riach		Cairngorm *(Benalla)*	19/01/02
SILVER BADGE			
10990	Craig Dougall	Anglia	14/11/01
10991	Mark Verden	Cotswold	31/10/01
10992	Kenneth Singer	Derby & Lancs	05/03/02
10993	Ian Marshall	Booker	16/01/02
10994	Thomas Auchterlonie	Bath, Wilts & N Dorset	10/01/02

Apologies to Stuart Naylor of Fulmar GC for twice wrongly assigning him to another club in the last issue – Ed

Gary Gene Buckner – RAFGSA Bicester

BORN in Florida, Gary Buckner (1958-2002) arrived in the UK in the wake of his father's USAF career and started gliding with the Cold Harbour Farm T-21 outfit near Banbury in the late 1970s. Having been taken under Andy Gough's wing, he bought shares successively in K-8 EED, Libelle 742 (ex-RAFGSA 16) and Pegasus 742, all at RAFGSA Bicester. He had gained all three Diamonds in the UK by 1985 (number 188), picked up a Full Rating and later completed 750km in a borrowed ASW 20L in Texas. The one in 255 million coincidence occurred here, when a work colleague casually mentioned that he had repaired "some limey's sailplane" more than 20 years earlier, at Marfa. It was Con Greaves' RAFGSA Libelle 16. Gary returned to America in 1989; in 1993 he took a job with Penske Racing, building and preparing cars for races. Racing at Phoenix on March 17, 2002 was dedicated to him and, fittingly, Penske drivers took first and second. Gary, who collapsed at work on March 8 and never regained consciousness, is survived by his first wife Linda, second wife Lucy, third wife Kristen, sons Russell and Ryan, daughter Megan and father, James. So long, Pard'ner.
Ken Stephenson

Tony Burton – Lasham then Black Mountains

TALGARTH members were saddened to hear of the death in April of one of our most charismatic pilots, Tony Burton (1934-2002). Tony started gliding in the late 1940s with the ATC and, after a lay-off until 1964, began in earnest at Lasham, often flying with Derek Piggott. Soloing that year, he did his 300km the following one. He came to Talgarth in 1981. A holder of all three Diamonds, he did a huge amount of cross-country. We always appreciated his almost boyish enthusiasm for anything to do with gliding – especially if there was even a hint of wave. To see Tony and his wife Sylvie (the best crew a glider pilot could wish for!) arrive in their Land Rover mid-morning was a sure sign that lenticulars were on the cards. As well as holding the club altitude record of 31,500ft and winning the de Havilland trophy more than once, Tony was often able to sniff out wave when most of us mortals were stuck on the ridges. His last goal was to become the first pilot to do a 750km out of Wales... sadly, he never achieved it. His electronics and software skills were put to good use through Dinosaur Electronics and several pundits know all too well the excellence of his integrated flight computer designs. Our sincere condolences go to Sylvie and his sons Darryl and Chris.
Robbie Robertson

Peter Neeves – Rattlesden

PETER Neeves (1935-2002) died unexpectedly from a brain haemorrhage on March 31 at the age of 66. He was one of the founder members of the club and an excellent glider and power pilot. Peter was one of those rare people who combined a happy, friendly disposition with a multiplicity of skills. The results of his dedication are everywhere to be seen. The water supply, the drainage, the toilets, washrooms, the hangars and the fabric of the clubhouse, Peter had a hand in them all. It is true to say that the splendid facilities that the members now enjoy at Rattlesden would not be there without Peter's hard work. He will be sadly missed by everyone, and we extend our sympathy to his wife and family.
Humfrey Chamberlain

Turbo tips

the *White Planes* picture co.

Pete Stratten offers advice on things with wings – and engines

SELF-SUSTAINING sailplanes, also known as turbos, are here to stay. One manufacturer is about to produce a turbo version of its 15-metre/18-metre sailplanes, and the majority of the sailplanes produced by another manufacturer are ordered complete with a self-launching or a self-sustaining engine.

At the BGA conference in February 2002, Tilo Holighaus presented a very interesting development history of turbos, commented on operational aspects of the system and touched on some very appropriate safety points.

In the light of recent *Competition Handbook* changes and the inevitably of more pilots entering UK competitions in turbo-equipped sailplanes, it's perhaps more likely now that pilots will be exposed to the few but significant potential pitfalls that can befall the unwary turbo pilot.

With a well-charged engine battery, a practised pilot can erect the engine on, say, a Ventus CT, accelerate to windmill start and then adopt a climb under power having lost only c. 250ft. Sounds great, and certainly beats sitting in a field as the sun goes down! If, however, the pilot is a bit stressed (and who isn't when scratching low down), he or she is more likely to miss one of the five actions necessary to get the engine going – and gliding around in sinking air with the non-reciprocating hardware sticking out into the airflow soon eats up the available height. As if that weren't enough, if the engine doesn't start, all of a sudden there's that now inevitable and unplanned field landing to deal with, and all of this with a significantly degraded glide angle that the pilot probably hasn't had any practice with! Life can quickly become mainly bad.

It's not possible to eliminate the risk (other than by not flying) – we are humans after all – but like most situations in flying the risks can be much reduced by being aware of the potential problems and by planning ahead. When getting down to the bottom of his cross-country thermal operating band but well before leaving his comfort zone, any glider pilot should have identified some landing options – options to fall back on in the event of not getting away. The turbo pilot additionally needs to factor in a bit of engine starting height to his options by adding a sensible margin to the point at where a conventional glider should be committed to some kind of circuit. Starting the process of getting the engine up and running by about 1,000ft AGL is not a conservative way of operating, and providing the engine start manoeuvre is flown in such a way that failure to start will not preclude a safe circuit into the field, life should be mainly good.

Of course, plummeting towards *terra firma* miles from home is probably not the ideal time to check whether a rarely-run engine is going to start, so a quick airborne engine run before setting off on task clearly makes sense and is probably a barograph-marking requirement in a competition or badge flight.

So, to round up, a pre-task engine run, picking a field before erecting your pylon, remaining pessimistic about achieving a smooth, minimum height loss start and occasionally practising a circuit to landing with the engine up but not running are points worth considering. It's also fairly important that pilots don't get into a mindset that field landings are someone else's problem – most field landing accidents are influenced by late field selection and poor or non-existent planning. That is a trap easy to fall into, particularly so when flying a turbo.

Be careful with those open canopies – they can be very dangerous

AS BGA Chairman David Roberts discovered on Easter Saturday (March 30), glider canopies can really bite. He had parked his ASW20BL on the runway at Aston Down, when, deciding to take another launch, he put the wing dolly on and opened the rear-opening, forward-hinged canopy in order to pull the glider along the runway to the launchpoint. Something he has done "a thousand times before". He was pulling it from the front with his right hand over the edge of the cockpit at the nose, when suddenly the canopy closed. It wasn't windy but David suspects he hadn't raised the canopy to the complete over-centre position and it was poised to close, gradually increasing the downward pressure on the gas strut that keeps it open.

Anyway, without all the gory details, his fingers were in the way of the canopy at the "jaw" end as it slammed shut. He was taken to two hospitals in succession before being transferred the next morning to a specialist unit at Bristol. He is now without half his right index finger.

David is now back in action, using the computer with his remaining fingers, but having taken an enforced sabbatical from playing the church organ! As he says, organ playing in summer did tend to get in the way of gliding...

From the safety aspect, clearly this is something that could happen at many clubs, with canopies closing inadvertently. One option being looked at (by David at least) is for such canopies to have a rigid stay in place when being moved. But as a very minimum clubs and individuals should be aware of the dangers of having hands in vulnerable places in relation to open canopies that may not stay open.

A good way to become a prat

CHOOSE a day very soon after a long period of poor weather when you haven't flown for at least six weeks. All the others who have turned up eager to fly again will be the audience needed for full-blown prathood. Assume that after a quick check flight, with or without an expected simulated cable break, you are right up to speed. Try to take your solo flight when winch drivers have just changed and the new man, preferably relatively inexperienced, is doing his first launch of the day. If that turns out to be immediately after lunch when you are bloated from wolfing down your sandwiches, so much the better. A full bladder will help.

If possible pick a glider you haven't flown for some considerable time: if its your own, hang on to any worries about whether you checked the rigging properly, the rushed DI, or the unexplained rattle you heard last time. Keep chatting with whoever is waiting to see you off. Gossip about club politics, members' manners (if any), last night's TV– anything but gliding. Best of all, arrange for someone to tell a long-winded joke.

Your approach to the take-off drill is of great importance. As you mutter the magic words that keep you from harm, restrict them to your lips: do not let them penetrate to your mind. Mention eventualities but on no account try to visualise them or believe they could come about on this very flight. By all means glance at the windsock but do not let the image past the retina of the eye. As you lock the canopy, you should become aware you are not completely comfortable: straps should feel not quite tight enough or just too tight; the pedals should seem to be in a different slot from usual; something should be digging into your back... Don't stop, though – there are many others waiting to fly.

Take no notice of smears on the perspex directly in front of you until the joke teller shouts his punchline through the ventilation panel and immediately signals take up slack. Do not check the position of the instruments in this particular glider till it begins to move. Keep your hand away from the release.

There – you have done your best to set the scene properly. A launch emergency cannot be guaranteed, of course, but you have given such a strong invitation that there is every chance of an overrun at the start, a cable break at critical height or best of all, perhaps, a gradual winch failure.

When it comes you have one thing left to do. Dither. Prathood (at the very least) will then be yours. This will be confirmed by the friends – and others, including the CFI – who gather where you have come to earth. Congratulations and welcome. **Phil Brett**

Accident/incident summaries

by Dave Wright

AIRCRAFT Ref	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
004	Nimbus 2B	2065	Minor	01-Oct-01 1312	Aboyne	49	None	601

Having flown a circuit, through very rough conditions and heavy sink, the pilot turned in early to keep close to the field but, misjudging the final turn, had to sideslip to lose height. He landed with drift on due to the unstabilised final approach and the glider immediately rotated rapidly and ran backwards off the runway.

005	K-13	4512	Minor	07-Oct-01 1400	Winthorpe	57 59	None None	873 12

Both pilots were aware of a temporary picket fence made of metal posts and rope with red and white tape. However, when they decided to land across the field they failed to notice a section of the fence ahead that had no tape. By the time they saw it there was no time to react before the poles broke the canopy and punched holes in both wings.

006	DG-400 motorglider	G-INCA	Minor	14-Oct-01 1000	Portmoak	41	None	1985

The very experienced pilot took off in a self-launching motor glider in nil wind and from a wet grass runway. As the aircraft did not get airborne before his pre-determined decision point he aborted the take-off. The aircraft landed ahead into a bumpy area of the airfield. which damaged the undercarriage.

007	Ventus BT self-sustainer	4400	Minor	17-Oct-01 1200	Nr Portmoak	49	None	880

The pilot encountered heavy rain while returning to the airfield from a wave soaring flight. He ran the self-sustainer's engine for about 10 minutes then retracted the engine and landed. A further flight was made but the engine not used. Later, during CofA inspection, the propeller was found to be heavily abraded and damaged beyond repair.

008	K-21	–	None	–Nov-01	Incident Rpt	74	None	1850

After normal pre-flight checks the pilot found that he could not open the airbrakes on final approach. A long but safe landing was made. Inspection showed that this was caused by a "local modification" to an approved modification for disabled pilots. A minor change in rear brake lever angle had allowed a bolt to foul on the cockpit wall.

009	Robin DR400 Tug	G-BJUD	Substantial	11-Nov-01 1420	Lasham	38 38	None None	

The Robin tug was being flown for pilot currency practice. Upon landing the nose wheel shimmied then collapsed causing damage to the propeller and engine cowling. Examination showed a failure of the weld around a bracket at the top of the leg casing.

010	K-13	3642	Substantial	03-Dec-01	Lasham	–	None	

During a daily inspection substantial damage was found to the glider's fin. This was probably due to an unreported heavy landing. The CFI has emphasised the importance of reporting damage and advised his pilots to check their aircraft before every flight.

011	Super Cub Tug	G-BJCI	Minor	02-Dec-01 1500	Milfield	–	None	

While manoeuvring the tug out of the hangar the starboard wing struck the hangar door frame damaging the wooden wing tip of the former.

012	Ventus CM	–	None	Nov-01 1600	Incident Rpt	42	None	

After landing the pilot found he could not open the canopy. The instrument coaming was not properly located on its pins and this allowed the canopy rim to hook under the panel and stop it opening. The canopy was "ejected" and lifted off by outside helpers.

013	Astir CS	4185	Minor	12-Dec-01 1345	Kirton Lindsey	62	None	200

During the winch launch the speed became too high so the pilot signalled "too fast" and the canopy flew open. He pulled off the launch and made a safe landing. He remembered checking the canopy was locked but may have not locked it properly or accidentally caught the lock with his arm when he removed his sunglasses just before launch.

014	K-8	4693	Minor	12-Jan-02 1045	Seighford	34	None	593

The experienced pilot was making the first flight of the day and left the DV panel open to avoid the canopy misting. At 400ft on the winch launch he signalled "too fast" and the canopy flew open and fell away from the glider. After landing safely the pilot considered that in closing the canopy at the last moment it may not have been fully latched.

015	SZD Puchacz	3832	Minor	12-Dec-01 1100	Shalbourne	68	None	102

The pilot winch launched to 1800ft through a gap in the 6/8 cloud cover. Not wanting to come back through the same gap and meet another glider he circled at first then descended through cloud to emerge 700ft above the ground. He chose a field but landed crosswind and ran into the side hedge at about 5mph, breaking the canopy.

016	K-6E	1433	Substantial	30-Dec-01 1400	Keevil	19	None	51

After joining the circuit and, seeing another glider ahead, the pilot extended the circuit to use up height and give more time for the normal landing area to be cleared. Too late, they realised there was insufficient height to reach the field and turned to make a field landing but dropped a wing in the final turn and cart-wheeled in.

017	K-8	4512	Minor	08-Dec-01 1300	Winthorpe	60	None	25

A Portakabin, which was normally left on the runway edge, was positioned further in than normal. The pilot was aware of this and had already flown a check flight that day. However, after landing a little long, he misjudged his wingtip clearance and broke about 1.5 metres off the wing tip on the Portakabin.

018	SZD Puchacz	3630	Substantial	01-Dec-01 1222	Aboyne	40 29	Minor None	850 5

During a check flight P2 was making a three-quarter s airbrake approach into the steady 15 kt wind. Speed was held at 60kts until it suddenly fell just before the round-out was started. P2 could not lower the nose because they were too low and P1 did not react fast enough to shut the brakes. The landing was very heavy, injuring P1's back.

019	K-8	2619	Substantial	03-Feb-02 1333	Kingsfield Cyprus	–	None	7

The early solo pilot winch launched into promising conditions but found only weak thermals so entered the circuit. Distracted by thoughts of his next flight he allowed the glider to get too low before realising his error. He tried to land in the undershoot area but was caught a wing on the ground which spun the glider around.

Classifieds

Please send the text of your advert, and your payment, to Debbie Carr at the BGA office (not to the editor).

Please remember that, if you are emailing text, your advert may not appear unless we have received payment by the deadline

The deadline for classifieds to be included in the August-September 2002 issue of *S&G* is **July 1**, after which any adverts received will be published in the following issue.

Text: 80p/word, minimum twenty words (£16).
Black and white photographs: £6 extra
Box number: £3 extra. All prices include VAT.

FOR SALE

RADIO PROBLEMS? Call Allan Authorised UK repair centre for Microair. Other makes also supported. Avionics Support 07721 759749

DG 400. 1/4, 1/3 or 1/2 shares available at Lasham from £7500 to £15000. L-Nav, LX400GPS. Cobra trailer with tow out gear. Mike Clarke 01256 467400 or Bob Buick 01784 432577

ASK13 BGA 1447. Good condition with CofA until spring 2003. Two complete instrument panels and tail wheel modification for easy ground handling. No trailer. All offers considered. View, by arrangement only, at Wrekin Gliding Club Cosford. Dave Woolf (h 01902 747798 w 0121 256 1028 or dave.woolf@btinternet.com) or Tom Jurdison (01902 722313).

PIK 20B. Low hours, acrylic paint finish. Full panel inc. Borgelt B50 Flight Director, T&S, radio, camera's, barograph and Comp No. Waterproof Fibreglass trailer/tow-out gear. Full CofA. Offers around £8500. No more time wasters. Tel Holroyd 01482 326666 (W) 01482 665861 (E)

IS29D metal single seater with instruments, parachute and trailer. Constructed in 1973 with only 500 hours. Offers around £2500. Tel 01536 485552 Office, 01858 468820 Home

BGA SCHEIBE SF25C FALKE. 1991, 2 litre Limbach engine & variable pitch propeller in good condition. Approx 2500 flying hours, CofA until June 2003. Offers. Contact Dave Bullock for further information on 01869 357079

DUO DISCUS, built 1994. Approx 1100 hours 2 year old Cobra trailer. Price approx £61000 depending on equipment. Available end May 2002. John Birch Tel: 01279 777328 or john.birch@virgin.net

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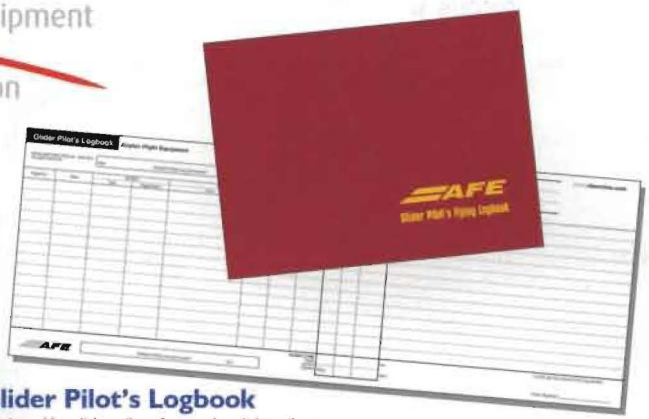

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