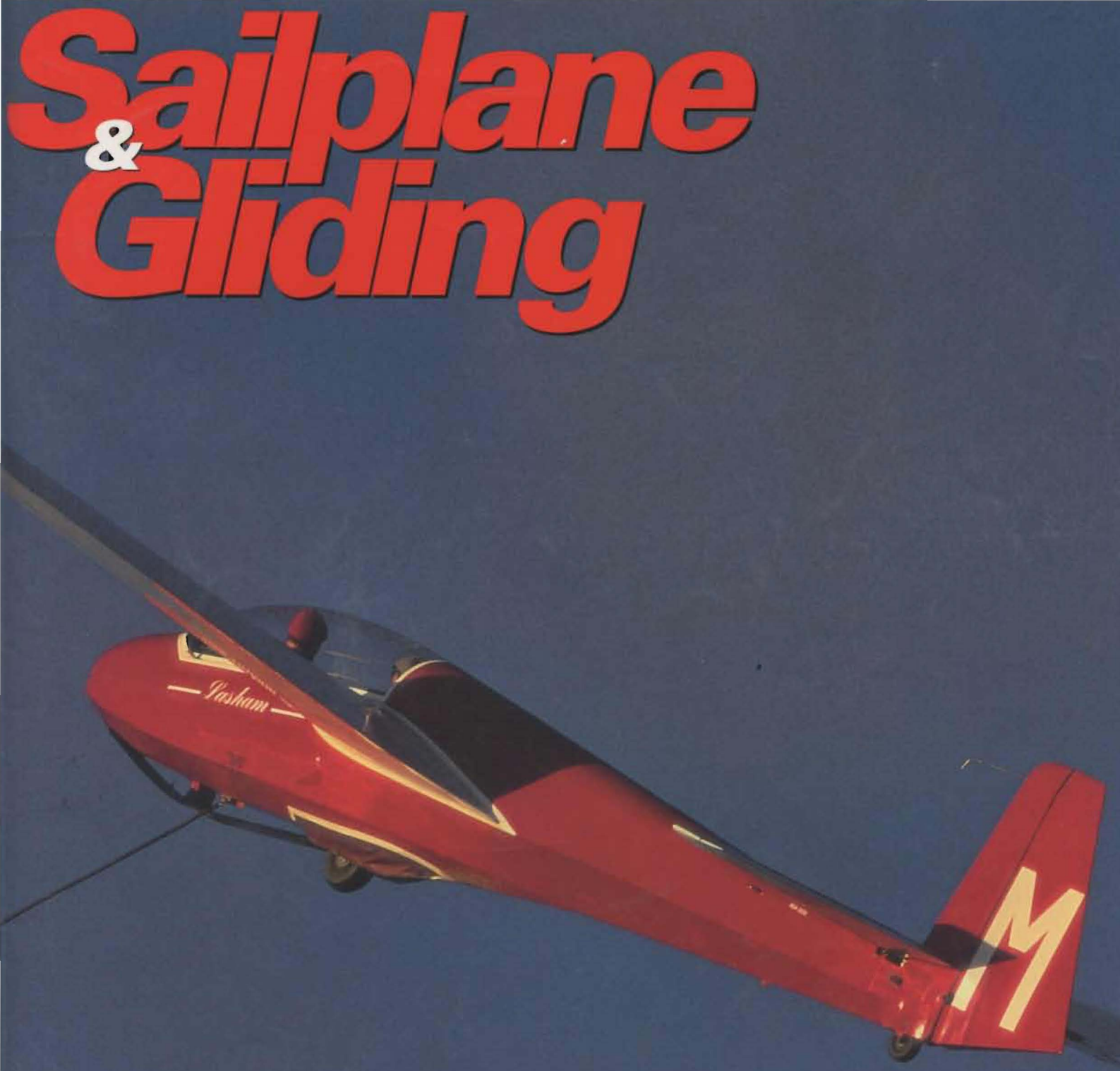
Sailplane & Gliding



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Launch into spring

Polish off your Bronze
Ten tips to help you bag that badge

HOW TO BE A WINNER
by double world champion George Moffat

Feb - Mar 2000 £2.95
Vol. 51 No. 1
ISSN 0036-7230

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Wolds Gliding Club

The Magazine of the
British Gliding Association

February ~ March 2000
Volume 51 No 1

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Deadline Dates

April ~ May	
Articles	February 15
Letters	February 15
Club News	February 15
Advertisements	February 25
Classifieds	March 3
June ~ July	
Articles	April 18
Letters	April 18
Club News	April 18
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Get ready to launch into spring. Winter winch launches keep you current for the start of spring soaring. Think how much you'd appreciate the cold draughts if you were baking under perspex in a summer thermal. This view of a Lasham K-13 was taken by the white planes *picture co.*

Sailplane & Gliding

22 **How to be a winner**



Double world champion and current US Team Coach George Moffat shares his secrets about the psychology of winning

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Mike Cohler and Chris Lewis offer advice and tips to help you bag that elusive badge in preparation for the spring

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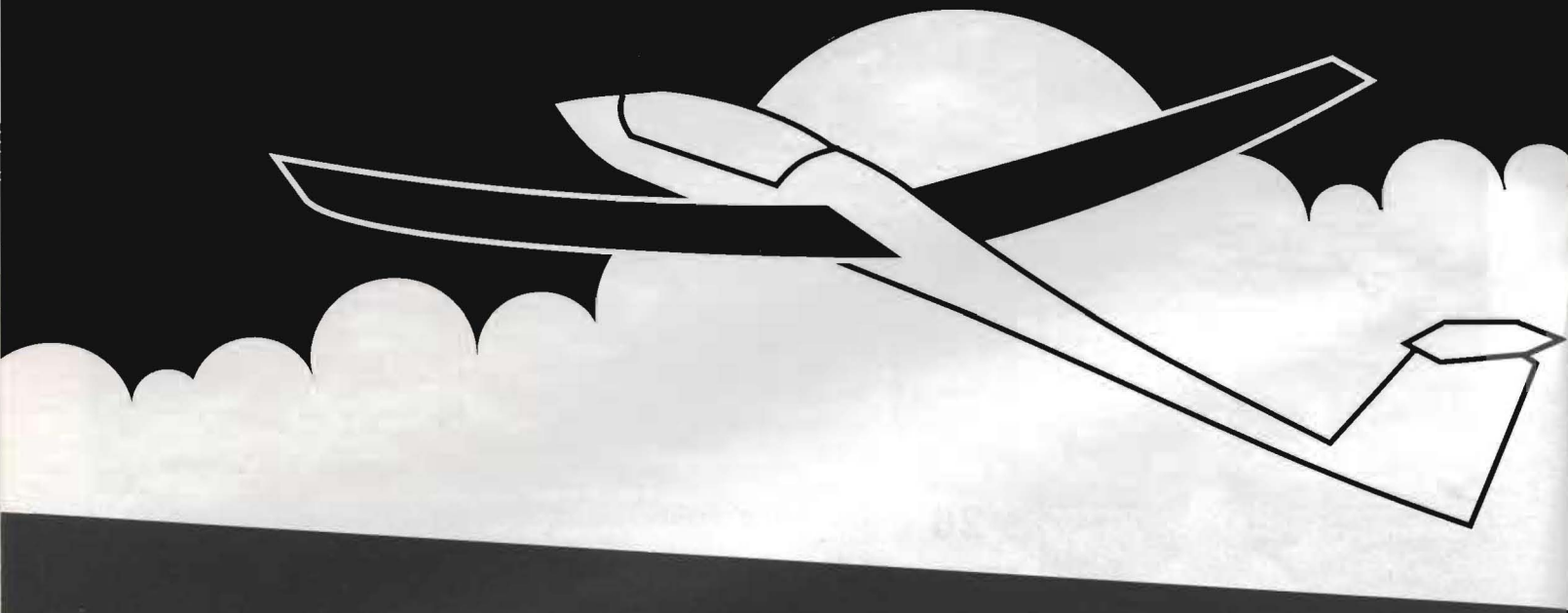


Nick Gaunt and Steve Payne share inspiring ridge-soaring stories, while Craig Lowrie explains how to do a winter 300km in south-east England

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BGA CONFERENCE 2000

HANOVER INTERNATIONAL HOTEL HINCKLEY

26th FEBRUARY 2000

Agenda

8.30-9.30	Registration and coffee	
9.30	Conference welcome	**Dick Dixon**
	Communications in the new millennium	
	– the role of S&G and the Internet	**Helen Evans**
	Presentation	
	Feedback and questions	
	International Speaker	
	Coffee break	
	Practice means perfect – or does it?	Lead: **Andy Davis**
	Forum of top pilots on the theme of practising to become a better pilot	with British Team
	World Air Games	**Brian Spreckley**
	The **Ted Lysakowski Memorial Trust**	Krystyna or Karen Lysakowska
	Lunch	
14.00	**BGA AGM**	
	Tea and **Exhibitors**	
	"Walk and talk" session	
	"Lightning strikes once" – the Ka21 accident	**Peter Claiden**
	Keynote Speaker: Richard Noble OBE	
	Manager of the record-breaking ThrustSSC supersonic car project – the first car to break the sound barrier	
17.30	Close to Conference	
	Pre dinner drinks	
19.30	Dinner	
	Annual Awards and Cups	Chairman
	After Dinner speaker	**Lembit Opik MP**
	The Band Strikes Up	**"AQS"**

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BGA and General News

From the Chairman



WE ARE entering a period in which gliding in the UK – indeed, throughout Europe – is faced with unprecedented change, with threats to our traditional freedoms balanced to a certain extent by a window of opportunity.

As I write this, in mid-December 1999, we have been invited by the Civil Aviation Authority (CAA) to enter into discussions with a wide-ranging agenda focused initially on the regulation and administration of motor gliding. The BGA will approach these discussions in a positive and constructive way, with the objective of reaching outcomes which will allow us to continue to administer motorgliding in a safe and efficient way, and within a framework acceptable to the CAA.

Our small island seems to have an ever-increasing appetite for more and more regional airports. Currently, the Airspace and Development Committees are carefully monitoring proposed developments at Kemble, Farnborough and Finningley and are liaising with the clubs most likely to be prejudiced by increased activity at these airfields.

Against this background, it is in the interests of all of the gliding and sport aviation community that we remain vigilant and work closely together, pooling our resources where appropriate, and applying our energy and expertise to ensure that at the end of the day we emerge with an infrastructure and environment within which we can continue to enjoy and further develop our sport.

Your Executive Committee will be working to this end and I am sure that we can rely on our membership for the support and encouragement which will be so necessary as our various negotiations proceed.

This will be my last column, as I have decided not to stand for re-election as Chairman at the AGM in February 2000. I will by then have completed four action-packed years in office. Having served previously as Vice-Chairman and before that Chairman of the Instructors' Committee, it is time for me to find some other way to serve our unique and special sport. I would like to thank all of you who have been such a help and encouragement during my time in office, and wish my successor, my colleagues on the Executive, our professionals, the member clubs and every glider pilot success – and the freedom of the skies.

Dick Dixon

National Ladder: 1999 results

A REVIEW of the season shows it was a vast improvement on the previous one (no surprise there, then). It is particularly encouraging to see an increased number of pilots and clubs this time round. This small but significant increase in the Ladder's popularity is largely due to the individual efforts of Club Ladder Stewards in persuading their shy, retiring pilots to let the rest of the world in on their accomplishments; to them I extend my sincere thanks.

The National Ladders have now been finalised and the top few places are shown here. Those who have been able to supply flight evidence have qualified for BGA trophies: Enigma Trophy (Open Ladder winner) **John Bridge**; Firth Vickers Trophy (Open Ladder runner up) **Tim Macfadyen**; L. duGarde Peach Trophy (Weekend Ladder inner) **Roy Pentecost**; Slingsby Trophy (Weekend Ladder runner up) **Paul Crabb**; Junior Ladder winner **Peter Masson**.

If your club would like get involved with the National Ladder during the 2000 season, please get in touch with me, either through the BGA, or email me on *john_bridge@compuserve.com*

The first submissions date for the new Ladder season is the end of March 2000.

John Bridge
National Ladder Steward

OPEN LADDER

Pilot	Club	Score	Flights
1 John Bridge	Cambridge	9485	4
2 Ed Downham	London	8780	4
3 Bob King	London	8469	4
4 Paul Crabb	Soaring Ctre	8241	4
5 John Williams	Trent Valley	8171	4

WEEKEND LADDER

Pilot	Club	Score	Flights
1 John Bridge	Cambridge	8556	4
2 John Williams	Trent Valley	8172	4
3 Paul Crabb	Soaring Ctre	7594	4
4 Brian Marsh	Soaring Ctre	7460	4
5 Ed Downham	London	7455	4

JUNIOR LADDER

Pilot	Club	Score	Flights
1 Richard Hood	Four Counties	4366	4
2 James Clark	Cambridge	4186	4
3 Jeremy Hood	Four Counties	3521	

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British Team squad

THE FOLLOWING pilots, listed alphabetically in each category, have been picked to form the British Team Squad. The top two places in 1999 Nationals qualify automatically: Peter Harvey, Ed Johnston, Steve Jones, Alister Kay, Justin Wills, Mike Young.

Team Squad selection places by vote: Dave Allison, Russell Cheetham, Andy Davis, Phil Jones, Tim Scott, Graham McAndrew, Brian Spreckley, Pete Sheard, Dave Watt, Martyn Wells.

Reserves: Ken Barker, Mike Jordy.

BGA Lottery

Winners of the November draw were:

Dr GHN Chamberlain (first prize)	£72.25
Runners-up:	
JD Peck	£14.45
FK Russell	£14.45
K Brackstone	£14.45
LP Woodage	£14.45
R Yarney	£14.45

Winners of the December draw were:

M King (first prize)	£70.25
Runners-up:	
DC Perkins	£14.05
E Brockington	£14.05
SF Duerden	£14.05
P Bolton	£14.05
MJ Wells	£14.05

RAeC Medals

The Royal Aero Club Annual Awards Ceremony will be held in London in April. This year, the Prince of Wales Cup will be presented to the British Women's Standard Class Gliding Team; with a Certificate of Merit going to Steve Longland. Congratulations to all. Tickets for the event are available from the RAeC office, Kimberley House, Vaughan Way, Leicester, LE1 4SG. and the latest news of the date and venue, along with details of the prize-winners, is being posted at *www.royalaeroclub.org*

Thanks – Ed

MANY thanks to everyone who has given me such useful – and positive – feedback on the last issue, and welcome to all our new subscribers. Please keep your thoughts and comments coming. You may also be interested to hear that I shall make a presentation about *S&G* and answer questions at the BGA Conference on February 26.

Helen Evans

BGA and General News

European stance on transponders

REPORTS of proposed transponder trials were presented to the European Gliding Union's December 1999 meeting by the president, Fransois van Haaff.

There would be a trial of a new lightweight transponder in the French airspace early in 2000. The EGU is still concerned by the various attempts to introduce legislation for transponders. There are at present no suitable devices or protocols suitable for gliders. However, technical developments in automatic data surveillance (ADS) may mean that within two years or so transponders may be in decline. The GPS-based transmission of 3D positions is more likely to suit gliders and real-time tracking during comps will become more common.

Introduction of Gliding Licences under JAR FCL5 is still on a backburner but it is hoped that gliding administrations will be allowed to carry out their own legislation.

In some countries, the establishment of new gliding sites has become almost impossible. The amount of consultation required has effectively ruled out the necessary agreements by all of the parties concerned. It is therefore imperative that gliding clubs do their utmost to secure their sites for the future.

Lemmy Tanner
BGA EGU Representative

Moves on lightning protection

THE Air Accidents Investigation Branch (AAIB) has recommended that the BGA ask glider manufacturers to develop new methods of protecting gliders against high-energy lightning strikes.

The move follows last April's incident near Dunstable when a K-21 was blown apart in flight and both pilot and pupil had to bale out.

Mike Woollard, who chairs the BGA Technical Committee, strongly endorsed the AAIB's request and said the Association would write to manufacturers.

The safety recommendation is one of two in the AAIB's recently-published report into the incident. The second asks the CAA to give serious consideration, during the current international review of lightning safety standards, to the fact that energy levels from positive polarity lightning discharges greatly exceed those specified (in AC 20-53A) for the lightning protection of aircraft.

How the strike happened – see p26

New Year honours for pilots

A MIDLANDS glider pilot was awarded an OBE in the New Year Honours List. Diana King, who served on the BGA Executive from 1983-93 and is now on the UK Sports Council, gained recognition for services to sport.



"I was practically brought up at the Long Mynd," she says, "where my father, Robin Bull, taught me to volunteer from an early age. Since then, I have had the privilege of working with a great many wonderful volunteers and I feel very strongly that this award is a recognition of all their work behind the scenes, as well as mine."

Based at Shobdon and Stratford, Diana has around 1700 gliding hours and shares LS-8 618 with her husband, Phil. As an executive committee member on the Central Council for Physical Recreation, the umbrella organisation for sports governing bodies, she led a strategic review of the organisation. Last year she left to join the UK Sports Council, where she chairs the ethics and anti-doping committee.

"I was a bit astonished to get the letter from 10, Downing Street," she says. "I still feel I'm only just starting: there is so much to do and so much I want to do better." In her sights are research and national standard-setting in sports ethics, and, at her clubs, coaching work to help individuals improve their performance.

BGA chairman Dick Dixon said: "My warmest congratulations to Diana. This honour is a well-deserved recognition of the enormous amount of voluntary work undertaken by her for the benefit of sport in general, and hopefully will be an encouragement to all the unsung heroes who so freely give their time and energies."

RAFGSA chairman Phil Sturley MBE also received an honour in the list. He became a Companion of the Bath.

Letters to the Editor

Please send your letters (marked "for publication") to: Helen Evans, Editor, *S&G*, 6 Salop Close, Shrivenham, Swindon SN6 8EN or email *helen@sandg.dircon.co.uk*

STONKing thermals

There have been suggestions in recent issues that this term derives from KNOTS spelt backwards or the position of the word on the display of the venerable Cosim variometer. A quick glance in the dictionary, however, reveals that STONK means bombard. So, if you are bombarding the bottoms of cumulus clouds at 6kt-plus, then I suppose it is apposite. It also happens to relate to the game of marbles. However, what goes up must come down, for the next entry is STONKER – 20th century Australian and NZ slang – baffle, tire, defeat.

I'm baffled! It would appear that it should be stonking when you are going up, and a stonker when you are defeated by that tired old sink. This would make much of the post-flight talk of stonking thermals mere fishermen's tales – which we all knew anyway.

Stonk this for a game of marbles, will some etymologist please come to the rescue with the definitive derivation?

Peter Berridge
BARNET, Herts

Eh?

Encomiastic (*Low-tech, high-tech winching*, December-January, p8): monosemic but recondite.

John Bridge
BARLEY, Herts

Advice on trailer towing

May I add to John Whiting's article (*Don't forget the box*, December-January, p33)? With most cars used for towing glider trailers, stability is the problem rather than lack of power or good brakes. All combinations go unstable at a "critical" speed – above which an oscillation (wiggle, to you) gets worse even if you hold the steering wheel fixed. Driving above this speed is very dangerous. The following factors affect this critical speed.

The stiffer the suspension on the car the better. GTIs and big Citroëns are good. Anti-snake bars can help a lot. Tired rear shock absorbers are disastrous. The distance between the hitch and the car back wheels (overhang) should be a minimum. The large overhang of old rear-wheel drive saloons combined with poor shock absorbers has resulted in three major accidents that I know of.

Pump up the trailer and car tyres to the maximum allowable pressure, normally 36 PSI for trailers (marked on the tyres) and about 32 PSI for cars (manufacturers' figure). Reinforced tyres, normally used on vans, are stiffer than car tyres and can be pumped up to higher pressures.

The heavier the car and the lighter the trailer the better. All cars have manufacturers' maximum towing weight. If you go above this your insurance is probably invalid. Just because your trailer is below the maximum it won't necessarily be OK. Generally the more front-heavy the trailer is the better but don't exceed the car weight limit or your strength limit. Four-wheel trailers are not always better than equivalent two-wheel ones.

The less side area the trailer has the better, especially at the back. Flat sides are much worse than rounded sides. The "bow wave" from large (normally white!) vans overtaking at 80mph (130km/h) has a horrible effect on flat-sided trailers.

Finally, if you drive your trailer as if you were chauffeur-driving your grandmother rather than rallying, it would have a beneficial effect on everyone's insurance premiums. Always assuming that the actual driver is insured.

Tim Macfadyen
STROUD, Glos

BGA way to get your bearings right

The debate prompted by John Hoskins' plea for pilots to use the correct method of reporting one's position by radio has been useful: if you are someone who does what the BGA Instructors Manual chapter on Navigation says, you are now aware that others choose not to follow the internationally-standard method of reporting one's position as 'a distance and bearing from a major feature'. One can only hope that those who choose to do their own thing, with or without an RT licence, are not teaching, don't descend in narrow wave gaps and will never require help when in distress. Valuable time will be lost sorting out the confusion.

Pete Stratten
Chairman, BGA Safety Committee

Undercarriage failures

Over the last two years I have had occasion to look at failed undercarriage levers from three different glider types. All showed fatigue-type failures as opposed to being overstressed by one big load.

On nearly all gliders the lever and rod system takes virtually no load when the undercarriage is in the down position and geometrically locked. I therefore had to consider what else was happening.

When the undercarriage is in the up position the wheel/brake mass is supported solely by the lever and rod system which takes the load to the end of the U/C up and down slot. This load, applied through the geometry of the system, does not overstress the system – at rest.

The problem comes when towing the glider in the trailer with the undercarriage locked in the up position. Trailer suspension systems are usually based on rubber and have to be made cheaply which results in very stiff suspension. Towing gives many upward stab loads of 3g or more which really means that the undercarriage is subjected to many 3g sharp downloads. These are the fatigue loads which lead to eventual failure of the lever which is then attributed to heavy landings or rough fields. Previously, I had always kept my gliders in trailers resting on the main wheel and so have never experienced this problem. Now my glider rests in its trailer on a four-wheel dolly I have taken the precaution of unlocking the undercarriage before finally pushing the fuselage into its towing position. This leaves the mass of the wheel on the trailer floor and I have thereby removed the high frequency fatigue stress cycles from the retraction system.

I would suggest people consider the above and then do as I do. If, however, they tow many miles, their lever may already be cracked and should therefore be crack tested.

Mike Costin
CHURCH BRAMPTON, Northants

Roadside recovery reprise

It was interesting to read the letter from Brian Brown (*Roadside recovery*, October-November 1999, p4) and compare his experience with my own. I was with Green Flag until they imposed their trailer limitations. I subsequently tried other organisations but without success. When I saw Brian's letter it was like manna from heaven. However, when I asked for a quotation from Britannia Rescue having stated the details of my Cobra trailer, I received a prompt phone call from a very pleasant young lady informing me that they would not include the trailer. Many *S&G* readers must be without proper roadside recovery and I would have thought that the combined power of all gliding people would, if directed through the BGA, make the recovery companies reconsider their verdict. So how about an official approach from the BGA for a special deal for its members?

Ken Martin
HEREFORDSHIRE GC

The BGA office report that they have held exhaustive discussions over the last couple of years with all the recovery organisations, but have been unable to convince them of the material benefits of all those customers with glider trailers – Ed.

Old, bold pilots?

It is often said that the average age of British glider pilots is increasing. If this is so then the old saying of "... but there are no old, bold pilots" must imply that on average we are becoming less bold.

Letters to the Editor

In apparent contradiction of this thought, I mention Mrs Natalie Hodgson, who joined the Midland club in 1952. In the 1960s, doing a Silver distance flight from the Mynd (but without a barograph) she landed her Oly 2 safely in a 340-acre Herefordshire field despite being quite unaware of the many anti-invasion obstacles it contained! Natalie ceased to be an active pilot 25 years ago since when she has had only a very few flights.

Recently, she arrived on the Mynd for one of her rare flights when I was duty instructor. Despite a blustery 30kt WSW wind, and being out of practice, she took over at the top of the launch. She soared for about half an hour and then said she would let me do the approach and landing. Nothing too remarkable in any of that, perhaps, except that while I have only just begun to draw my State pension, our combined ages totalled 152 years!

Natalie's field may well have been the largest in England but do our 152 years constitute an English aggregate record for the crew of a two-seater glider?

Keith Mansell
RATLINGHOPE, Shropshire

Not without rivalry

Thank you for the meagre response. There has always been some rivalry between the Ozzies and the Poms ever since some sportsmen burnt the sporting equipment at Sunbury in 1882. This doesn't mean that you should commit your equipment to the town square bonfire should you come off second best – far from it. We would be pleased to see an English team at Gawler 2001 and as Ralph Jones (*Gawler Club Class Worlds*, October-November 1999, p10) put it: "on your heads" although this is not compulsory.

Phil Hearne
MELBOURNE, Australia

Aerofoil stability

The Genesis 2 article (*S&G*, Dec-Jan, p26) is indeed an outstanding example of lateral thinking in design. Comparison tests claim a decisive advantage at high speed over the Discus and ASW 24. However, it has not done this by using a 'stable aerofoil' because there is no such thing, nor are conventionally-cambered aerofoils unstable. Such ideas result from a century-old fallacy about the wing centre of pressure. Readers of the forthcoming BGA ground school manual will learn this simple fact.

Normal aerofoils do indeed cause an increasingly nose down pitching moment with speed, but this effect is exactly balanced by an increasingly nose up pitching moment from the tail. The pilot doesn't have to do anything about it and the stability is entirely unaffected.

John Gibson
ST ANNES-ON-SEA, Lancs

Thanks, team

Why do people go gliding? Could it be that they wish to fly higher, faster or further than the next person? Maybe, but they must be few, as the cost of the best machines prevents this competitive effort. Maybe they want to be in control or fly at low expense? Hardly likely, as they have to do so much solo flying and pay heavily in time and effort, keeping the club running.

I have sought the answer to this question in Scotland, Wales and all corners of England. I have found a welcome and friends at all the many clubs visited and have come to the conclusion that comradeship must be the great incentive that keeps people in the movement.

This has been recently confirmed as I have an illness which prevents me doing my share of ground work, but I am still welcomed to fly by a happy team who make it possible. I would like to wish them – anonymously – a big thank you and happy landings in 2000.

"Old Bill"
(Name and address supplied)

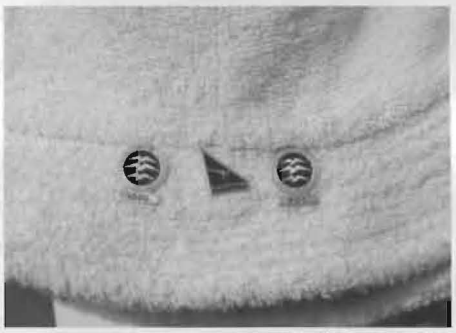
Your letters are welcome. Please keep them as concise as possible and remember to include your contact details (address, telephone, fax, email). Letters do not necessarily represent the views of the British Gliding Association or the editor.

Why "nearly" ain't good enough for British gliding

We are told by the Sports Council that as "gliding is not an internationallly significant sport", no Lottery revenue funding will be made to us (*BGA Development News*, October-November 1999, p6). The Concise Oxford Dictionary shows: 'Significant' – noteworthy, of considerable amount of effect or importance.

They are right, of course – seen from an antipodean standpoint. You see, we keep getting our pilots up on the podium at International Contests. Aren't we silly billies? If only we were like our glorious footballers, cricketers or rugby players who seem to fail to make the grade, money would be thrown at us like there is no-to-morrow.

At local club level, we should be more like football clubs or County cricket sides, a girl runner here, a tennis player there and hire a large number of carefully chosen foreigners, preferably former World Champions, to fly for us and then the money would really start pouring in. Winning is not what it is all about. You will not get funds if you win! Trying to win even if you lose is what matters – the Sports Council will love you if that is your stated aim.



the *white planes* picture co.

You did not know that our UK Sports Council members must all be members of the Australian gliding federation. Antipodeans to a man and you know that an antipodean is (according to the Shorter Oxford) 'someone who has everything upside down or/and is diametrically opposed'.

Until I met an Australian 1000km record holder called Tom Claffey and his super wife Kerrie I always held Aussie sportsmen in the highest esteem. Aus on the playing field meant success, they played hard, they drank hard and knew how to treat their Sheilas.

But that is a load of eyewash – they are wimps – they reward failure, they glorify it with personal jewellery. For 15 aussie dollars the GFA will fit a diamond to your Silver Badge! In time I suggest they might consider offering Silver legs to a C badge, that ought to be a real moneyspinner. But the jewels in their crown are the 'NEARLY' badges.

You can buy a 600km, 700km, 800km, 900km badge to show people how you tried and failed. Then, when you are old and grey and have been gliding for 25 years, you can join the Quarter Century Club of the GFA. At their annual get-together, do they dangle their 'NEARLY' badges from their books of landing out certificates?

Please, Sports Council and the GFA – let's put success, not failure, back up on the pedestal. Let's make our young strive to make it, not fail or fall on the way. Come on, BGA, start beating the drum louder and shout about our triumph from the rooftops. Let us be proud of our successes. Ultimately then our message will get through and we might even get some of our own money back.

Wally Kahn,
LONG SUTTON, Hants

Threat to clubs and epic flights

THE former RAF base at Finningley, near Doncaster, has been bought by a developer who intends to turn the site into a major commercial airport.

Planning applications have been submitted by Peel Airports (Finningley) Ltd for the redevelopment of Finningley Airfield as a commercial airport, with related business, leisure and hotel activities. Budgeted growth is for 2.3 million passengers by 2014, plus 60,000 tonnes of air freight.

The proposals have the support of Doncaster Metropolitan Borough Council (MBC) which sees an international airport as a source of income and jobs in a poor area.

The developers have already stated that they will apply for Class D airspace surrounding the site. That could result in a zone of 15-18nm radius, centred on Finningley (see right) and encompassing clubs such as The Dukeries at Gamston and Trent Valley at Kirton Lindsay. It would seriously affect operations at Burn, Sutton Bank, Pocklington, Rufforth and Camphill.

Class D airspace would effectively block the north-south cross-country route for gliders, between the East Coast and the Pennines. Although individual glider pilots with RT licences might obtain ATC clearance to transit the zone, competition routes would be ruled out entirely.

Long-distance gliding to the east of the Pennines would be severely restricted. The epic, record-breaking 1,000km flight made by Chris Rollings/Chris Pullen in 1995 might not have been possible, had such restrictions been imposed; more importantly, it might never again be possible.

What the BGA is doing

The Executive Committee has appointed a working group, of Carr Withall, David Salmon and Roger Coote. The General Aviation Awareness Council (GAAC) has promised support and will oppose any development at Finningley that will result in controlled airspace exceeding the dimensions of a standard ATZ for a licensed aerodrome (2.5nm radius and 2,000ft overhead). Objections have been lodged with Doncaster MBC's planning consultation on behalf of the BGA, GAAC and the Royal Aero Club (RAeC). Gliding clubs directly affected have been encouraged and assisted to make their own representations, as part of the consultation process.

The BGA Airspace Committee will directly oppose the imposition of controlled airspace if the initial planning consents are granted.

Where do we stand legally?

Planning applications usually only relate to developments on the ground. It has frequently been claimed that, once an aircraft is airborne, it has nothing to do with the local authority since it is regulated under the Air Navigation Order and becomes the responsibility of the CAA or the military authorities. Thus, air safety issues are not always valid grounds for objecting to planning applications for flying sites.

However, at the Airports Inquiry, in 1981-1983, the Inspector ruled that airspace restrictions constitute valid grounds for objection and at both the Sorbie Field (Scotland) and the Chilbolton inquiries, air safety issues were ruled to be a valid planning consideration. So our objections cannot be rejected for being outside the jurisdiction of the planners. Our views must be taken into account.

Where do we stand with other airspace users?

Traditionally, the BGA has always supported the development of airfields, especially ex-MoD sites, as have the GAAC and the RAeC. On this occasion, however, we find ourselves on the other side of the fence, standing shoulder to shoulder with the Airfields Environment Federation (AEF) and other traditional objectors. The distinction and in this case the justification for the apparent change of policy, is that the proposals are for a commercial development which will eventually lead to the exclusion of general aviation (including gliding) activity.

How you can help

The initial consultation period will have expired by the time this is published but there is no harm in writing to Doncaster MBC to support the BGA's objections to the re-development of the former RAF Finningley as a commercial airport.

This is, however, likely to be a long struggle and your support and assistance will be very welcome. We should be able to rely on support from the established airports in the region (Sheffield, Humberside, Leeds/ Bradford and East Midlands) who will see the development of Finningley as a threat to their own profitability at a time when supply exceeds demand in the air transport business. They are likely to claim that the cake is not big enough for Peel Holdings to grab the biggest slice.

If this results in a public inquiry, we shall need legal assistance and a barrister to present our case. Financial support from the BGA's Planning and Environment Trust might be available to help cover the inevitable costs.

If you are prepared to make your own representations to prevent the loss of vital free airspace, then please contact me on 01273 515373 and I will provide you with a copy of the BGA's objections and some guidance on how best to make your views count.

Roger Coote



Dates for your diary

Jan 29: *A Reluctant Guest of the Luftwaffe* – by former glider pilot, POW and escaper Walter Morison, Lasham
Feb 26: BGA AGM and Conference (see p5 for details)
Mar 11: *With 613 Squadron at Lasham*: talk and exhibition
Jun 24-5: Lasham Golden Jubilee (see p17)
Jun 24-Jul 1: Vintage & Classic Rally, Camphill (pictured right)
Jul 28-Aug 6: 28th International Vintage GC Rally, Tibenham
Changes to the **competitions calendar** printed in the last *S&G*, including non BGA rated comps: *Club Class Nationals, 6-18/6, Pocklington;* Euroglide, Eindhoven Aero Club, the Netherlands, 12-24/6; Enterprise, Chauvigny, France, 6-13/7; *Western Regionals, Nympsfield, 5-13/8;* Inter-Services, Bicester, 8-17/8; *Two-seater competition, Pocklington, 20-27/8;* Mountain Flying comp, Aboyne, 3-9/9
Deadline for Junior Nationals entries: end of April


Ian Dunkley


Bernard Smyth

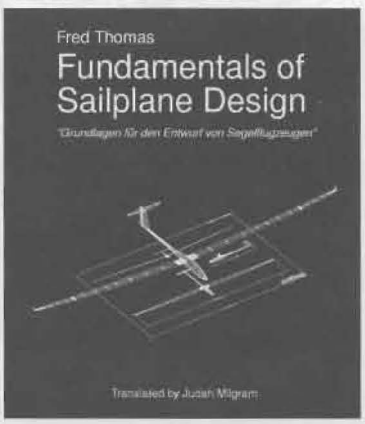
Gone but not forgotten

WHEN John Patchett packed for the family move to Australia, he didn't realise he'd be taking a BGA Diploma with him. The Association's Vice Chairman, David Roberts (pictured right), surprised John with the award at an Oz-themed leaving party at Nympsfield."The gliding movement does depend on volunteers," he told John, "and without them we would not be able to make the sport accessible." He outlined John's services to gliding over 20 years, for which the diploma was given: a Full Cat (more than 1400hrs instructing), and a regional examiner for 11 years.

To general laughter, he also recalled John's 1980 bale-out from an Open Cirrus when the local paper reported that: "Club members watched in horror as the parachute opened". John, who is rarely lost for words, typically joked in reply: "All I can say is thank you very much, and you obviously all think more of me than I think of you!" He also received a painting of his glider, 272, from members, and photographs of his early flights from Robbie Robertson, who sent him solo in 1977.

Book review

Fundamentals of Sailplane Design
by Fred Thomas
Professor of Aerodynamics,
Technical University of Braunschweig
translated by Judah Milgram
College Park Press
£35 plus £4.95 p&p from the BGA
(March onwards)



THE popularity of this book can be assessed by noting that some 5,000 copies of the first and second editions were sold; this is the third edition, now rendered in English – and excellent English, too. It is very easy, when translating such a work, to interject various words which owe more to the original language than is desirable, but there is none of this present here. Judah Milgram has also contributed to the text and general layout.

Let it be said at once that not only is the text very clear, but the diagrams are excellent, as is the overall layout. However, it is rather difficult to discern whether this book is directed at the person wishing to design his own sailplane, or to one who wants to know the general ideas but also wishes for a guide to suitable references. I suspect the latter: for example, the text says: "Analysing a wing of arbitrary planform requires considerable computational effort because the effects of the complete vortex system must be integrated over the entire wing". In all fairness, the references point the readers to various programmes, but would it not have been nice to allow the reader to work out a good approximation, for example by Diederich's method, as explained in Ref 26?

At the risk of being accused of picking nits, there are a few other points: for example, Paul MacCready, on p70, is credited with originating Speed to Fly theory. In fact, Pirie and Dewing of the Cambridge University GC sorted out the theory in 1947. And some of the theory relating to all-flying tails is rather suspect.

However, these are all rather minor points in a book which represents an enormous amount of work. The bibliography contains 235 references (eight to me, incidentally) and there are 20 pages listing about 400 sailplanes, all the way back to the Vampyr, giving the major dimensions, wing sections, and so on. (If you are wondering, the section of the Vampyr was Gö 482.) And there are drawings of about 142 sailplanes. Before you get to this, there are chapters on basics of aerodynamics, design requirements, design optimisation, evaluation of performance and flying qualities, and trends in sailplane development. The first chapter alone contains 13 sub-divisions of which the first half-dozen form an excellent introduction to the whole subject of aerodynamics.

This is a truly magnificent book and, as Loek Boermans points out in his Foreword, none of what it describes would have been possible without the various Akafliegs. All we need now is a similar book on the fundamentals of sailplane structures!

Frank Irving

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Current developments

Electric engines, solar power and slatted wingtips are among the developments showcased recently in Germany. Jochen Ewald reports



THE future of the Antares electric motorglider looks promising after secret test flights on its electric motor in a modified DG800b, dubbed the LF 20E.

The aircraft is shown (right) powered by a DC/DC brushless engine developed by Profs Jeanneret and Vezzini of Switzerland's HTL Biel. It is said to deliver 42kW at 1500rpm during take-off. Using a purpose-designed propeller, it is claimed to have a climb rate of up to 4-5m/s with little noise or vibration and good reliability. A 1,000-hour TBO time and maximum cruise speed of around 170km/h are quoted.

Power is stored in rechargeable Ni-Mh batteries in the wings which allow a calm-air climb to around 1700m, with enough left to reach an airfield for an aerotow retrieve should soaring stop.

Engine retraction and deployment are controlled by a single throttle lever patented by the project's designer, Axel Lange, who worked at the Glaser-Dirks factory in the days before it became DG-Flugzeugbau. He has since started his own factory – Lange Flugzeugbau – to develop Antares.

The prototype itself is scheduled to fly in mid-2000, with serial production from 2001. The design, by Prof Loek M Bormans, includes 18- and 20-metre tips and a ellipse wing geometry said to be new and with good stall characteristics. Best glide is cited as 54:1 for the 20-metre version. In the cockpit, the manufacturers claim to have built on safety knowledge gathered in Formula One motor racing. The batteries in the wings make them heavier than normal, so rigging aids have been developed.

The price of the Antares is not expected to be significantly higher than that of conventional motorgliders of comparable performance.





THE Icaré 2 solar glider (above) flew during the Idaflieg summer meeting at Aalen-Elchingen airfield, near Stuttgart.

This 25-metre self-launching motorglider is being used in research by the German Federal Ministry of Traffic to collect data for future certification bases for the use of solar cells and electric drives on composite construction aircraft.

This research could, for example, help a coming generation of electrically-driven motorgliders to be equipped with solar cells for in-flight "refuelling" – so widening their useful range, which is still limited to self-launching.

Built by Stuttgart University, the Icaré 2 has the battery capacity to launch to 350m. With 50 per cent of the mid-day solar energy of a clear summer's day (a solar input of 500W/m2), it can stay airborne in calm air.

After these tests end, though, the problem of finding sponsors for future research projects will again emerge.

Slatted wing tips on test

USING the Swiss jet-powered motorglider Prometheus 2 as a free flight test platform, these revolutionary new slatted wingtips (right) were performance-tested at last summer's Idaflieg meeting.

The "wing-grid" tips were developed by Dr Ulrich La Roche from the Swiss ETH Zurich, and are designed to reduce drag by optimising the vortex structure behind the tips.

They are a fascinating feature in aircraft development. and the designers hope to "replace" a wing section about double the tips' span.

The Prometheus, which usually flies with Stemme S-10 wings, tested the tips attached just to the standard spar connection of Stemme wing centre sections.



Guild award for Bill

BILL Scull was awarded the Grand Master's Commendation at the Guild of Air Pilots and Air Navigators annual Trophies and Awards Banquet. The Guest of Honour was the Grand Master, Prince Phillip, who is also Patron of the BGA. He presented Bill with the award "in recognition of his long and distinguished service to gliding as national coach and BGA Director of Operations".

The citation added: "He has made a major contribution to ensure the safe development and operation of gliding and general aviation."

New record claim

THE 1972 Open Class Free Distance record of Hans Werner Grosse may have fallen. The FAI has just received a claim for a flight of 1,546.57km from Klaus Ohlmann, a fellow German flying Stemme VT S10 from San Martin de los Andes, Argentina on December 16, 1999. The current record is 1,460.80km.



THE MIDLAND GC and the BGA were present at the Telford International Airsports Exhibition (pictured above, after the doors closed on the first day) to promote the sport to an already air-minded segment of the public.

The BGA Duo Discus attracted much attention, and gliding simulation software set up by the Midland club was hugely popular. More than 250 people entered a free draw to win a trial flight at the Long Mynd.

Thanks to all who helped with the event – who included Executive committee members and a British squad pilot – for enabling gliding to take its place alongside airsports such as hang-gliding, paragliding and microlight flying.

Parachuting drop zone procedure

PARACHUTE dropping takes place in the open FIR at various altitudes and uses the same airspace as powered and gliding aircraft. Over the years concerns had been expressed on the interaction between these activities and the potential hazards were highlighted by an accident involving a glider and a free fall parachutist in France in 1995.

On April 1, 1999, a procedure was introduced which was designed to address the two sets of concerns which focus on the perceived risk of collision between aircraft and parachutists; the general aviation pilots' need to establish whether or not a Drop Zone (DZ) is active at a particular time and the parachuting operators' experience of an unacceptable level of transitory incursions into active DZs.

The introduction of this new procedure ensured information was available on activity at all permanent DZs. Consequently, there is a requirement for the DZ operator to inform the appropriate ATSU or ACC of when their DZ is either active or inactive. The list of DZs together with the telephone number on which the ATSU or ACC should be contacted for the notification of the DZ activity is detailed in the AIP, section ENR 5.5.

The next step was to publish a legend on the civil 1:500K and 1:250K VFR series maps detailing the list of DZs together with the appropriate frequency of the relevant ATSU/AC to be contacted for the transiting pilot to obtain activity information. Currently, this information is published on the following charts: 1:250K series: Northern Ireland; The Borders, England South, Central England and Wales; and 1:500K series: Southern England and Wales; Northern England and Northern Ireland.

It should be noted that in many cases procedures were already in place for parachuting operators to notify activity to appropriate Nominated Air Traffic Service Units (NATSUs) at the start and finish of operations; indeed, in some cases these procedures were contained in Letters of Agreement. Thus activity information for many but not all DZs was available to pilots of aircraft making use of a flight information or radar service.

The new procedure was trialled for six months and reviewed at the end of this period. It was decided that the procedure would continue as notified with an added tactical enhancement. The trial showed that for 80 per cent of an average operational day DZs are not active. This means that for an average of 9.6 hours each day all DZs are free to transiting traffic.

When a pilot calls a NATSU and is told that the DZ is active, the pilot has the option to request the DZ frequency to obtain updated activity information. Armed with this frequency the pilot now has the option of contacting the DZ for current information.

However, most importantly, in the event of a nil response the transit aircraft should act on the strategic information given by the NATSU and remain clear of the site.

In sum, a procedure has now been established which provides the basis for a more flexible and safe transit of a parachute DZ by all interested parties. The message now needs to be spread and it is essential that all your pilot colleagues are made aware of this procedure. Gulliver, when describing his travels, said it was easy to tell stories about his adventures but his real purpose was to teach. Furthermore, he stated that a traveller's chief goal should be to make men wiser and better.

Please follow his example and spread the word on this innovative procedure, which is a major step forward in flight safety between the GA and parachuting activities.

Information provided by the Directorate of Airspace Policy, Civil Aviation Authority.

Peter Hearne, BGA Vice President, adds: these changes have come about because of the BGA's initiatives to eliminate as far as possible in UK airspace contributory factors of the Gap accident. The key to these improvements is USE THEM OR LOSE THEM. Be sure you make in-flight R/T calls to ascertain actual status of DZs on your route.

First flights and landout of 2000

TINY 20-member Hutt Valley Gliding, north of Wellington, New Zealand, reckons it made the first glider flights of, depending on your point of view, the new year, century or millennium.

Nine club members unpacked the hangar by car headlights, because the generator was u/s, to get CFI Tony Van Dyk airborne in an LS-8 at official daybreak – 0520 local time (1620 GMT, December 31). The first instructional flight, in a K-13, was 15 mins later when Tony's son Scott and instructor Fraser McGraughran were towed to the site's 5km-long ridge. Each glider slope-soared in 1.5kt lift for about half an hour before the pilots landed for a breakfast of bacon and eggs. An hour later it rained.

A K-13 also featured in what's thought to be the first UK landout of 2000. London GC chairman Mark Newland-Smith and wife Caroline decided to blow away the cobwebs with a quick pre-lunch flight on January 1.

It *was* quick. As they released, the clouds filled in below and when they dropped out of the remaining hole they were too low to get back to the site. The four-hour, eight-person retrieve involving two trailers and a 4x4 is rumoured to have been planned by Mark as a team-building exercise.

"I think the one thing it has concentrated our minds on is the need for a K-13 trailer," he said.



Above: New Zealand's successful early birds took advantage of a brief weather window to fly: "We had hoped to see the sunrise," said Fraser, "but it was obscured by cloud." Below: the first UK landout of 2000? (Adrian Hobbs)



Colditz glider may get airborne at last

A REPLICA Colditz Cock, the glider which was built in secret by British Prisoners of War more than 50 years ago, is scheduled to take to the air as this *S&G* is published.

The original two-seater was painstakingly created using cotton from palliasse covers, wooden bedboards and floorboards, and smuggled glue, in a cleverly-concealed attic workshop. The plan to launch it from the castle roof, enabling two PoWs to escape, was shelved as the liberating armies approached. The original glider never flew.

This is the first full-scale flying replica of the Colditz Cock, although a scale model has flown and a full-size static replica was constructed for a film.

The new replica, being built by Southdown Aero Services at Lasham, has also been made for filming. It will feature in one of three 50-minute programmes about Colditz to be screened on Channel 4 this spring.

Windfall Films, the programme-makers, plan to launch it in January or February from a secret location.

S&G hopes to feature the full story behind the replica's construction in a future issue.



Shelly flies blind

LOOK OUT for Bannerdown GC's Shelly Dawson (centre) on ITV this spring. The juniors pilot, who admits to being "a little bit extrovert", was picked to fly to Jamaica with trainee accountant Joe on LWT's *Blind Date*.

"There were eagles ridge-soaring.the Blue Mountains," she said. "I did think of going gliding, but the crew were filming so much it wouldn't have been fair."

Briefly

The former BGA and SSA magazine *Motorgliding International* is being reborn on the internet as a sole venture by the SSA. The new site, *Motorgliding and Gliding International*, is at *www.glidingmagazine.com* Former *S&G* editor Gillian Bryce-Smith will be offering a monthly batch of new articles, plus the chance for pilots the world over to post messages about their achievements, requests, or opinions.

If you want to take part in Lasham's Golden Jubilee celebrations on June 24 and 25 this year, but aren't a member, you can. Contrary to previous statements, anyone wanting to join in will become a temporary member of the club. Contact Lasham Gliding Society office on 01256 384900.

David Cockburn, who has been CFI of three RAFGSA clubs, is the new Safety Promotion Officer at the CAA Safety Regulation Group (SRG). He will be responsible for CAA safety evenings, the General Aviation Safety Information Leaflet (GASIL), and the Safety Sense leaflets.

If you have details of mods to gliders for disabled people, please send them to Sandy Harrup, 28 Salisbury Road, Exmouth EX8 1SL to go on a British Disabled Flying Club database.

Lasham pilot Jill Burry was given the OP Jones Cup by the British Women Pilots' Association at an awards lunch this winter.

Calling past and present members of London GC to take part in a mass photograph on March 25 to celebrate our 70th anniversary. Call 01582 663419 for details.

FLIGHT TEST

LAK 17a



Jochen Ewald

by Derek Piggott

I HAVE been looking forward to flying the LAK 17a since the prototype flew some years ago and was lucky to have a good soarable day to try it out. It is the first LAK 17a in this country, based at Husbands Bosworth and owned by the importers, Baltic Sailplanes. After only three flights to get used to the aircraft and his instruments, Tony Pozerskis flew it in the 18 Metre Championships at Booker and finished 8th out of 35 competitors.

The LAK 17a is a 15-metre flapped glider with a very high aspect ratio wing, and comes with wingtip extensions to 18 metres. These are inclined with 20° of dihedral. It is largely constructed of carbon fibre with the result that the empty weight is only 475lb. This makes it easy to rig and good for climbing in weak lift. When ballasted to maximum weight (1000lb) the loading is 10.25lb sq ft (46.2 kg/m²) giving excellent high-speed performance on days with strong lift.

I found the cockpit large, but the seatback, headrest and rudders are fully adjustable and all the controls come easily to hand. On the left are the flaps, airbrakes, elevator trimmer and release toggle; the undercarriage lever is on the right. The canopy is hinged at the front and the instrument panel lifts with it for easier access. It is locked down with two positive locking levers either side, but has a single lever above the instrument panel to be pulled to jettison the canopy, an excellent feature.

The rigging is quick and easy, though care must be used checking that the flap, aileron and airbrake connections mate correctly as the wings are pushed in the last few inches. All the controls including the water ballast self-connect and the only loose parts are the two main pins.



A look round quickly convinces you that no pains have been spared to produce a well-finished, smooth glider. This is not a cheap imitation but a well-built modern design. There are one or two surprises: the ailerons are of narrow chord and have no differential in their movement. With full landing flap, the ailerons are both down at quite a large angle. I expected high aileron drag and a lot of adverse yaw and problems with keeping the wings level at low speeds. How wrong can you be? I landed each time using full flap with airbrakes and found no problem at all during either take-off or landing. I was amazed, since most owners of other flapped machines find they dare not use full flap for landing without risking a possible ground loop.

The LAK 17a has a T tail with a fixed stabiliser and a normal elevator with spring trimming giving a good positive feel to the elevator. Being cautious, on my first flight (with the 18 metre tips fitted) I set minus flap for take off and pulled it to the first positive setting before leaving the ground and for the rest of the aerotow. This is probably unnecessary except for no wind conditions.

The undercarriage locking system is excellent. It is quite obvious when it is properly locked, both up and down. A small plate is clearly visible in a slot when the handle is down against the cockpit side and this acts as both an indicator and an additional positive lock. The lever is well placed and the forces needed to raise and lower the wheel are surprisingly low. The main wheel uses a gas strut for extra shock absorption.

Provision is made for nose ballast to cater for light pilots, and the fin holds up to seven litres of water to compensate for the large water ballast tanks in the wings and for heavy pilots. The tail ballast is not jettisonable in flight.

The wings hold a total of 180 litres giving a maximum wing loading of 50 kg/m². I flew without ballast in the wings and found that using about 40° bank it circled happily at 45-48kt with the flap in the normal thermalling position, a surprisingly low speed (there are two positions of positive flap for thermalling plus the full landing position and neutral, and one position for negative flap). The handling is excellent, with a time to reverse 45° to 45° in about 4.5 seconds at 50kt. I seemed to be able to get down almost to K-6 circling speeds without losing positive control and there was a reasonable stall warning.

The stall was very straightforward with a gentle wing drop from a shallow turn. I tried to get it to spin several times but it did not want to spin continuously and spiralled out each time.

It is a delightfully simple machine to fly and about my only criticism was that I had to look closely at the flap lever to tell its position. I expect that you would soon learn to sense it by feel, but it would be nice to have some way of making either the zero or the thermalling flap position feel distinctive so that looking down would not be necessary.

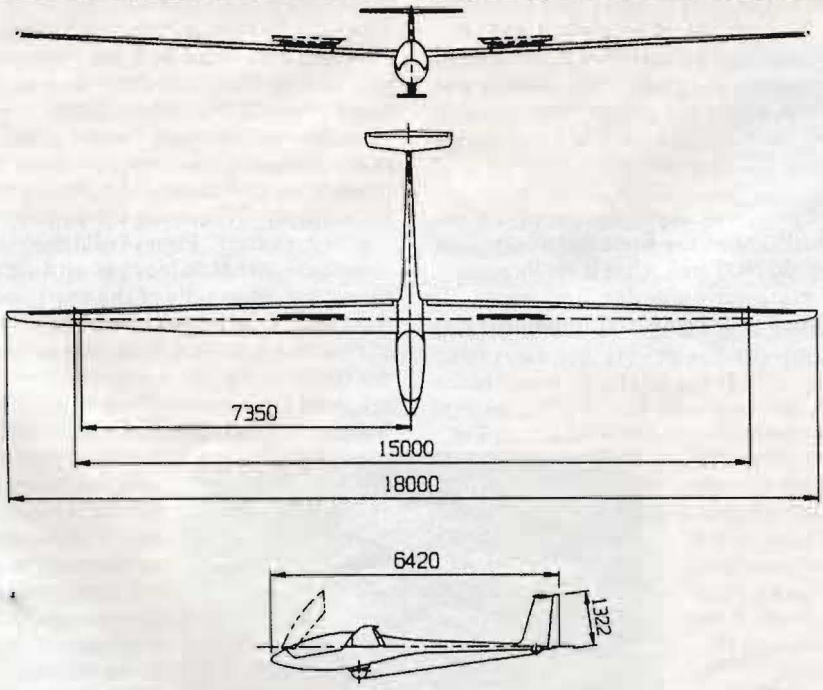
This is one of the few of the new breed of very high performance 15/18 metre machines I have flown and I was very impressed by the performance at high cruising speeds. The manufacturers claim a max L/D of 50:1 at 62kt at maximum weight and this seems reasonable. Only extensive testing and competition flying will establish how it compares with the Ventus 2 and similar machines.Using the full landing flap with the powerful airbrakes, the approach on the LAK can be steeper than many modern gliders.

We then took off the wingtip extensions and I made a flight in 15-metre mode. This time I took a winch launch. It was quite straightforward. I found no tendency to zoom up after leaving the ground and got about 1200ft. This was enough to find lift and climb several thousand feet.



The handling was, of course, even snappier and I was interested to hear that Tony prefers to fly it 15 metre. The polars show that with full ballast, above about 65kt the performance is better without the tips in spite of the higher performance offered at low speeds with the tips on.

I came down from this flight feeling it must be a good buy when compared with its competitors. Certainly those thinking of ordering a new machine should get a trip in it before deciding what to go for. It is amazing value for money. Think about it: you could use most of the saving on some really good instruments or spend it on a few nice soaring holidays abroad!



Technical data: LAK 17a			
Wing Span	15/18 metres	Empty Weight (approx)	214kg (15m) 220kg (18m)
Overall Length	6.53m	Maximum Weight	453kg
Overall Height	1.29m	Maximum Wing Loading	50kg/m² (15m) 46.2kg/m² (18m)
Wing Surface Area	9.06m² (15m) 9.8m (18m)	Min sink	0.53m/s.
Wing Aspect Ratio	24.83 (15m) 33.06 (18m)	Best L/D dry @ 95kmh Best L/D wet @ 115kmh	46 (15m) 49 (18m). 47 (15m) 50 (18m)

LAK sees the light way ahead

THE LAK 17a is AB Sportine Aviacija's bid to break into the competitive 15/18-metre market. It has a low weight, 214kg for the 15-metre and 220kg for the 18-metre. The wings will take 180l of water, raising the maximum take off weight to 453kg. The C of G can be adjusted by water in a tail tank, although this cannot be dropped in flight. In 15-metre mode the narrow wing has 9.06sq m of wing area, which goes up to 9.8sq m with the 18-metre tips added.

I flew with a weight of around 300kg and a little water in the tail to move the C of G close to the aft position. On tow it was stable and easy to control despite having only a belly-hook. A flap setting of -1 gives immediate aileron control and, as the tow speeds up, the lever is moved to +1. You need to practise switching flap on the ground as the slots are quite narrow.

As it's light, the LAK becomes airborne after a short ground run with no tendency to zoom in either wing configuration. Control, stability and view on aerotow are good.

Flying in 15-metre mode at around 100km/h with a flap setting of zero, 45° bank changes took 3.2 seconds: in 18-metre mode the figure rose to five seconds. Another system of connecting the outer aileron parts on the wing extensions so that they only operate upwards might improve the roll rate.

Thermalling is easy in both spans, with only a little outward aileron needed. Flying together with other gliders, the lightweight LAK 17a seems to climb excellently. Usually, +1 is the optimum thermalling position, while +2 only seems to improve the climb in 18m mode in calm air.

Stalling is gentle with the 18m wings and +2 flap; a slight shaking can be felt at 70km/h and stalling starts at 67km/h. If the stick is pulled further back, the left wing drops in all positive flap settings. With the 15m wing, the behaviour is about the same, but at 4km/h faster speeds.

Flying fast, the slim wings damp gusts comfortably. The control forces become higher and give a comfortable, safe feeling of stability. For landing, the double-bladed Schempp-Hirth-style airbrakes on the upper wing surface are very effective.

The concept of a lightweight glider with small wing area and high aspect ratio promises excellent performance. Some design details are well thought out, while others are a little behind the times – rigging and fitting the tailplane could be better – but this was only the second model built and it will probably improve. With a price of $42,000 the LAK 17a has a good chance of finding a place in the 15/18-metre market.

Jochen Ewald

Tail Feathers

Platypus

Soaring costs

AT A RECENT mass meeting of our club, a brilliant accountant-pilot (I leave you to work out whether I mean he is brilliant as an accountant, or as a pilot, or both, or merely that he is brilliant at the financial analysis of gliding, which is a different kettle of fish entirely) delivered the opinion that it cost so much to keep track of the launches and flying hours of club gliders that we might consider not bothering to keep the figures at all.

In fact, some clubs on the Continent do not charge for club aircraft by the hour but ask members to pay an all-in fee at the start of each season, so it is not a totally barmy idea, provided you have a fair system for allocating gliders in fine weather. However, we still do need to know how many hours each machine has flown for airworthiness and maintenance purposes, and in our chats with government about airspace – and even Lottery money – we need solid statistics about what proportion of general aviation activity is carried out by gliding clubs. In short, the radical notion of not keeping the figures at all is unacceptable.

But our friend's question remains: how do we make it easy to collect and analyse the flight times? Especially as it is a rotten chore out on the field and often not done well.

Answer: technology! (Peal of trumpets, stage left. Da-Daaaaa!) Soon, I suggested, GPS loggers will be so cheap that all club gliders and tugs can have them, permanently running, to be downloaded in the office once a week. Even winches could log launches automatically. A side-benefit is that with the loggers you will, when the sad occasion arises, have an exact time and place of impact for insurance purposes. Club gliders collect an awful lot of impacts, often when they are just fresh out of the workshop after an earlier impact.

However that might require all club tractors and golf-carts to carry loggers too, so you can reconcile the data in the computer and discover which tractor dinged which two-seater. People love driving these vehicles full-tilt into club gliders. They are more cautious about driving into privately-owned gliders since someone actually cares about them, unlike club gliders, to the point of physical ferocity. (Now I think about it, some members should be required to carry loggers, but that is a dangerous line of enquiry.)

However the brilliantest idea came from some young wag. Well, it was the club Chairman, but he was retiring after a long and heroic stint at a thankless task, and must have been feeling demob-happy. (I wonder, does that term mean anything to those who were never in Her Majesty's uniform?) Why not, he said, paint supermarket bar codes on the sides of the club gliders and make them fly past a bar-code-laser-scanner on take-off and landing?

This stunned everyone so much that the topic was dropped entirely. However I think it deserves thought. There might be a small problem about the lasers blinding the pilots in the early stages of development, though the workshop's welding goggles, such as we used during the famous eclipse, should obviate that danger. Pilots might not be able to see the ground or each other, but you can't have everything. Good book-keeping is worth considerable sacrifices. Another threat may be what scanners may do to the gonads and other intimate parts. No problem. Most gliders have to carry sheet-lead ballast, and if hammered into the shape of Tyrolean lederhosen this protection would not be too uncomfortable to wear, once you got used to it.

I'll give Bill Gates and Safeways a yodel.

PS: By the way, if you do meet someone truly brilliant at the financial analysis of gliding, do NOT ask what it really costs. It will ruin your whole day, and worse still, prove your spouse triumphantly right.

Platyplug

If I announce to you all that I am in the process, slow and agonising though it is, of producing a book based on my scribblings of the last 40 years, you might suspect that I am abusing the hospitality of this column to gain some advance publicity and to boost sales, would you not? (*Perish the thought, it never even crossed my mind. Ed.*)

Well, that is not my motive. At least it is not my main motive. I know sufficient about my own weaknesses to recognise that the only way to get this work into the light of day is to make a public commitment to a deadline. If the work does not then appear by the promised date, it will be such a public humiliation that I shall have to hide my shame by joining the French Foreign Legion and patrolling the battlements of a mud fort in the Sahara for 20 years or so. (Some people will say that they would subscribe a lot more to keep me for a lengthy spell in the Foreign Legion, surrounded by flies, goats, camels and vengeful Bedouin, than to read any book I may write. But they will only be the jealous rival authors.)

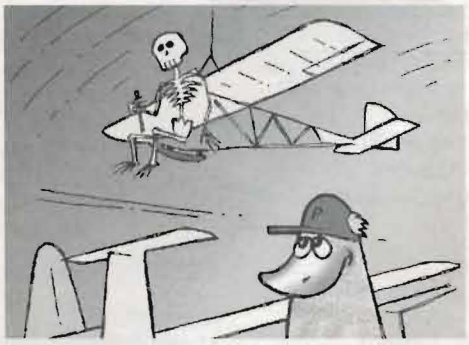


I'll have to join the French Foreign Legion

It will be a pretty tough regime out there. Not merely would I have to contend with the heat, dust, thirst and the absence of women, but the things I have written about the French will inevitably come to light; despite the tradition that the Legion is where men go to forget, I would not be allowed to forget that.

So here goes. The book will appear before April Fool's Day, in the Year of Our Lord 2000, the last year of the old millennium. The provisional title is *The Platypus Papers: 50 years of Powerless Pilotage*. You might well say – as I myself, who as a professional publisher ought to know much better, said – "This task is easy. You just scan all the old stuff into a word-processor, reprint it as a great wodge of verbiage and dump it on the market. Bingo! Easy. Where are the problems?"

Where indeed? First of all there is the question of what to leave in and what to throw out, especially of the writings of the 1960s. One friend whom I have asked to read the material from that swinging era (it didn't swing, it just dangled: take my word for it) said: "Print it all, it's wonderful." Admittedly he is 89 and besotted with the past; he remembers all that happened before 1970 and nothing since.



Old wrecks in the rafters of hangers...

Other, younger ones are baffled at what passed for a sense of humour in 1962, and don't recognise any of the once-new aircraft or the once-famous people that I mention. There's the rub: of the gliders I have written about, a few now make rare ventures into the air at old-timer meets, but most are landfill or gathering dust as old wrecks in the rafters of club hangars.

And the same goes for the people.

I started adding to the index – and of its own momentum the book is acquiring a monster index – details about individuals, such as their club and maybe their achievements. Thus, in briefest form: "Kahn, Walter (Lasham)" and "Lee, George (three times World Open Class Champion)".

I wanted partly to slake the younger readers' curiosity as to who someone was or is, and also more commercially to mention 2,000 people in hopes of selling 2,000 copies.

But then some people will be mightily offended at getting a mere one word when others get five or more. Sorry, Wally.

The ones that get no mention at all will be turned off altogether. Some people I wrote lightly about are untraceable now, unless I put in a massive effort that will set the book's publication date back to the real millennium (ie 2001).

Perhaps I could place a few hundred names in the small ads in *S&G*, or on the Internet, asking for details. The whole question of names is a morass and a quagmire.

Getting it right

A British newspaper journalist friend of mine once met an American who worked on a magazine. Our hack asked what her exact job was.

"I'm a Fact-checker."

"You're a WHAT?"

"A Fact-checker. I check factual statements in our journal. I make sure that what we say is true."

My Fleet Street friend came over all faint and had to retire to the nearest bar to inject a few shots of mind-stabilising fluid. Well, in books, which are here today and here tomorrow and still around when we are all dead, you do feel obliged not just to sound off but to do some research and get it right.

And when you are waist-deep in antique facts, that task means work, my least-favourite four-letter word.

"You mean you have uttered things in our organ that weren't true?" (Ed.)

"I have no idea, but the thought that I might have done haunts me."

"Well, I think it's a bit late to start developing a conscience. Publish and be damned, I say."



My Fleet Street friend retired to the nearest bar

Spoken like a true professional. But I shall check what I can. There is also a great likelihood that I have contradicted myself wildly – that what I said in 1972 rubbishes what I said in 1982. The reviewers will have a field day. Oh dear.

Then there are the niggling questions of whether in these hundreds of thousands of words the full-stops and commas should appear inside the quotation-marks or not, the difference between a dash and a hyphen, what to do about footnotes, and a whole lot of other mind-numbing technical detail.

So you do see, this authoring game it isn't money for old rope. But you have a promise that something will appear.

While I am making such foolish public commitments, I might as well be hung for a sheep as a lamb. This morning, December 14, 1999, I weighed an appalling 179.5lb and can't get into my flying overalls. I hereby undertake to get rid of one stone (14lb to our readers abroad) before that same date of April 1, 2000.

And if I fail? I wonder, does the Foreign Legion accept fatties? I hope not.



As a clumsy amateur pianist...

Upright fellow

George Moffat, World Open Class champ in 1970 and 1974 and author of *Winning on the Wind*, came to stay at my house for a while before Christmas. There's a brave man, putting up with my bed and board. He is much longer than any bed in the house but he did not complain. As for my cooking...

I don't know how we got around to the topic, but we just found ourselves talking about wheels-up landings on hard runways. He capped anything I could boast of by stating that he once landed a Nimbus 3 wheels-up on the asphalt – with full water, which is a heck of a lot of extra weight. It ground such a pronounced flat on the bottom of the Nimbus that the glider remained perfectly upright after it stopped.

George's talk on the psychology of winning contests, recently delivered at Lasham and Dunstable, is printed in this issue. But another of George's pieces, which *S&G* will publish next issue, is about pre-contest practice.

As a clumsy amateur pianist I know that before a "performance", by which I mean playing, by prior arrangement, for two or more people who know the difference between mediocre playing and downright bad playing, I search out my areas of weakness.

That's a pretty encyclopaedic range of deficiencies, but I do my utmost to reduce the worst weaknesses by constantly going over them until I get a palpable improvement. So much so that I have bought a little electronic practice-piano with headphones, to keep my neighbours from going mad. (My grand piano won't have it in the same room. She's just a big snob.) But in 40 years of contest flying, have I practised in any other way than simply to zoom around the countryside on any decent day, with no regard to searching out weaknesses and remedying them? Of course not. But George says that top pilots are equally lazy when it comes to understanding their shortcomings and putting them right with a systematic programme of work.

Know Thyself, said the Delphic Oracle.

Yeah, then do something about it, says George.

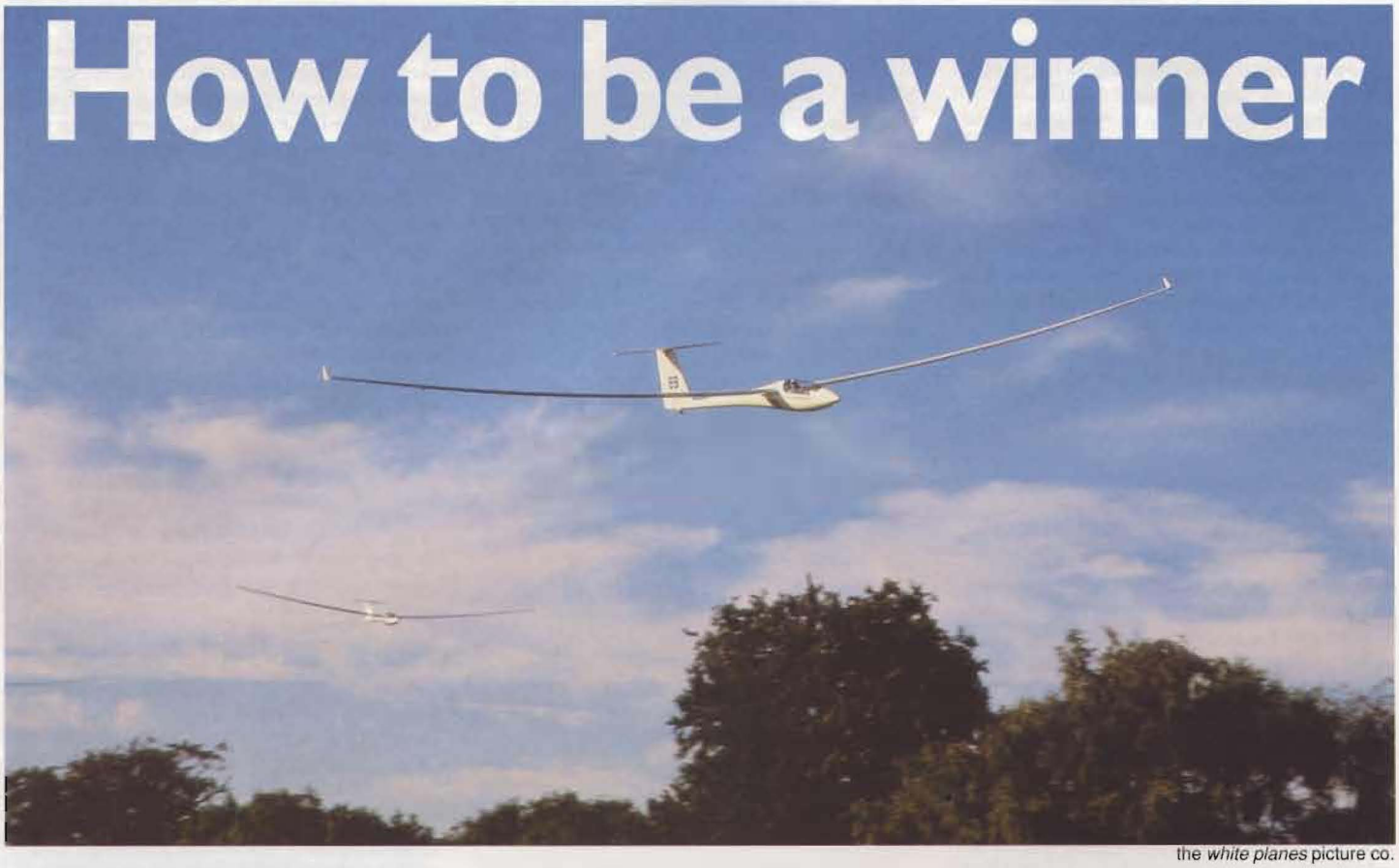
Compu-Serve?

You will not see the usual Tail Feathers CompuServe e-mail address this month, so all threats, bribes, begging letters and other messages must go via the Editor, (*What! Ed.*) until I find a better (simpler and less intellectually-demanding) internet service than CompuServe.

The last straw was its new, enhanced version. You know how your heart sinks when you see a sign saying "Road Improvements Ahead"? Apart from all my addresses having to be retyped, I could not stand the dreadful female voice that welcomed me and bade me goodbye. Nothing I did to the loudspeaker, short of whacking it with a wrench, would shut the stupid woman up. She sounded as if Professor Henry Higgins had been running an elocution school for brothel madames, and she got a C-minus.

Whenever I called the help-line, another voice would tell me – at 8p per minute in working hours – that I was held in a queue and would be answered 'shortly'. There's another abused word in our long-suffering language. So farewell CompuServe and Shortly, it's been, let us say, an educational experience.

How to be a winner



the *white planes* picture co.

In the first of three articles about competition flying, twice World Champion and current US Team Coach George Moffat examines the psychology of winning

THERE are three elements to success in soaring – or just about any other high-stress endeavour. They are talent, skill and mastery of the emotions. Talent is usually the least of these. It provides a jump-start but will amount to little if the other two are unattended. Skill requires time, discipline and plenty of practice. Luckily, there are books to help out here. All the skills of Reichmann and others are available for study.

The skills are vital, but I'll let you in on a secret: most of the top-level competitors have all the skills needed to win. Who does win? The guy with the emotional control – the emotional strength, flexibility, responsiveness, and resiliency – to let his talents and skills do their thing unimpeded. This is where sports psychology comes in.

I'd like to tell you about two aspects of this emotional control. The first is the so-called Peak Performance State, that blessed state of grace, common to most sports, where you just can't seem to make a mistake. I've had it several times in different sports, most notably during both of the World Championships I've won and most recently in 1995 when winning the Canadian Nationals.

I'd always thought of it as now-you-see-it, now-you-don't: great when it happens by. But it turns out that sports psychology types have studied the state in many sports and say it's most likely to happen if you feel:

- Confident
- Relaxed and calm
- Energised with positive emotion
- Challenged
- Focused and alert
- Automatic and instinctive
- Ready for fun and enjoyment

Notice that there's nothing about what bank angle you should fly, inter-thermal speed, or any such? What's the common factor here? They are all emotional aspects. Make no mistake, emotions are key in sports. "Emotions are biochemical changes in the body,leading to a cascade of powerful changes in the body," says Dr James Loehr, the sports psychologist whom skater Dan Jansen credits for his Olympic Gold.

Let's have a quick look at some of these factors. Confident, relaxed, calm, challenged, energised, focused – yes, they all make sense – but ... fun? Enjoyment? They, it turns out, are vital to this wonderful "on" state, and they are the first things to go when you over-train, lose your focus, or allow distractions. Want to hear a horror story?

Two months before the Hobbs Worlds I stopped by at Dick Brandt's on the way back from flying in New Zealand to put in a week or so fine-tuning Dick's already fine-tuned Nimbus 3 which I was to fly. Sixty-one days later – days that started at 8am and finished any time between 10pm and midnight – several things had happened: the Nimbus had grown six feet more wing, a new rudder, a complete profiling job and tested at a very carefully-measured 62:1. It was fascinating. Working with Dick has to be one of life's great privileges. But I was beat and had done almost no flying. On top of that we had endless car trouble on the long trip to Hobbs.

Peak Performance State? Forget it. Dick was so tired that one morning he spent half an hour polishing the wrong Nimbus! State of grace? It was the contest from Hell. I had the best ship in the world, the most local knowledge, certainly a world-class case of stupidity and was lucky to wind up fourth.

For what it's like when you're "on" and things go well, consider the last day in a recent Canadian Nationals. The day started late and was iffy, with blue thermals of 2-3kts to maybe 3,500ft. The first leg was into a 7-10kt wind; some

75 miles of damp, flat terrain. I started well after most of the others, having dumped half my water, and headed out, surprised to find I lost only 400ft in the first ten miles. Obviously a blue street. By meandering back and forth a bit, I was able to get to the turn using only four or five thermals, catching up with all the early starters. On the second leg, still blue, heading towards a gaggle, I connected with 5kts up to 6,000ft, almost 2,000ft above the others. On the last leg almost everyone did the accepted thing, deviating 20 miles to the mountains, but I felt sure straight in was the way to go – and was rewarded with a boomer back to 6,000ft and an easy final glide home to win by over 20 minutes. The whole flight just felt right. If you want an extended look at what it's like when things go well, try the last chapter of my book *Winning on the Wind*.

But let's look at the second interesting factor on the magic list: "automatic and instinctive". The truly great in all endeavours – scientists, fighter pilots, bull-fighters, and soaring pilots – agree that to achieve the real breakthroughs the busy, rational, reasoning left brain must be left behind in favour of the instinctive, creative right brain.

Jump of intuition

Einstein puts it succinctly: "Logic finally only leads you in a circle. The jump of intuition enables new insight". The great French mathematician Henri Poincaré said much the same thing in his essay: *Mathematical Creation*.

In the *New Yorker* recently, Professor David Baltimore, holder of the Chair of Molecular Biology at MIT, said: "Scientists give primacy to logic and evidence, but the most fundamental progress in science is achieved through hunch, analogy, insight and creativity". And all the truly great soaring pilots – Ingo, Reichmann, and George Lee – whom I've flown against in many contests, would certainly agree.

Years ago when I was giving one of these talks on soaring techniques favoured by convention audiences, a friend leaned over to his wife and said: "George isn't telling all he knows". I was a bit annoyed when she told me about it. I thought I was doing the best I could. But Doug was right. I was talking about logic, analysis and technique, which I thought was what the audience had come to hear. But that's not how I fly when I'm "on".

Pilots at these conventions make an interesting audience. Have you considered how left-brained – logical, reasoning – we tend to be? First of all we're mostly male, all but about three per cent in the case of competition pilots, heavily brainwashed to distrust the non-rational or the non-analytical. Secondly, the vast majority of all the pilots there have ever been were trained by the military or by pilots trained by the military. It very much favours a left-brain, by-the-numbers, one-two-three-four approach, which is reasonable enough given the mission of teaching large numbers of 20-year-olds not to kill themselves in some very expensive toys. So is it any wonder that, as a group, we are left-brain oriented?



Adrian Hobbs

George Moffat, who was by profession the head of the English department at a public school, has had a lifelong obsession with flying, sailing and competition. He first came to England in the late 50s to race International 14s in the Prince of Wales Cup and flew with Derek Piggott at Lasham a month after first going solo in gliders. Since then he has won two Worlds, the European Championships, and US Nationals in all three classes. He is currently Coach of the US Team and continues to compete actively, with a new Discus 2 arriving in the Spring.

But in soaring we are talking about finding our way around the invisible geography of the sky. Logic and analysis are fine tools when there are plenty of knowns in the equation. But when the unknowns mount, as in art, or creativity, or soaring, then intuition, which deals with understanding and perception, becomes the mode of choice. Unreliable, you say? Sure. Not even a Shakespeare produced a masterpiece every time out. But will even the fanciest computer – epitome of logic – produce a Hamlet or beat an Ingo Renner? Even once?

If intuition is an undeniable good, friend to winners, be sure to avoid its evil cousin, impulse. The two can look a lot alike since both are non-logical, but there's a world of difference. Impulse is most often born of impatience, anger and frustration – and Lord knows soaring is capable of serving up heaped platefuls of all three. Example: in a recent Nationals, a two-time world champion, standing a close second on the last day, frustrated with a rapidly-failing electrical system, dialed the wrong TP into his logger after an in-the-air course change and finished dead last for the day, blowing a likely win. It was me. On a higher stakes level, one of the US Team pilots in last summer's Worlds, distracted by non-flying matters on the last day, failed to do his pre take-off checklist. Going to the wrong Schweinfurt turn point mistakenly entered in his logger for the POST task dropped him from a likely third overall to 11th. Both cases are examples of heavy losses by top level pilots due to impulsive actions.

So how do you tell these equally irrational but very different cousins apart? If the feeling grows out of sudden negative emotion – frustration, fear or uncertainty – the chances are that it's impulse. If it grows out of a unified view of the whole and just feels right, it's probably intuition.

Go with feelings

Here's what I know. If the problem is simple and open to logic by all means use it. But if there are two or three possibilities, and especially if there's a lot of emotional stress in the mix and not all that much information, go with your feelings, listen to your intuition. It knows in ways you might not yet have figured out. How do you do this? Open your mind – all of it, not just the logical part – and more importantly, your gut to what nature is trying to tell you.

Remember that all the intuition and sports pyschology in the world won't do any good if you haven't really practised. No matter how pysched you are, pouring out of an empty bottle produces nothing. But no matter how full the bottle, not much will come out if it's stoppered by emotional chaos.

Next issue: practising for competitions.

FURTHER READING

Loehr, James E: The New Mental Toughness Training for Sports (Plume, Penguin, 1994). This book is readable, specific and outstanding, especially on how to achieve peak performance. Dan Jensen credits Loehr's help with winning the Olympics in speed skating. If you only read one, make it this one.

Garfield, Charles: Peak Performance (Jeremy P Tarcher Inc, 1984). Covers motivation, analysis, goal setting, peak performance, mental rehearsal and athletic poise. Contains step-by-step exercises, lesson plans, etc.

Seligman, MEP: Learned Optimism (Alfred A Knopf, New York, 1991). Hardback and expensive but extremely comprehensive. Seligman, a psychologist at Princeton University, believes that optimism is far more important to success than talent, motivation and opportunity. The book covers in detail the nature and uses of optimism in all endeavours.

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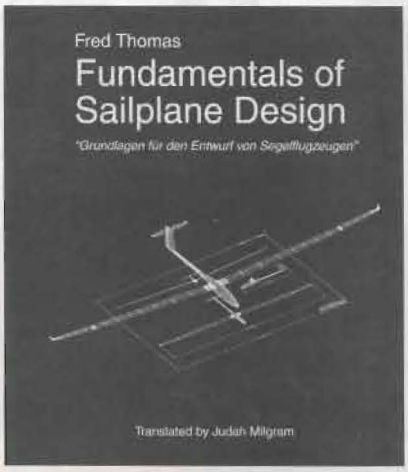
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Fundamentals of Sailplane Design

By Fred Thomas

Modern sailplanes are among the most beautiful and efficient aircraft ever built. The competitive demands of the sport of soaring have led to graceful, highly optimized sailplanes with glide ratios approaching 60:1. From the beginning, much of the progress in sailplane design has been due to the work of the German Akafliegs (Academic Flying Groups affiliated with Universities and Technical Schools)

This unique book by Professor Fred Thomas of the Technical University of Braunschweig grew out of the author's work with Braunschweig Akaflieg. In its original German, it served as a textbook for an introductory course in sailplane design and a valuable reference for students in the Akafliegs. This English edition has been expanded and updated to include many sailplanes and technical developments that have appeared since the latest German edition.

However, this book is not only for the designer — it is also intended for sailplane pilots who wish to better understand the aircraft they fly. The discussion is kept at an introductory level, with emphasis on visualization and understanding the physical relationships rather than mathematical detail.

Experienced engineers will appreciate this text as well. The book contains an outstanding collection of detailed information on sailplane design, including discussions of sailplane airfoils, certification regulations and sailplane flight testing, an extensive bibliography, and an appendix with design data for over 150 sailplanes.

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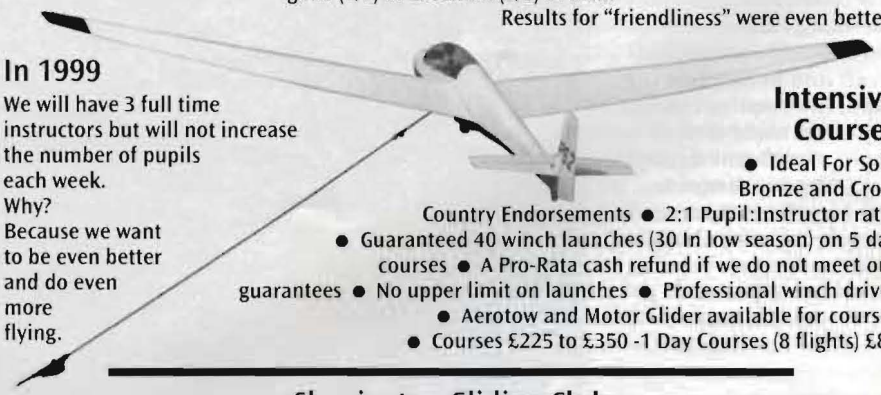
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Lightning strike



The AAIB's findings into last spring's devastating lightning strike on a London GC K-21, when two people parachuted to safety, are now public. *S&G* reports on what can be learned



THE LIGHTNING strike which last year destroyed a K-21 in mid-air has been described by the Air Accidents Investigation Branch as a "rare example of an extremely high-energy strike to a completely unprotected structure".

Although glider accidents are usually investigated by the BGA, the AAIB took an interest in this incident because a helicopter crash in 1995 had previously raised fears that international standards of lightning protection are inadequate.

The investigation into the mid-air destruction of the K-21, GBP, was carried out by the AAIB's Peter Claiden, who is also a Dunstable glider pilot. The report has led to two safety recommendations (see p7). The first, that manufacturers develop new ways of protecting gliders from lightning strikes is strongly backed by the BGA Technical Committee (see p29). The second asks the Civil Aviation Authority to give serious consideration to the findings as part of an international review of aircraft lightning standards. If the AAIB view prevails, what happened to GBP will make more aircraft safer across the world.

The significance of the GBP incident last April lies in the nature and severity of the strike and new research into how often such hits occur, as well as in changes to the construction of many modern aircraft.

Certificated fixed-wing aircraft and helicopters (not gliders) are required to survive lightning strikes without significant damage; the standard is meant to protect against 98 per cent of cloud-to-ground strikes, assuming that ten per cent of these are of positive polarity (ie, discharge positive current).

Positive strikes are often more damaging than negative ones; and recent research suggests that the proportion of positive strikes can be more than ten per cent. In the storm which hit GBP, 66 per cent of strikes were positive.

Furthermore, tests and calculations indicate that the energy level of the strike on the K-21 was eight or nine times higher than that tested for in the present international standards. The peak current was thought to be in excess of 300,000A. Such energy levels, the AAIB says, raise concerns about the ability of lightning-certificated aircraft to withstand such strikes without significant damage.

Key factor

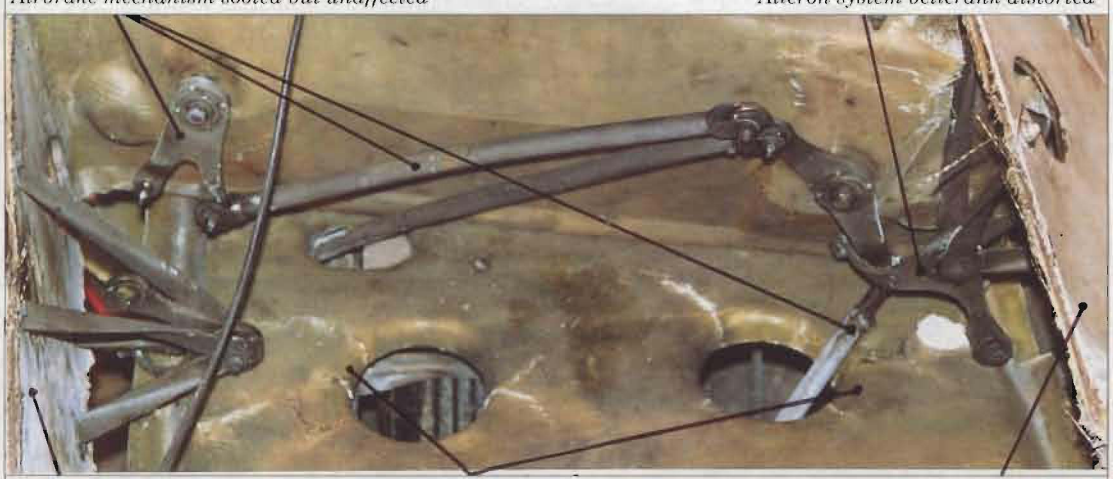
K-21s are constructed almost entirely of glass reinforced plastic (GRP) with foam or honeycomb-filled sections bonded together – composite materials which do not conduct electricity. Elevator, aileron and airbrake control systems include metal levers, push/pull rods and bellcranks. In common with most sailplanes, there is no designed-in lightning protection.

The key factor in GBP's destruction was a high-energy strike on a metallic control system within a composite structure. In conventional "metal" aircraft, the lightning current is generally conducted through the metallic structure; the current density is generally low except near the lightning's entry point and the path of conduction does not usually fail, so lightning arcs do not form. Such arcs, where the current jumps creating light, heat and shock waves, led to the in-flight disintegration of GBP. But composite materials such as carbon fibre reinforced plastic (CFRP) are being increasingly used in other types of aircraft, including passenger jets, as well as gliders. Although CFRP conducts electricity, it is more resistive than an aluminium alloy push-rod believed to have conducted all of the strike's energy within the K-21 wing.

At the time of the accident, 15 strikes in 20 minutes were recorded within 25km of the main wreckage site. The first, at17.08hr 57.5sec, was a positive discharge in excess of 80,000A which is thought to have hit GBP.

The result was devastating (see *The final minutes of GBP*, bottom right). The charge entered the left wing and travelled through the aileron system before exiting the right wing (see diagram top right). Almost all the right wing, the outer section of the left wing and the

Airbrake mechanism sooted but unaffected — *Aileron system bellcrank distorted*



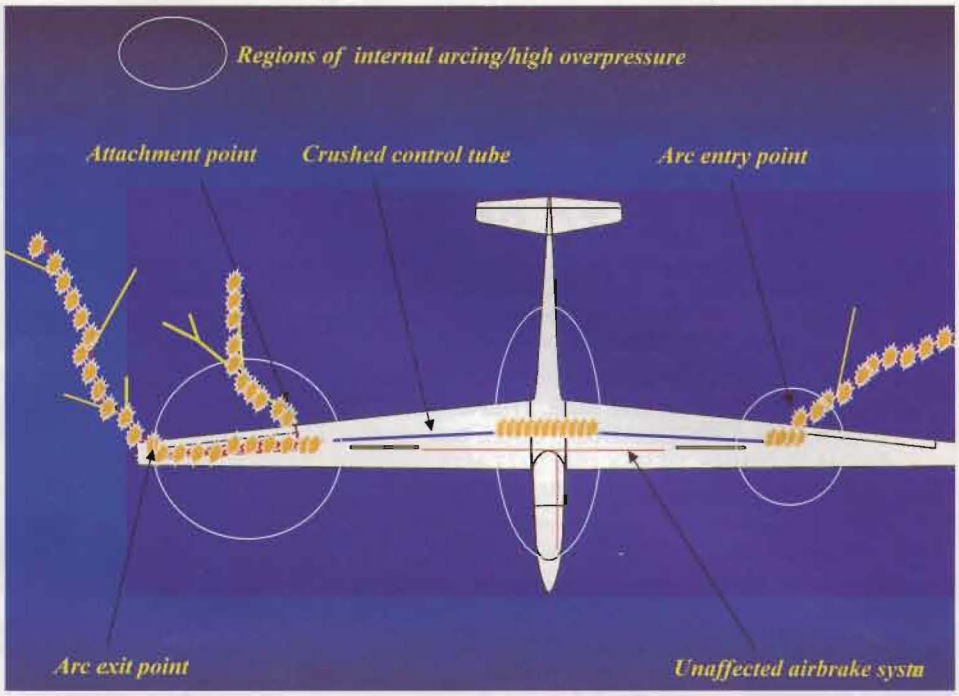
Fuselage side rib — *Cracked pushrod aperture* — *Fuselage side rib*

centre part of the fuselage detached in flight. The main spar connection remained and was later easily derigged. Most of the structure was recovered and examined at Farnborough. Four main areas of the glider had fragmented or been directly affected by internal over-pressure in flight: the fuselage centre section; the right wing tip and the areas aft of the main spar at the inboard end of both ailerons. Most bonded joints in the wings, and the bonded seams in the centre of the fuselage, separated along the adhesive lines. Both canopies had remained securely closed, but all the perspex was shattered.

Damage and failures

Damage resulted from three different direct effects of the strike: Joule heating as the current passed through conductive parts of the glider; localised heat damage where lightning arc roots attached; and structural damage caused by lightning arcs and their resulting shock waves and overpressures within the enclosed volumes of the wings and fuselage.

Such arcs ionise the air and almost instantaneously produce extremely high gas temperatures which may be in the region of 50,000° F. In addition, heating damage and failures are likely to occur wherever resistance is high compared to the current flowing. This happens especially at bearings and joints, with further arcs (and their consequent shocks and overpressures) forming in the opened gaps between the linkages. The large mechanical forces generated by the intense magnetic fields associated with such high currents may also make linked components separate – as happened with the linkages in GBP's aileron system – and so induce further arcs.



The strike damaged only the aileron system – not the adjacent airbrake system or the elevator and rudder controls. The aileron system, linked by self-aligning ball or plain bearings and by Hotellier ball and socket joints, included three aluminium alloy rods in each wing. The centre rod from the right wing was burned and eroded at each end close to its jointed connections, which were missing, and had, unusually, been "crushed" because of the intense magnetic field generated by conducting the current. The end result was an almost solid, irregularly-shaped "bar" (pictured below right). This deformed rod, which probably reached no more than 200° C, is thought to have conducted all the current.

The lowermost of three bolts attaching this system to the steel bracket which supported the aileron bellcrank had reached a temperature in the region of 1,000° C, and melted (pictured below left). From the damage to this bolt and the pushrod, the energy level of the strike was calculated as at least eight to nine times higher than specified international lightning protection standards for aircraft.





GBP's final few minutes

A LARGE area of bad weather with heavy falls of snow and sleet was slowly approaching Dunstable airfield from the north. K-21 GBP had been on a training flight for about an hour and was soaring in 2-3kt up, in clear air, back along the front edge of the cloud line.

At around 17:09 hrs, it turned away to return to the airfield. Shortly afterwards, at c. 2,500ft agl – 300ft above cloudbase – and an estimated 800 yards from cloud, the glider was hit by lightning. Large sections of its airframe disintegrated.

The Basic Instructor, Peter Goldstraw, heard a "very loud bang" and then the cockpit felt "very draughty"; he believes he may have briefly lost consciousness.

He felt dazed and remembers slowly becoming aware that this was "a real emergency requiring unpleasant and decisive action".

He shouted to the pupil, Graham Cooper, to bale out. Unable to hear him, he did so anyway. The instructor followed, but was surprised when he realised he had not needed to jettison the canopy. Both parachutes opened by an estimated 1,800ft agl. The student landed on the roof of a disused petrol station and escaped major injury. The instructor landed in a field, breaking his ankle; and "sooting" damaged his jacket, parachute pack and hair. The hearing of both pilots was affected.

Few people saw the actual strike, but many witnessed its immediate aftermath: large items of slowly-falling debris, parachutes, the fuselage descending vertically at high speed and a ball of smoke and fine debris where the glider had been.

As the lightning flashed there was an extremely loud crack; many witnesses said it was the loudest sound they had ever heard.

Overleaf: how the strike happened and the BGA Technical Committee's verdict. Peter Claiden will present his findings at the BGA Conference. See page 5 for more details. The full AAIB report is at: *www.open.gov.uk/aaib/dec99htm/bga3705.htm*

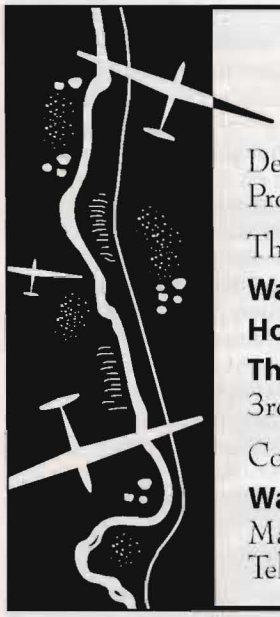
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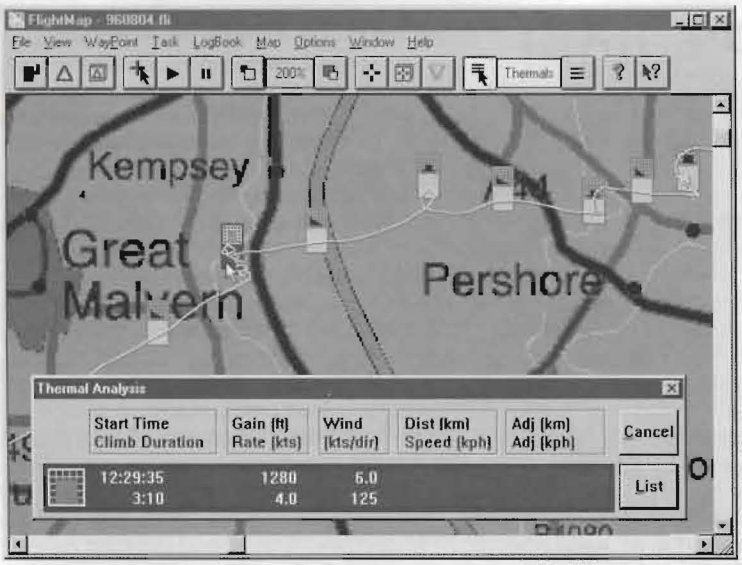
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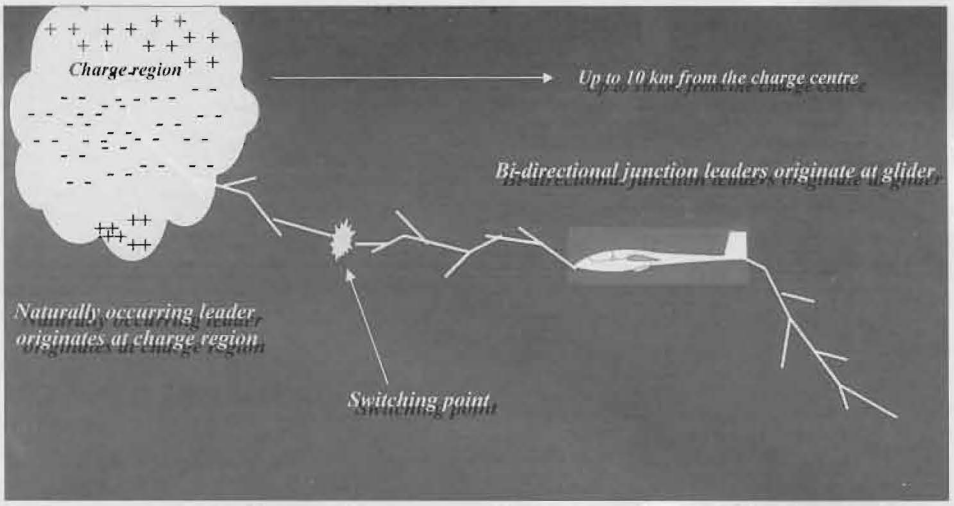
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How the hit happened

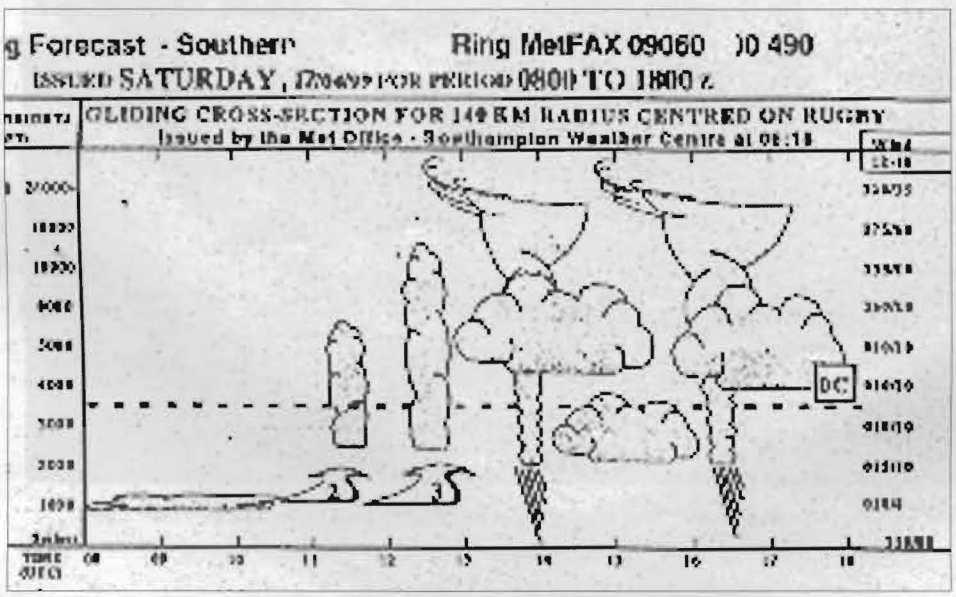


ELECTRIC charges within clouds are produced by complex processes of freezing and melting and by movements of raindrops and ice crystals. A lightning flash starts with the formation of an ionised column of air, called a leader, which travels out from a region where the electric field is strong enough to begin to break down the air.

A naturally-occurring lightning strike begins when an aircraft intercepts a lightning leader. The leader's electric field intensifies around the aircraft extremities and then new discharges (called "junction leaders") emanate from these areas. One or more junction leaders connects with the lightning leader at the "switching point", and creates the "entry point" (the initial lightning attachment point). At the same time, more junction leaders are propagated from other extremities and travel towards a region of opposite polarity (the earth or another cloud charge region), creating the "exit point(s)". Entry and exit points occur on surfaces such as nose, wing, empennage tips and tail.

An aircraft-induced strike (see above) results when the aircraft enters an electric field associated with charged cloud regions – which can extend up to 10km from the cloud – and the field intensity around its extremities is sufficient to trigger bi-directional leaders. These link regions of opposite polarity and again conduct lightning currents through the aircraft. It is not known if GBP intercepted a strike, or if it induced one, but the effects would be similar.

On take-off (1610 hr) the K-21 pilot reports that the cumulus was spaced two to three miles apart in an otherwise clear sky and was not greatly developed. The forecast (below) proved reasonably accurate, with warnings of severe turbulence, lightning and hail in the vicinity of cu-nims.



Technical view

IT IS immediately encouraging to learn that this particular strike has been classified as a very rare and abnormal event, with associated energy levels far in excess of those normally considered appropriate for aircraft designers to design to. This is entirely logical when one considers the number of gliders around the world which have for years sniffed around much more powerful cu-nims than we usually get in the UK.

It is this rarity that has stimulated the intense interest of the AAIB and of scientists whose work involves high-energy electrical discharges. Important lessons can be drawn from their observations which should be of particular interest to glider designers. The BGA Technical Committee strongly endorses the AAIB's findings.

The electrical energy passed through the wing along the aileron circuit, between the two aileron horns. The aluminium alloy tubular control rods carried the extreme energy relatively well, although they were bizarrely distorted by electro-mechanical forces associated with the high voltages.

The explosive damage to the airframe structure was in the region of the pushrods' end fittings which, being made from more electrically-resistant steel, melted in the extreme heat. The ensuing separation of the control circuit drew an arc similar to that commonly seen in arc welding operations, but massively more energetic.

The shock waves which accompanied the formation of the arcs were strong enough to destroy the local composite structure and to blow the cockpit canopies from their frames.

Had the control circuits not separated and the arcs not formed, it is likely that the glider would have escaped relatively unscathed; so the question arises as to how this might be achieved.

One simple solution might be to make the end fittings of the control rods from a more electrically-conductive material such as brass or bronze, so that the energy can be transmitted through the circuit without causing the fittings to heat up and melt. Another solution approaches the problem from the opposite viewpoint, namely making all the control circuits non conductive by using a filament wound kevlar/glass composite control rod tube.Either way, a greater degree of survivability could be achieved.

We can only hope that glider designers feel it appropriate to pay attention to such details in the future.

Mike Woollard, Chairman
BGA Technical Committee

Gliding gallery



Andy Davey took this picture of a T-21 on tow at the 27th International Vintage Glider Club Rally at Aventoft, Germany. The 28th rally will be at Norfolk GC, UK, from July 28 to August 6, 2000



Genesis 2 coming off tow at London GC. "Before you ask, someone else was flying the tug at the time!" says Andy Jude, who took the photo



Paul Kite flying his syndicate's RF-4 above the snow which carpeted much of southern Britain just before Christmas *the* white planes *picture co.*



Matt Crane photographed this attractive K-13 on the ground at Halton



Astir winch launching at Dunstable *Matt Crane*

Salutary soaring

I REALLY am experienced enough to know better; everyone else did. By the middle of the afternoon a low grey overcast with just a hint of drizzle in the slack south-easterly wind had persuaded them to pack up for the day. There remained, however, a persistent hint of brightness a mile or so south of Aboyne which, with imagination, could be a wave gap.

The tow was not difficult – the clouds seemed more like tightly-packed cu than a classic wave slot – and once off tow it was easy to weave in and around them to gently climb. An hour later I was at 18,000ft, still a mile or so south: warmed by the sun, oxygen flowing, comfortably above a solid mass of chaotic cloud.

Aberdeen ATC had been most helpful and reassuring but, most importantly, my GPS never missed a beat. With the wind now south-westerly at 10-20kt it was intriguing to see how small heading changes produced huge differences to the ground track, which was a pity. I had come to rely on the arrow that Garmin put on their display but with the drift all over the place it was now useless.

I had even planned the descent, a sensible margin before sunset: under-carriage down, turn & slip running, airbrakes out and a stable, steady orbit over the field itself. Set up like that, the Discus is as solid as a rock. I even rehearsed the canopy jettison procedure. External icing has given me difficulties during wave descents before and I was conscious of the Air Cadet crew who failed to jettison the canopy because they pulled the knobs in the wrong order.

Ice did indeed form, but cleared by 10,000ft or so. When I entered the solid cloud at 8,000ft, I was happy. This thick cloud was jolly dark, but the GPS's internal light didn't help. Switching it on

'By now the trees were very big'

merely drained the last life from the battery. Now quite blank, the display could have been terminally depressing but I had, at least, done one thing right that day: a second, independent machine was up and running – still no snags.

The snags were there, of course. It took just a few seconds after clearing base at 1,200ft for several lessons to hit home: a cold-soaked canopy in thick cloud will pick up massive condensation on the outside; this thick cloud changes a sensible margin before sunset into a very dark evening (a few scattered lights pierced my gloom, but nothing else); flying a right hand orbit around the airfield when the DV panel is on the left leaves you with a view of just a few trees and fields – although the trees were big and close I couldn't recognise a thing; and, without Garmin's arrow, interpreting numbers on a GPS page is not a quick way of working out where you are.

In fact, everyone else on the airfield could see where I was – the beginning of the downwind leg – but being the sole person in ignorance was no help. I eventually thought to close the brakes and change the turn to the left, but this didn't help: by now the trees were *very* big. With little to see, not much altitude and even fewer ideas it was time for something unconventional. What would happen if I opened the canopy?

Moments later I learned some more: the Discus flies just as sweetly with the canopy held fully open as with it shut; I was nicely placed on left base; and a third hand was needed for the airbrakes.

Just one minute later the wheel kissed the runway for a normal landing, but it wasn't until several hours later that I stopped shaking.

Every pilot needs to understand how to get out of their glider in an emergency. If in doubt, consult the manufacturer's manual before your next flight
– Pete Stratten, BGA Safety Committee

Why wait to read a friend's?



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Time to polish off your Bronze

You could soar cross-country this season – Mike Cohler and Chris Lewis offer tips to help you over the first hurdle

SO YOU'VE gone solo, and the pundits are saying you'll have to get that Bronze Badge so you can start to think about exploring your skills further than the pub down the road. How do you go about it?

First, ask your favourite instructor to fine-tune your soaring ability, whether on the ridge, finding wave lift or staying up in those thermals which are so difficult to find (especially at this time of year in the UK).

Now start thinking about the sky before every launch, and make it a definite goal to seek those days when you've a chance of staying aloft for an hour off an aerotow, or 30 minutes from a winch launch, because either will give you one of those elusive Bronze legs. But don't go higher than 2,000ft on tow or it won't count. During your quest for these elusive legs you'll collect lots of P1 flights. You will need either a total of 50 flights, or if you have 10 hours, then at least 20 launches.

Now go and ask for the Bronze preparation disk, or a printout, from a suitably knowledgeable instructor, and learn everything there is to know about principles of flight, air law, navigation, meteorology, airmanship and radiotelephony. Buy yourself a half million chart, and an aviation ruler, and try out the test questions from the hundreds available.

Eventually you will be the fount of all knowledge and can ask a full-rated instructor to hand you an examination paper and an answer sheet, which you can splatter with ticks!

Nearly there; now comes a general handling flight test with a Full Cat, a briefing on field landings, with another two flight tests so you can show off your skills at landing on a postage stamp, and the Bronze badge is in the bag!

But wait a minute – before you rush off you will need to sort out some paperwork. Ask your instructor for a Bronze application form. Each of your soaring flights will have to be verified by either an official observer or an instructor, and signed up on the form so don't lose it! The full-rated instructor who conducts your flight and ground tests will have to sign them into the form. After you have completed your second soaring flight you'll have to finish the remaining requirements within a year, and your CFI will have to add his signature.

It is also a good plan to learn how to use a barograph, and have one with you whenever you try for a Bronze leg. Finally, get yourself a passport photo, raid the piggy bank, and having checked that the price is current post it all off to the British Gliding Association in anticipation of receiving your Bronze officially!

Mike Cohler is CFI of York Gliding Centre, Rufforth



the *white planes* picture co.

Ten tips to help you bag that badge

1 Don't give up. My wife bought my first flight for my birthday (she's regretted it ever since) and I went back to start on the long learning curve. Unfortunately, on only my second day I encountered that rare person – an instructor I didn't get on with. I came away thinking that this flying game was just too hard, and maybe it wasn't the sport for me after all. But I knew you don't get anywhere in life by giving up when the going gets tough, so back I went.

2 Join a regular group. This way you get to know the instructors and, importantly, they get to know you. Then they don't need to take a flight or two to assess your progress.

3 Pre-pay if you can. I took up Lasham's fixed price to solo scheme. This meant that I had already accepted the cost. All I had to do was concentrate taking every opportunity to get in the air. Once you go solo your learning has only just begun, and then the real costs hit you. Luckily I was able to afford it, but I'm sure a lot of novices have a tighter budget than I do.

4 Get as much flying as possible, obviously bearing in mind all the areas you need to practise.

5 Don't be content just to hang around the airfield. Try to push your boundaries out each time you fly. Although you are restricted to local flying you can still set yourself tasks that start to hone your soaring skills. I remember the first time I ventured as far away as Basingstoke, turned around to go back to Lasham... and someone had stolen the airfield. I couldn't see it. Of course I knew which direction it was in, but for a split second panic set in. Then it reappeared, in the distance: what a relief! Before going away from the airfield calculate how much height you will lose for the distance away, bearing in mind the wind and the glider's performance.

6 Ask the instructors to train you on glass-fibre gliders if your club has them. The conversion from K-8s to glass isn't that difficult and they are more than willing to help.

7 Talk to other pilots who have been through the system before you. They have experienced all the same problems and have overcome them so they are a valuable source of information.

8 Watch the noticeboards. I failed to do this and missed a course run at the club. Instructors could help in this area as they know what it is you should be doing next. But, hey, they are all volunteers and are giving up their flying time to help you progress.

9 Read the recommended books. Meteorology, though, still blows my mind. I didn't know I had to be qualified to work at the Met Office to fly cross-country! This is where the Bronze Confuser books are handy, because they show you the depth of knowledge and the areas you need to concentrate on.

10 Finally, just keep asking. Don't be afraid of looking a complete plonker. You are a bigger idiot if you don't ask.

Chris Lewis first flew in May 1998 and soloed ten months later. He has 44hr 30min (just over 18hr solo). Having passed the two Bronze endorsement soaring flights he plans to complete the CFI flying test and cross-country endorsements this spring. His current favourite glider is the club's Grob.

To Jami Javi on a Honda

I WAS introduced to gliding in Finland when Risto Pykala invited me to take part in the *Oldies but Goldies* Rally at Jami-Javi, the country's main gliding centre, in 1998.

He promised high cloudbases, stonking thermals, good cross-countries, and a great party time.

Well, he was right on the last count. It rained, cloudbase was low even for a Camphill pilot but boy, was it fun! How many UK gliding clubs do you know of where you can sit on a balcony after a sauna, eating sausages, drinking beer at 11 o'clock at night watching paragliders being winch launched, while dressed in a towel round your waist? (Addresses in a plain brown envelope please).

The following was written there about me by Piotr, a Polish pilot: *"I meet Ian Dunkley [pictured, on a*



snowmobile] – a very sympathetic man of his sixties. He has come to Jami on his four-cylinder Honda motor bike, which confirms that he has still a young heart. I tell him about the communism period when many old gliders were burnt, in spite of that they were still ready to fly. I note a sadness on the old man's face. 'You should fight for your history,' he says."

I am told I provided the highlight of the rally. Having been persuaded to try the sauna, I had the regulation shower first and entered the steam-filled room to find I was in the wrong sauna. I must say it was much more attractive than the male one which I eventually found.

To make amends – whether for the lack of flying or the speed of my eviction from the ladies' sauna, I don't know – Risto then invited me to their *Arctic Hystery* rally in Easter 1999 (see right).

Venturing

Ian Dunkley collects his woolly hat to go to *Arctic Hystery* – where the air is cold, the lift is hot and the field is very wet...



WHAT would a well-dressed Englishman wear to fly from a frozen lake? The fur-lined boots I found left neatly side by side on a Black Forest path (by a German presumably abducted by aliens) were an obvious choice. Walking clothes suitable for high mountains and the regulation woolly hat – without a peak, of course – should blend in quite nicely.

The place was Lake Paiijanne in Finland, if you must know (and I have missed out a lot of the little dots over half the letters).

All is not what you think. True, the ice is over half a metre thick in April, but you are not standing on it. What you stand on is often only 6in (150mm if you prefer) of frozen ice or slush, sitting on top of a layer of water above the half-metre bit.

This sandwich filling should freeze sufficiently at night to give a top surface to fly from during the day, unless (a) it doesn't freeze enough at night or (b) it is unusually hot during the following day.

If you're lucky, and don't get (a) or (b), everything is fine. If not, you'll understand why that well-dressed Englishman was walking about with supermarket bags protruding from the top of his fur-lined boots... and very cold feet. The well-dressed Finn wears "welli boots".

Just to keep you in a high state of stress, not every step breaks through the top or slushy surface; and it takes a day or two to realise that a cracking of the ice – or a foot going through it – does not necessarily mean you are on the way to the bottom. Gliders can break through the top surface when landing or being retrieved, causing damage. It also means that a Land Rover has to be used to retrieve not only the gliders but also the snowmobiles which are used when the surface is hard.

Conversely, if it does really freeze at night, the next morning you learn why the same well-dressed Finn wears a quilted and padded suit, ideal for falling onto your



Above: "a distinctly h

Left: The i is over hal seen towa and slightl during the picture of t 2,000ft – a

is often slush on solid h two to r

on thin ice



backside in. It also lets flying get started, which is of course the whole idea – except for sausages, beer, saunas and the nightly party.

Another Finnish gliding variation, apart from snowmobiles replacing tractors, is the tie-down. Whilst there are rudimentary T-hangars at the lakeside, gliders are often left on the lake overnight, weighted down. This is fine if it doesn't get windy at midnight and the temperature has not dropped to –10 degrees and the slush has not frozen everything to the ice. Pushing a frozen-in glider is even worse than retrieving from a wet ploughed field, and when you have got it closer to the shore you are left with the problem of how to tie down.

Here enters the most irritating pilot in the world, the one who thinks: "Why not drill a hole through the ice, drop a rope with a bit of wood on it through the hole, pull the wood against the under surface of the ice, and then tie the K-21 down? That piece of rope in the cockpit will do nicely". It worked like a dream until it was discovered that the handy piece of rope was the aerotow rope and the thinking pilot could not think of a way to retrieve it back through the ice. Just as well the tug did not turn up.

My first launch in the K-2 that I had flown the previous summer revealed that the ASI had obviously had a 2x multiplier fitted over the winter. I had Annti, the Finnish Standard Class champion, in the front for his first K-2 flight so it posed no problem; I should, however, have warned Risto, the next instructor, who pulled off the launch in alarm... but then, he does have a sense of humour.

A successful launch reveals a distinctly hostile, yet beautiful landscape: one with plenty of lakes, suitably frozen to land on, and thermals strong enough to make a UK pilot think of emigrating somewhere cold – even colder than Camphill, that is.

Cloudbases were high, thermals were stonking, but not reliable enough for cross-countries over Easter. I should have remained longer. Shortly after I left Finland a 300km was done, all at sub-zero temperatures, in a K-6. If you think that was something, how about a summer 560km in a K-8?

The Finnish cloudbase in summer is usually 1,500-2,500m (c. 4,600-7,600ft), during the *Arctic Hystery* rally it can easily be 1500-2000m (c. 4,600-6,000ft), depending on when exactly it is held. In March there may be no thermals, or the lift can be good, something affected not by temperature alone, according to the Finns, but also by how much snow there is: the thermal contrast is between ice and where the earth is "bold" (ie, not snow-covered).

Thermal averages range from 1.5 to 7m/s. Last year's Vesivehmaa Open competition enjoyed thermals of 7 to 8m/s, but that was very rare. Inland, in summer, the FST – Finnish Standard Thermal – is probably about 2 to 5m/s.

Anyone who can call a rally *Arctic Hystery* must have a sense of humour. (Their reaction to this article may yet prove me wrong.) It turned out to be not ➢

: "a successful launch reveals a tly hostile yet beautiful landscape..."

The ice on Lake Paijanne in Finland r half a metre thick in April. Gliders, owards the bottom of the photograph ightly to the right, use it as an airfield the "Arctic Hysteria" rally. This e of the launchpoint was taken at ft – and climbing fast ...

Right: What you stand on ten only 6in (150mm) of frozen ice or on top of a layer of water above the lid half-metre of ice. It takes a day or to realise that a foot going through it does not necessarily mean you are on the way to the bottom





Finnish friends

UNTIL a couple of years ago, my knowledge of Finns was based on what Swedish friends had told me. They were, I was reliably informed, quiet, shy, had no sense of humour, spoke an incomprehensible language (similar to Hungarian for reasons I could not understand), and had an affinity for alcohol which impressed even the Swedes. Since then I have been given an equally complimentary briefing by Finnish friends on the Swedes, which will no doubt be useful when I go wave flying with them in April this year.

On first impression, the Swedes were right. A walk down Helsinki's main street is unusually quiet: few people talk and eye contact makes them very uneasy. My explanation is Darwinian: years of breeding over long dark winter days produce a race badly adapted to daylight conversation. This also explains why the Finns have the world's highest per capita use of mobile phones.

But first impressions mislead. They speak an incomprehensible language? True: this is why they all have excellent English. Quiet? Not when the mobile phone rings, or they get to know you, or you are having a party they aren't. In fact, put a group of them in the middle of a frozen lake at midnight and they sound like a football crowd.

When Risto invited me to *Arctic Hystery*, he promised 1000m winch launches, high cloudbases, stonking thermals and ridge flying. How all this was to be found over snow-clad land and from a frozen, 150km-long lake was not explained. It does, however, help prove the Swedes wrong: the Finns do have a sense of humour.

➢ "Arctic Mystery" mis-spelled – as I'd unkindly thought – but their version of SAD, or Seasonal Affective Disorder.

After the long winter nights with absolutely nothing to do except repair and renovate gliders – or so they say – the sun comes up.

Accordingly a large proportion of the nation sinks into depression and thinks of suicide. Those who don't come out of hibernation to fly gliders off half-frozen lakes drive Formula One racing cars or equally dangerous rally cars; sit fishing on a box on the ice; or lounge outside a log cabin in the snow half-naked, drinking beer and eating sausages.

(And if you want to know why they don't think of suicide when the sun disappears, I can give you a long list of mobile phone numbers to cheer up.)

In conclusion, did you know that K-7s, K-8s and K-6s were built in Finland under licence by Pik? That more than 16 flights of 300km have been made in wood, and a 750km K-8 flight is planned for this year?

There is an alternative to Spain, Australia, and South Africa for you, and one where I know you would enjoy yourself. My thanks to Risto, Antti, Matti, Esa, Taisto and many, many other friends, for giving me two wonderful trips and the opportunity to be rude about them.



The "Silent Forest"

BEFORE getting into the air you should know of another activity which is great fun: the snowmobile. Some go like the clappers with total disregard for the "silent forest". Never mind the flying – you can do that any time – get on a snowmobile, head for the nearest impressive snow, and go for it. Keep clear of the slush, though; wear a crash helmet if on a GT version and find out about the two spikes on each end of the rope that the prudent snowmobiler wears round his neck. If you fall through the ice, your first problem is to find the hole you fell through. Pass that test, and the second is to exit through said hole, without breaking your fingernails scraping unsuccessfully at the slippery surface. I'm glad they didn't tell me about this problem the first day I ventured on the cracking and creaking ice.

Perfect partners?

Single sailplane, young and good looking, great curves, cheeky winglets, WLTM well-off caring partners with cosy trailer and GSOH for weekend outings, trips away and maybe more. Write soon with photo of trailer to Box 100, S&G

TRAWLING for those ideal partners to share your gliding pride and joy can be hit and miss. For some reason, I have been selected to guide you through this potential minefield, although I must admit to feeling rather smug on the subject, since all of my gliding syndicate relationships to date have been deeply meaningful, enriching experiences...

Getting to the point, selecting suitable syndicate partners by the Howse method requires close attention to a single, simple technique – detailed observation of your fellow human beings. This will be found to be most productive in three areas of the airfield: the launchpoint, the trailer park and the bar, not necessarily in that order. What we are looking for are individuals or groups with very specific traits or habits which may be of benefit (or otherwise) to your fledgling group. Pile your plate high from the following a la carte menu:

Body language

Observe different groups carefully as they assemble their toys. Close-knit groups will generally rig their sailplanes at great speed with minimal comment or discussion. The slickest can even rig in complete silence; with only a few hand signals required to complete the task. (It's always possible that partners are not actually on speaking terms but the nature of the hand signals ought to give you a few clues here).

Contrast this model of harmony with the dysfunctional syndicate from hell. Rigging for them is a contact sport, with copious pushing and pulling, shouting and gesticulation, usually culminating in muffled hammering and the sound of something, or someone, or both, getting broken.

Aspirations and expectations

Think ahead and, assuming that you are not going to go syndicate-hopping every year, choose partners with similar or complementary aspirations, expectations and budgets. A few examples (fictional, of course) might not go amiss.

1 A syndicate partner mentions over a beer that he thinks an instrumentation upgrade will be required over the winter. You nod enthusiastically, volunteering to shampoo and starch the yaw-string and buff up the balls in the Cosim vario. Your partner, top lip curling with contempt, indicates that the minimum upgrade consistent with safe operation would be an Internet-enabled fully-integrated flight management system with three-axis autopilot and graphic user interface.

2 You catch your syndicate partners in a conspiratorial huddle around a brochure detailing the groundbreaking features of the new Schempp-Schleicher Phallus 2 sailplane. Your love affair with your beautiful little K-6 is still fresh and passionate; feelings only deepened by a whispered telephone number, which turns out to be the price of the new glider.

3 Your idea of a gliding holiday is a fortnight in Scotland, flying when you feel like it. Your partners favour driving to Spain for three weeks, thrashing around huge tasks at just subsonic speeds every day, and talking about it every night.

4 Your partners nominate you as member responsible for the flying roster. You feign reluctance. After a few months your partners notice that you get all the good days and are doing ten times as much flying as anyone else. Things become ugly, you are accused of wearing out the glider, and your partners signal their annoyance by taking the mainpin home with them.

5 Your partner is a keen competition pilot. You are equal partners. She (note gender balance) takes the aircraft away to all the comps and has convinced you of her urgent need to practise in between, on any remotely promising day. You are permitted to retrieve her over vast distances when record attempts go pear-shaped, and have unrestricted use of the aircraft in April and September. You have full fettling rights during the winter whilst she is hard at work, making up all the time taken off during the summer.



David Howse, an instructor at Cambridge GC, went solo in 1973, aged 16. His favourite glider is a T-21 but, to punish himself, he also has shares in an LS-8 and a DG 500. Flying to a carefully-constructed philosophy of underachievement, he has 1200 hours and full Silver. He gave up claiming badges when it became fashionable

Housekeeping

If you are the fastidious, considerate type, make sure your partners are too. It is not unknown for a keen pilot to abandon their aircraft on the airfield after an epic flight and sprint straight to the bar. Here they will celebrate their success, and regale anyone who will listen with a thermal-by-thermal analysis of how it was done. This can last all evening, resulting in the aircraft being de-rigged in the dark, in a rush, in a state of reduced consciousness.

Hapless partners, rigging next day, will be confronted with a cockpit looking like a council skip, flat batteries, a leading edge resembling an entomological graveyard, and vital rigging tools lying around in the grass. The tail dolly, nowhere to be seen, will be located on the airfield during the day by someone driving over it. This all gets sorted just as soaring conditions collapse, and has the cumulative potential to provoke the modern equivalent of pistols at dawn.

Bold pilots...

Choose partners who are most likely to keep your lovely glider in one piece. If you possess an instructor's rating, then you may already have a valuable insight into the airborne skills of your potential suitors. If not then spend some quality time at the launchpoint on a nice day and observe the CFI or duty instructor closely as pilots lug their gliders into line. A rolling of eyes to the sky may not necessarily indicate a check on conditions. Nervous pacing and nail-biting may also betray anxiety about certain pilots' plans for aviation. Take careful note. Happily, nature often appears to contrive to concentrate these 'differently gifted' pilots into their own ghetto syndicates. This is excellent news for everyone else since generally only one per syndicate will be airborne at a time.

And finally

Having selected your future partners, you might feel the need to come to some sort of written syndicate agreement, bearing in mind that you will most likely be juggling breathtaking amounts of cash in the course of this exercise. This needs to cover such sordid details as, for example, division of shares, allocation of costs, and what happens if someone leaves. Write down your thoughts collectively on a single side of A4 paper. As a rule of thumb, if you need to go to a second sheet, tear it up, and get different partners. If the agreement needs to come out of the drawer regularly, get different partners. If a partner persists in quoting from the agreement on the airfield, get a gun. Happy hunting!

Early solo check flights – the rules of the game

THE PREVIOUSLY unrecorded – but very familiar – rules for those all-important check flights have now been codified by an anonymous *S&G* reader, supposedly as instructions for the gliding game (October-November 1999, p32).

If you want to play this game you need that issue, a die and a sense of humour. Starting at 80, work your way to the launchpoint at 1, overcoming all the obstacles placed in your way by the duty instructor. Take turns to go, obeying the commands at the highlighted numbers:

80 The gliders are not ready when the instructor arrives. Throw a six to start.
72 You do not have a cup of tea waiting at the clubhouse for him. Return to start.
70 You were caught yawning in the clubhouse as he described his new 12-button, 1943-function, remote-controlled GPS. Go back ten spaces.
68 When you get the gliders out, the instructor has to yell at you so that the wingtip misses his car. Miss ten turns.
66 You ask a pilot who had check flights earlier what questions were asked. You then get answers from another instructor, ready for your flight. Go on three spaces.
58 You park the glider so that the instructor can only get in by stepping in a puddle. Go back to 67.
57 You leave the instructor in the middle of a cold, wet field while you retrieve another glider. Go back to 62.
55 You make sure that he gets the comfy club parachute. Go on four spaces.
50 You hook on the cable as he briefs a pre-solo pilot on eventualities and you memorise the information to use in your check flight. Go on four spaces.
46 You start your control checks with the stick before the instructor is fully seated. A high-pitched yell results. Go back to 62 and miss two turns.
43 It's a cold day but you shut the



canopy as soon as you are both safely in the glider. Go forward ten spaces for looking after the instructor's comfort.
40 You leave out flaps in the pre-flight checks as the glider does not have any. Miss a turn as the instructor insists on a full and detailed set of pre-flight checks.
38 You leave a packet of sweets in the pocket of the glider by the instructor's seat for him to find. Move on to 28.
37 You ask your female instructor her weight, instead of: "Do you weigh between 140lb and 210lb?" Go back to 41.
35 You believed the instructor when he talked about thermalling technique and so were unprepared for the winch failure practice. Go back four spaces for a bad push over and another six for naivety.
31 You spot an approaching glider and take evading action before the instructor comments. Go forward to 26.
29 You did not notice the instructor had wound the altimeter round to 1,000ft. Go back three spaces.
27 You have a spare hat, sunscreen, tissues, drinks and sweets, in case he needs anything. Go on ten spaces.
23 You leave your low-level spin recovery too long, scaring the instructor. Go to 33.
21 Confusing left and right, you lose the thermal: the instructor wanted you to turn the other way. Miss a go.
16 You actually manage to laugh at the instructor's supposedly funny comment about your stall recovery. Go on to 11.
13 Realising that he is trying to put you out of position for the circuit, you refuse to make the extra turn he wants. Go on four squares for knowing what he is up to but then go back three. Instructors do not like people brighter than them.
9 You undershoot into the preceding field. Give up and go home for the day.
6 At debriefing, you successfully guess all your mistakes. Go on four spaces.
1 Congratulations! You may now fly solo.

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Never say never



AJ Padgett, who usually flies her K-6E from Fenland GC, hopes to perhaps find Gold at Portmoak this March



'AJ' Padgett, who flies at Fenland GC, relates the inspiring story of how she earned Silver Badge No 10220 – and why she is especially proud of it

WHEN I started gliding in 1990, it was for FUN. I soloed, got my Bronze, took a break to do my PPL (A) but found more fun in gliding. Then I bought a K6E and managed to do my five hours, followed by Silver height.

That was where progress stopped. The instructors were patient, gently trying to get me to do my 50km. Pilots who had done it bubbled with enthusiasm: they couldn't wait to do it again. It wasn't that I didn't believe them, just that – deep down – I was scared to death. I was petrified. That's not FUN... is it?

Each weekend an instructor would ask about my 50km and each time I made up an excuse. Some were genuine. Most were pathetic. Fear can be really tiresome. I did a few dual cross-countries and field landing checks, and enjoyed them, but I couldn't quite bring myself to do them alone. I became so fed up I even designed a T-shirt: white with a vertical yellow stripe down the back and, on the front, an open red circle with 50km in the centre and a red line running through it.

Then, one Bank Holiday, I drove to the club. It was one of those days when only a few people turn up. I was last to launch ... and into a rather good sky. I relaxed to enjoy an afternoon's local soaring.

There was a superb cloud street going in the direction of one of the 50km destinations. A little voice in my head whispered the unthinkable. It's not really that far. Could I do it? Suddenly I felt brave. I called base and asked if there was a spare smoked barograph. There was, so I landed. Luck was on my side: both a Full Cat and an OO were nearby. I sheepishly asked if it was possible to attempt my 50km with a remote start from King's Lynn to Tibenham. No, because of the Eastern Regionals at Tibenham. RAF Wyton was suggested as an alternative.

My fit of bravado was beginning to weaken, as was the sky. I launched again, to 900ft, and struggled hard to stay in a weak thermal. The club's K-13 and K-18 were in another not far downwind. I joined underneath them and we all grovelled until I reached the dizzy height of 2,000ft. I then flew half-heartedly towards Downham Market, my first landmark. I felt relieved I wasn't going to be able to do the task because the sky had gone blue. Yet I didn't feel like giving up, and every time I thought of turning back a thermal would appear. The most difficult part was crossing the waterways from Kings Lynn down to St Ives: the ground sucks. But I managed to stay between 3,000 and 4,000ft, getting closer and closer. Finally, I saw my destination in the distance and in no time at all I'd made it. I really did feel good; now I knew why people went cross-country.

I had done it, and enjoyed it, but I had another reason for feeling smug. When I was 21 I broke my neck; and am paralysed from my chest down. When I left hospital the consultant said: "Go home and learn to knit. It's the only thing you'll ever be able to do."

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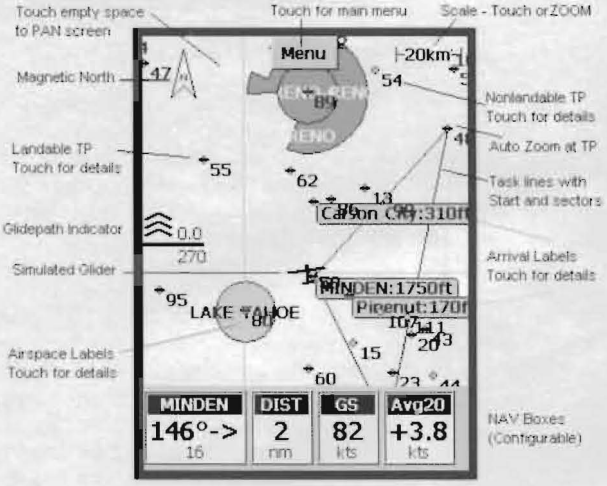
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Run for your ridge

Soaring isn't just for summer – and these three stories prove it. Craig Lowrie kicks off by telling you how to do 300km in winter in south-east England, while Steve Payne (right) and Nick Gaunt (overleaf) travel further afield



Glen Bailes (Cirrus 579), shot by Richard Hall from Speed Astir 424. Richard agrees his latest habit – driving Janus CM G-BXJS from Enstone to Wales for a few hours' ridge-bashing – is cheating, but adds he can go to work, then soar, and still be home for supper

RIDGE soaring is often seen only as a means to an end: to stay airborne when thermals have died or the conditions have over-convected; to wait until the evening wave establishes or finally to achieve that Silver duration.

To UK pilots, ridge-running can appear a remote pastime accessible only to those fortunate enough to live near the enormous mountains of the eastern United States. For most of us, it remains a dream. There are areas in the Welsh and Scottish mountains where you can fly cross-countries on escarpments all year round. For the many flatland pilots, however, the thoughts in their minds when they circle gently in dying autumn thermals are already of "next season".

But forget enormous mountains or large hills and head south to the merest of pimples in Sussex – indeed, to where UK gliding began – where excitement can be found even in midwinter.

The Southdown hills stretch from Petersfield, in the west, to Eastbourne. They provide almost continuous ridge soaring enabling fast three-TP 300km flights to be achieved without thermals. If this has whetted your appetite and speed is your desire, then how about the 128km milk run around two TPs in less than an hour?

The range can be easily accessed from Parham (Southdown GC) or Ringmer (East Sussex GC) from a winch launch or aerotow to c. 1,000ft. It is not uncommon to see visitors from Lasham on good days, and opportunity exists for clubs such as Challock, where north-easterlies may offer poor soaring due to coastal effects. Syndicates use the motorways to run the Downs, with the opportunity for one partner to fly down off an aerotow whilst the other brings the trailer. The optimal wind direction is just east of north (010) at 15-20mph although cross-countries are possible from 330-030 and soaring beyond this. A glass-fibre glider makes the tasks easier, although it is possible to ridge-run in lower-performance craft such as K-13 or K-7. Even in these types, landouts are rare if care is taken.

It sounds obvious, but remember that the parts of the hill most likely to work face the prevailing wind. Various bowls, spurs and cross-wind faces exist, so try to visualise the flow of the wind over the hill and don't expect just any rising ground to produce lift.

At times, you will get low, sometimes below the top of the hill, and have only 400-500ft on your altimeter. When close to the ground, adequate flying speed must be maintained. However, if you fly too fast then you may find yourself going down rather than up: it is a fine balance.

Expect strong sink as you push into wind to round spurs, be ready to turn

Wish you were here?



IT'S ALL recorded in my crumpled gliding log book. The location of launch, time in the air and the model of glider. From sleepy South Cerney to Auckland, from winch to aerotow and from Kirby III to Peg. However, if I close my eyes on this sunny afternoon and reflect on soaring, it's cruising low and fast beside a snowy ridge that comes to mind.

I was introduced to the art of ridge soaring by the good people at the UK's Midland GC. The club, thanks to its perfect location, is well placed to train pilots to ride the wind as it curves up and over the Long Mynd. When the wind blows one can slip the surly bonds from a 300ft winch launch or, if luck is with you when you choose your day, spring skywards from a bungy to climb in the welcoming lift before rolling left or right to track the ancient ridge. It's fun to stay low for a couple of beats before stepping out a span or two as each reversing 180 brings you back on a parallel track, higher and higher with each beat of the seven-mile ridge. Each run, trim well forward, airflow whistling gently, wings flexing eagerly as they carry you away from the huddled ground until you're high enough to set off in search of thermals or the kindly Shropshire wave.

The textbooks told me that I would soon lose interest in ridge soaring and progress to more challenging forms of soaring flight. I, for one, beg to differ as the skills honed along the Mynd have stood me in good and enjoyable stead when my travels have brought me into contact with available sailplanes and temporarily convenient lengths of ridge.

The Californian Diablo mountains run roughly north-south and, when I passed by one October, the autumn range was roasted a beautiful golden brown colour, speckled here and there with clumped sooty eucalyptus and the darker green of poison oak. A world away from English autumns. When the wind blows in from the Pacific a short tow from the Hollister Gliding Club (above), one hour south of San Francisco, will set you up to soar the dust-blown ridges with the sparkling ocean coming into view as you climb.

Much nearer home, Aosta in northern Italy provides enough ridge soaring to satisfy the most ardent aficionado. A launch with the Aero Club Valle D'Aosta will set you beating higher and higher along the nearby ridge before you set off to explore alpine valleys or the silky smooth surge of mountain wave. The Long Mynd may be green and rolling, and Hollister craggy and rocky, but there's something very special about riding the ridges of a real mountain range. The view of the Alps as I tracked the snowline and skimmed green mountain pastures will stay with me forever.

Back in the US, just a short drive from Las Vegas will bring you to small-town America's Boulder City, where an aerotow across the scorching Nevada desert will drop you near the Hoover dam to soar dazzling mountain ridges all day long, beating up Boulder City's lonely VOR transmitter as often as takes your fancy.

My work, perhaps luckily, has taken me aloft over America, Italy, New Zealand, South Africa, Spain, Switzerland and around the UK. I'm pleased, thumbing through my log book, that the people I've met and flown with come to life from the pages with as much fondness as the interesting places I've flown.

But that, of course, is another story.

Steve Payne

away from the hill to maintain good terrain clearance. On the many long good stretches of hill, it is acceptable to fly at 80-90kt about 50ft above the crest, watching out for models, parachutes or hang-gliders.

Keep a close eye on the fields as you anticipate jumping gaps, and *before* you cross a gap identify a good one, which may be of use on the way back.

Remember that roads at the foot of the hill are usually found where the gradient becomes less steep, so avoid trying to land between these roads and the hill or you will risk facing a downhill slope.

Going west from Parham presents few problems. The only major gap is between Amberley and Duncton and the good slopes of Bury hill and Bignor bowl make this four-mile gap easier to cross in less straightforward wind directions, such as NE or NW. Going east from Parham is perhaps more challenging, although it is perfectly feasible in most wind directions, and relatively straightforward when the wind is east of north. The first major gap is where the River Adur breaks through the downs near Steyning. Crossing from Chanctonbury to Truleigh hill will rarely result in arrivals much below hilltop height. The exception is the return trip when the wind is west of north and requires a direct crossing to the front ➢

Steve Longland



of Chanctonbury hill, or into the first bowl back: a distance of about six miles.

Continuing east from Truleigh hill it is necessary to push forward around Wolstonberry hill. Demand more height and expect strong sink here when the wind is east of north before pushing forward.

The run down to Lewes presents some of the best ridge, and cruising speeds of up to 100kt are possible on this clean slope, largely free from trees. From Lewes, it is possible to continue to Eastbourne although this should be rejected if the wind is west of north since the return trip will generally be too difficult.

Departing the ridge west of Lewes, the track should pass along the front of a small hill (Mt Caburn) and then directly towards the Firle ridge, previous home of Southdown GC. This hill works well and from here the trip to Eastbourne is straightforward if height is conserved to jump the several small gaps and discontinuities that exist. The return trip from Firle to Lewes can be the equivalent of a white-knuckle ride. It is necessary to push to the front of Mt Caburn and gain some height there before crossing to the ridge west of Lewes. It is not uncommon to end up with 300-400ft on the altimeter here, so pick early from the good fields that are available. This out-and-return flight, to Petersfield, then Eastbourne, will have clocked up about 180km. By selecting a third turning point, at Petersfield, for example, you can cover over 300km and qualify for a Gold distance.



How about Gold distance in winter on this ridge?

Guy Westgate

Southdown is a good base if you want to soar the ridge (a section from Midhurst to Butser is shown left from overhead the club), but please call in early morning on 01903 746706 to check conditions if you want to visit us. Aerotow retrieves may be possible.

So next time you think cross-country in the South East only happens from March to October, think again.

Craig Lowrie has been gliding for 26 years and has about 2000 hrs in sailplanes. He is an active cross-country pilot with three Diamonds and holds the current distance record from his club with a flight of almost 650km. Although not instructing now, Craig was an instructor for ten years and DCFI at Southdown GC for three.

Soaring the slopes of Scotland

THE CAIRNGORMS are rounded whale-like mountains, so smooth that it's possible to soar low in ground effect, wings parallel to the ground, as you fly around the sunny bowls in an almost constant 4kt up.

Perhaps that sounds too calm and easy. It's the biggest adrenaline rush going. Usually in gliding, if it's really exciting you've either landed within 15 minutes or you're high and trouble-free. But this type of flying goes on and on; often it's the only lift. Competing in Enterprise from Feshiebridge last year, I'd become a hooked rock-polisher.

The mountains are not that smooth, of course, and apart from the odd house-sized boulder, there are walkers, the occasional herd of deer, even a tent being pitched, as well as other gliders closing at 100kts.

On this particular task, I had little hope of more than an enjoyable evening flight in spectacular scenery. Then, as I crested the mountain top and saw the awesome cliff down to Loch Einich, the lift increased dramatically to six then eight and finally ten knots. It stopped at 5,500ft and I found myself in a low-level blue wave system. It wasn't really easy from then on but at least it was familiar; I completed the task of photographing all the bridges on the River Spey before bad light stopped play.

The next day, wave was forecast so a late start seemed sensible. At 17.00hrs, still local with no sign of wave, a drastic change of plan was needed... to fly over terrain which, at briefing, had seemed so daunting I hadn't even bothered to plumb in the co-ordinates.

Progressing in the anabatic air close to the rock and heather felt natural by now, the screes down to Loch Laggan worked well. "Proper" clouds a good 500ft above the rocks took away some of the terror of an outlanding on bog or boulders. A classic cloud street took me over 20 miles of bandit land only to drop me in a curtain cloud of sea air.

'Stuck in sea air, my only hope was to hill soar'

The view to the north-east up the Great Glen was majestic, the ripples on the sea indicating a south-westerly. The view to the south-west was blocked by a single solid massive mountain with its head in the cloud. Stuck in sea air, my only hope was to hill soar the mountain. It was seriously big and further away than I had supposed. I arrived with 100ft above Feshiebridge, at last on the into-wind and sunny side of formidable screes rising to a sheer face of rock. It worked and the lift was strong but there was no way that I could fly in the same proximity to an unknown, unforgiving cliff as I could over the more rounded hills to the north. By the time the penny dropped that this was Ben Nevis, I was brushing the cloud that topped the mountain and escaping towards home.

An hour later, I landed. However much I struggled I could not get the 4,000ft I needed to even think of crossing the no-fly zone that would put me in reach of the first landable area, the beach at the head of Loch Laggan. John Macdonald's family had owned the field I landed in since the thirteenth century. "The best gift a man can give is hospitality," he said as he handed me a beer. "And they always land in this field, you know: there isn't another for 20 miles up the Glen." Just who landed there? Robert the Bruce? Bonnie Prince Charlie? Whoever does it next time should take a bottle of malt to return the Highland hospitality.

Two piddling flights – 84km in 5hrs 30mins; 110km in six – not much more than local flying but packed with more motivating memories for winter musing than two 500s in the flatlands.

Nick Gaunt

Happy field landings

As spring approaches, Graham McAndrew explains how to make friends with farmers

GLIDER pilots need the goodwill and co-operation of landowners to maintain the freedom we have enjoyed to date. Cases of pilots experiencing difficulties after landing out are rare but on the increase.

Largely as a result of commercial balloon operations whose pilots pay when they land in a field, the glider pilot who inadvertently lands can also be expected to pay for the privilege with sums sometimes far in excess of a reasonable sum as a landing fee, or as compensation offered in an insurance claim.

I hope the following guidelines, based on those issued to pilots at Lasham and agreed with the National Farmers' Union (NFU), will assist you in dealing with farmers and landowners, and help you understand your rights, and theirs.

By landing in a field without first gaining the landowner's permission you are committing an actionable civil wrong: you are, in the eyes of the law, trespassing. Your initial approach should reflect this: be humble, polite and apologetic. First impressions count.

Your being there is going to cost the farmer time, if nothing else. When introducing yourself, stress that your landing was unintentional, explain what you were trying to do and why you had to land in his field. Emphasise that you will try to be as little trouble to him as possible and that, if he would allow you to, you can remove your aircraft with the minimum of fuss.

If an aerotow retrieve is required, ask the farmer's permission first and explain what will happen. He probably has no comprehension of what you want to do so take time to explain it clearly.

Do not allow sightseers to wander into the field: you are responsible for any damage they may do.

If the landowner wants a landing fee, do not dismiss him out-of-hand but ask if he thinks it is necessary in this particular situation. Unlike a commercial balloon operation, you are not profiting from your presence. If you have done no damage and do not require his services to take the glider out or to prevent sightseers wandering onto his property, then it is questionable whether a landing fee is necessary. However, consider offering around £10 as a goodwill gesture for any trouble and for his hospitality. If the farmer has had to assist you in some way, this might not be enough.



the *white planes* picture co.

If a pilot flying from Lasham drops in unexpectedly, their host is invited to an annual party at the club along with nearby farmers and local dignitaries. Social committee member Marion Masson says: "We ask around 240 people and, even if they don't come, they appreciate being invited. Those who do come have a thoroughly informative and enjoyable evening – and learn more about gliding, too."

If damage has been caused then your glider third party insurance will cover this. No offer of compensation should be made and you should not sign any document or claim by the landowner. Do not admit any liability. If, however, the damage is within your insurance excess then you may wish to make a full and final settlement of the claim on the spot, in return for the farmer agreeing that the payment is a full and final settlement for any damage you have caused.

The landowner or tenant may claim to have estimated the value of damage himself and require you to pay this value. Bear in mind that it is very difficult to accurately value crop damage. This is a job for a professional assessor and your insurance company will arrange this. Exchange addresses and insurance company names with the farmer and contact your insurers as soon as possible after your return. They will send an assessor out very quickly. However, the farmer will be involved in a fair amount of correspondence and it may take months for him to receive damages. It makes sense to carry a copy of your glider insurance details with you. Some companies produce a plastic card for information. If possible take photos of any damage; this may help in the event of a dispute.

If the farmer demands more, refer him to his local NFU representative, who will explain the position to him.

If anyone threatens you personally, or you feel threatened, then call the police immediately.

They will not wish to get involved in a case of unintentional trespass as this is a civil matter, but if you have been personally threatened then it is a criminal case and they have to.

Legally, the farmer is not allowed to prevent you from leaving his property or from taking your glider with you as long as you have passed over your insurance details. If you are not able to pass him your details he could retain your glider.

He may only expel you by force, but with no more force than is reasonably necessary, and not before asking you to leave. Tell the farmer that if he impounds your glider, he is responsible for any damage caused whilst it is in his possession. Explain to him the delicate nature and value of the equipment.

The best thing to do is to inform the farmer of his misunderstanding and phone your insurance company at the earliest opportunity. They will then take up the case and organise the retrieval of your aircraft. A recent case in 1998 demonstrated this fact when a court injunction was issued to prevent a landowner from detaining a pilot's aircraft when no damage had been caused.

Regardless of your reception, be polite, do not lose your temper and always return after your retrieve to thank the farmer. Some clubs have systems in place to thank farmers (see above, left).

I hope you will always be blessed with helpful and happy farmers. They are a good bunch if you treat them with respect but, like any of us, they can and will be very awkward and difficult if you don't. Remember, we need their help.

The BGA code of conduct for field landings is available from the BGA office

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- Official airspace update for UK glider pilots
- Flying with friends: what you can learn
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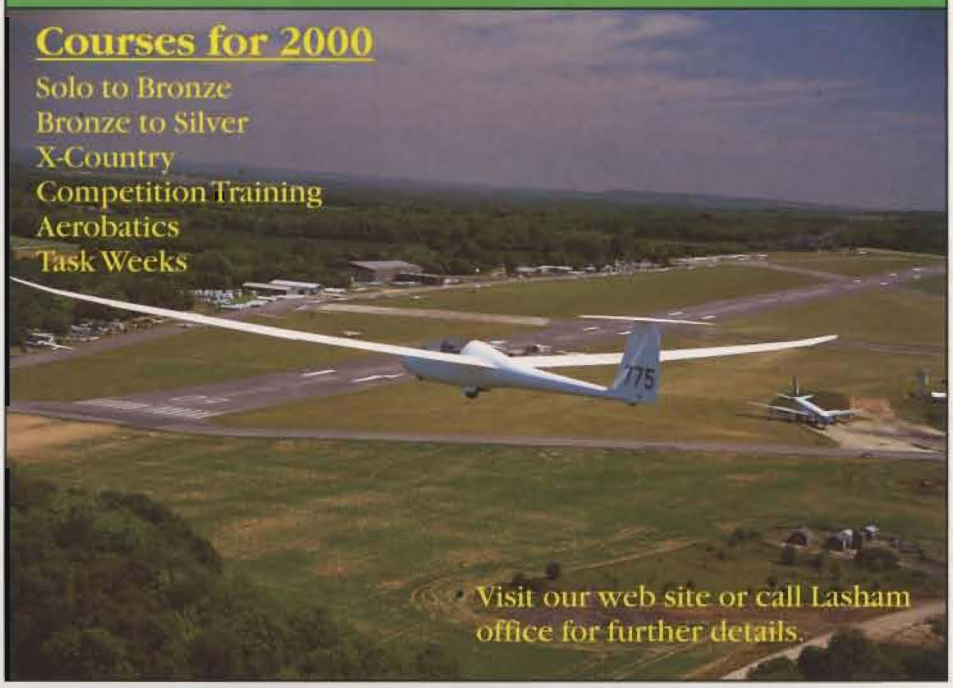
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ANNUAL STATISTICS

GLIDING CLUBS	AIRCRAFT				ALL LAUNCHES	NO. OF AEROTOWS	HOURS FLOWN	KMS FLOWN	MEMBERSHIP		
	Club 2s	Club 1s	PO	Tugs					Full Flying	Estimated No. of Temporary Members	No. of Female Members
Angus Gliding Club	3	1	6	0	1 321	0	136		39	90	4
Aquila Gliding Club	2	3	26	2	1 688	1 688	975	15 000	78	182	0
Bath, Wilts & North Dorset Gliding Club	4	4		1	3 414	630	1 527	20 000	114	248	6
Bidford Gliding Centre	3	3	50	2	3 357	3 357	3 100		106	407	5
Black Mountains Gliding Club	3	1	24	1	1 886	1 886	3 281	15 000	68	187	4
Booker Gliding Club	7	8		5	9 500	9 500	6 000	200 000	225	1 272	15
Borders Gliding Club	3	1	28	2	1 967	1 827	1 500	3 800	82	195	1
Bowland Forest Gliding Club	2	4	33	0	3 295	0	1 343		124	125	9
Bristol & Gloucestershire Gliding Club	4	4	65	2	6 637	1 604	4 181	135 000	228	908	25
Buckminster Gliding Club	3	2	19	2	2 283	1 805	1 260	5 300	72	257	7
Burn Gliding Club	4	4	25	1	6 098	1 642	1 398	7 300	122	546	5
Cairngorm Gliding Club	1	0	11	0	1 200	250	0	0	35	98	2
Cambridge Gliding Club	4	4	79	2	9 731	2 045	3 900	133 000	210	829	14
Carlton Moor Gliding Club	1	1		0	632	0	102		14	7	2
Channel Gliding Club	4	1	2	0	2 937	0	340		45	297	3
Connel Gliding Club	3	0	7	0	224	0	96	1 110	14	29	0
Cornish Gliding Club	2	2	8	1	1 687	1 382	585	2 432	48	399	2
Cotswold Gliding Club	3	4	43	0	7 421	360	2 735	24 630	178	798	14
Dartmoor Gliding Society	3	2	13	0	2 790	0	653		72	326	7
Deeside Gliding Club	2	3	20	3	4 245	4 245	4 198	19 400	140	477	14
Derby & Lancs Gliding Club	4	3	36	0	6 703	0	2 958	5 000	171	974	15
Devon & Somerset Gliding Club	5	2	42	1	7 490	692	3 021	9 729	184	484	16
Dorset Gliding Club	2	3	10	1	2 336	478	606		44	257	2
DRA Farnborough Gliding Club	2	2	4	1	553	462	295		30	36	2
Dukeries Gliding Club	2	2	11	0	2 522	1	519	1 400	44	264	2
Dumfries & District Gliding Club	1	1	3	0	347	0	145	600	17	14	1
East Sussex Gliding Club	5	4	22	1	5 859	312	1 563	5 150	117	896	7
Enstone Eagles Gliding Club	2	1	6	0	1 470	51	517	2 500	31	183	2
Essex & Suffolk Gliding Club	3	3	32	0	6 214		2 119	12 928	127	353	7
Essex Gliding Club	4	1	25	1	4 915	893	741	4 500	97	192	3
Herefordshire Gliding Club	1	1	8	1	685	685	510		23	75	1
Highland Gliding Club	2	1	13	0	1 384	143	516	1 000	53	137	11
Imperial College Gliding Club	1	2	0	0	1 000	400	500	9 000	25	100	5
Kent Gliding Club	4	4	30	1	5 296	1 968	1 775		159	797	11
Lakes Gliding Club	3	2	11	1	741	712	427	3 620	37	71	4
Lasham Gliding Society	12		173	5	26 907	9 850	8 646	229 576	461	2 892	101
Lincolnshire Gliding Club	3	1	11	0	2 739	0		2 093	52	111	9
London Gliding Club	7	7	96	4	17 635	8 003	9 682	92 632	284	2 815	18
Mendip Gliding Club	3	2	9	0	2 755	0	656	1 505	74	500	4
Midland Gliding Club	4	4	44	1	9 680	404	4 177		172	674	14
Needwood Forest Gliding Club	3	1	9	1	2 421	151	546		67	136	5
Nene Valley Gliding Club	2	2	11	0	3 637	20	838	2 785	48	289	2
Newark & Notts Gliding Club	3	4	12	0	3 577		787		70	350	6
Norfolk Gliding Club	3	3	43	2	3 851	2 385	2 165	43 400	142	531	11
North Devon Gliding Club	1	0	8	1	290	290			11	40	
North Wales Gliding Club	3	3	6	0	1 484	0	241		48	80	0
Northumbria Gliding Club	2	2	14	1	2 930	662	851	2 500	55	168	2
Oxford Gliding Club	3	4	19	0	4 586	15	1 364	7 953	102	527	8
Oxfordshire Sportsflying Club	0	0	1	0		0	1 350	14 200	45	28	3
Peterborough & Spalding Gliding Club	3	3	20	2	2 008	2 008	1 259	6 000	72	270	5
RAE Bedford Flying Club	1	0	3	0	13	13			12	0	0
Rattlesden Gliding Club	3	2	20	1	2 881	451	1 015	4 200	75	355	12
Sackville Gliding Club	2	2	12	1	1 000	350	600		22	30	4
Scottish Gliding Union	5	4	55	1	10 089	725	6 907		217	6934	11

OCTOBER 1, 1998 TO SEPTEMBER 30, 1999

GLIDING CLUBS	AIRCRAFT				ALL LAUNCHES	NO. OF AEROTOWS	HOURS FLOWN	KMS FLOWN	MEMBERSHIP		
	Club 2s	Club 1s	PO	Tugs					Full Flying	Estimated No. of Temporary Members	No. of Female Members
Shalbourne Soaring Society	3	3	32	0	4 389	0	1 584		100	522	9
Shenington Gliding Club	3	4	33	2	9 502	642	1 919	24 700	149	328	15
Shropshire Soaring Group	0	0	12	1	380	380	620	4 740	24	0	1
South Wales Gliding Club	2	3	21	1	3 008	1 054	1 598	10 286	86	357	3
Southdown Gliding Club	3	3	43	3	6 079	5 083	3 878	21 320	226	641	27
Spilsby Soaring Trust	5	3			800		150	220	47	200	27
Staffordshire Gliding Club	2	3	4	0	4 688	55	830	2 500	131	379	7
Stratford On Avon Gliding Club	4	3	29	0	6 381	0	2 012	17 244	121	910	13
Strathclyde Gliding Club	1	2	6	1	477	126	83	0	20	43	1
Surrey & Hants Gliding Club	0	10		0	1 941	494	1 005		159	2	8
Surrey Hills Gliding Club	4	3	3	0	4 577	0	558	220	58	318	2
The Motor Glider Centre	0	0		0			721	3 000	21	20	5
The Soaring Centre	6	7	100	3	13 326	7 714	7 605	60 000	315	1 309	19
Trent Valley Gliding Club	3	3	16	1	3 943	654	1 469	12 000	66	225	8
Turweston Gliding Club	1	1	0		300	0	42	0	10	26	1
Ulster Gliding Club	2	1	17	2	1 712	1 682	1 121	550	54	224	3
Upward Bound Trust Gliding Club	2	1	5	0	1 621	0	355		25	30	3
Vale of Neath Gliding Club	2	1	5	1	459	268	•190		25	17	1
Vale of White Horse Gliding Club	2	2	9	1	2 000	450	470		49	100	3
Vectis Gliding Club	2	1	5	1	813	813	321	600	37	83	2
Welland Gliding Club	4	3	17	1	3 362	262	1 169		71	202	5
Wolds Gliding Club	4	3	35	1	8 874	1 344	3 311	18 000	234	1 188	25
York Gliding Centre	4	2	25	2	3 308	2 805	1 786	6 500	151	824	10
Yorkshire Gliding Club	3	5	40	3	7 228	4 709	3 090	26 684	262	719	5
CIVILIAN CLUB TOTAL	228	195	1 737	77	304 921	92 903	130 534	1 252 807	7 660	31 672	647
Anglia Gliding Club	3	3	1	0	2 379	42	549	4 177	41		
Bannerdown Gliding Club	3	2	17	3	5 387	506	1 820	10 500	95	400	7
Chilterns Gliding Club	3	4	10	0	7 847	45	2 428	14 292	110	140	14
Clevelands Gliding Club	2	4	11	2	4 882	2 059	2 028	24 241	80	330	9
Cranwell Gliding Club	3	4		1	3 866	395	1 553	17 882	109	150	12
Crusaders Gliding Club	3	1	1	0	3 111	66	384		18	1	3
Fenland Gliding Club	2	3	7	0	2 850	152	952	11 469	43	55	3
Four Counties Gliding Club	3	4	16	1	7 567	611	2 929	42 430	92	150	6
Fulmar Gliding Club	2	1	2	1	783	548	363	415	32	27	4
Heron Gliding Club	2	2	4	0	1 389	89	476		35	30	2
Kestrel Gliding Club	2	3	4	0	1 356	101	466	1 825	31	110	1
Phoenix Gliding Club	2	4	1	0	2 821	3	802	12 924	32	130	7
Portsmouth Naval Gliding Club	6	6	9	3	8 498	2 206	1 942	1 800	113	1 079	2
RAF GSA Centre Bicester	5	5	14	4	15 500	5 500	5 900	60 000	175		0
Seahawk Gliding Club	3	3	2	1	1 278	385	330		27	250	2
Wrekin Gliding Club	2	3	5	1	3 352	582	1 221	2 800	58	144	12
Wyvern Gliding Club	2	4	7	1	5 870	70	1 533	8 000	51	302	0
SERVICE CLUB TOTAL	49	56	111	18	78 736	13 360	25 676	212 755	1 142	3 298	84
CIVILIAN CLUB TOTAL	228	195	1 737	77	304 921	92 903	130 534	1 252 807	7 660	31 672	647
GRAND TOTAL	277	251	1848	95	383 657	106 263	156 210	1 465 562	8 802	34 970	731

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Club News

Please send your club news entries to *helen@sandg.dircon.co.uk* or Helen Evans, 6 Salop Close, Shrivenham, Swindon SN6 8EN, to arrive by **February 15** for the April-May issue. Thank you.

Anglia (Wattisham)

AFTER some of the best weather in the country, club members have been flying on the opposite side of the globe. Congratulations to Keith Hill on his Diamond height in America and welcome to the new syndicate-owned IS 28 which has joined our private fleet. We have also acquired a new Land Rover for cable retrieve. Our Christmas party went exceedingly well, thanks to Mike who organised it. Over the Christmas period we had a general tidy-up ready for our hangar move in the new year.
William Jones

Aquila (Hinton-in-the-Hedges)

OUR WELL attended AGM was held in Brackley Town Hall. We were downstairs and the local Morris dancers upstairs. The beautiful old building survived their clog dancing, but the AGM nearly didn't. Richard Collings became Chairman, and we heard of a very successful year, growing our membership and financial strength. We have a trailer for our K-21, and a winter project to refurbish it.
Mel Eastburn

Bannerdown (RAF Keevil)

ROY CLEVERLEY, Sue Constable, Steve Musson and Ron Peach soloed last year. Many Silver legs and several 100km diploma flights were completed and eight 300km tasks flown in competitions. The first week at Aboyne was miserable but the next brought Diamond heights for Al Stacey, Jon Arnold (repeat), Alison Arnold, Dave Holly and Garry Beezer. The Talgarth group also chose a damp week but had ridge twice and wave to c. 6,000ft on a third day; Pete Shaw got Silver height.

Northerly winds in late November gave us good ridge flying. In westerlies, some have ventured downwind to Roundway Hill, but getting back is a bit more tricky and a few dusk retrievals from soggy fields have been good for free beers. A new university year brought an enthusiastic student group (see p60). The buildings group has continued its activities with a well-equipped instructors room. The club is in a very healthy state.
Derek Findlay

Bath Wilts & North Dorset (The Park)

OUR INFORMAL club dinner was held in the clubhouse in December. It was superbly organised by Sue Cutler who keeps the club running by providing the famous Park bacon butties. Trophies were presented to Stuart North, Alastair MacGregor, and our junior member, Ian MacDougal. The Gordon Mealing Trophy went to Marcus Barton, who has contributed so much to the social life of the club by running the bar for many years. Congratulations to Alastair MacGregor for winning the Gransden Club Class. The committee has decided to upgrade our solo glider fleet by selling our K-6E and K-8 and buying another solo glass ship. Ed Gunner, our super-efficient technical member, has installed the latest Ottfur hooks in all our Bocians, and found them successful. Our *ab initio* list has been augmented by the usual group of Bath University students. Ron Lynch, who has been a member since 1963, and CFI for a total of 23 years, has recently handed over to Stuart North.
JL



Tim Hollis (right) after being sent solo by Ron Sandford (left) at ***Bath, Wilts & North Dorset GC***

Black Mountains (Talgarth)

THE END of the barbecue season coincided with some nice easterly wave, giving visitors and members a number of days with height gains of around 10-12,000ft. Our third K-13 is back in operation after a short lay-off due to an argument with a car earlier in the summer. A soaring course has been arranged for the spring: contact the BGA for details.
Mike Tomlinson



BIDFORD'S refurbished Swallow (above, with some of its 14 syndicate members) is used for cross-country downwind dashes. In 1999 it took Pete Freeman 89km to Bath racecourse and Matthew Weinle to Silver height. "We wanted to take gliding back to its roots and put the fun back into it," said Pete. Rob Jarvis, meanwhile, managed an *upwind* dash – of 10km – to Pershore.

Booker (Wycombe Air Park)

WE PLAN to replace a K-13 with a K-21, bringing the site total to three of each, plus the Duo Discus and T-21.

Our Regionals will run from July 22-30, 2000; charges as low as usual. For the first time for a few years, both membership and launches are substantially up; thanks go to the staff and all the instructors. Jed Edyvean will continue to hold the fort until G returns in February from New Zealand.

By then, the end of an era should be with us: the airfield management are replacing the hangars with modern low-line versions. With these and the change of skyline caused by tree-felling, Booker will not be the same.

Congratulations to: Nick Gilbert, Colin Searle, Alexander Marshall, Robin Willgoss, Richard Starey, Michael Forster and David Heath on their Silver and Gold badges, to Lee Taylor, Pat Shillingford (again), Alan Gura, Martin Blanchard and Manuel Arribas, who all went solo this autumn: and to Phillip Evans on becoming a Basic Instructor.
Our web site is at *www.bookergliding.co.uk/*
Roger Neal

Borders (Milfield)

LOTS OF clubs visited during our autumn wave weeks. Wave days were limited because high pressure over Scandinavia pulled in easterly winds during the last week. Burn GC turned up en masse and were treated to southerly wave straight off tow at 2,000ft. They had lots of good soaring with three Gold height claims. The pubs in Wooler almost ran out of beer in the evenings (I think we need a bar on site before next autumn!). Competition Enterprise paid a visit to check us out. After discussions with Nevynn International, we have purchased their Alliance 34 demonstrator as our second two-seater, following a lengthy evaluation. Its slightly higher wing loading is useful in our wave rotor conditions, and it spins quite well. Visitors are welcome to try it.
Bob Cassidy

Bowland Forest (Chipping)

LAST YEAR'S investment in field drainage and drain-cleaning appears to be paying off and the Skylaunch winch has returned from being serviced.

Our recent Christmas dinner was a great success enjoyed by all who attended – but didn't Novotel realise that providing more than 40 gliding people with pea-shooters and screechy balloons was bound to lower the tone of the evening?
Derek Littler

Club News

Bristol and Glos (Nympsfield)

A GOOD financial state was reported by Gordon Davis at the AGM. Hywel Moss did his Gold height on a difficult December day while pundits managed only 10,000ft. Danny Goldworthy came from Aston Down to be our winter staff instructor.

Seven members had some exciting flying in our DG-505 on an expedition to Gap with James Metcalfe and raised some useful revenue. James took over as tugmaster and Sam Morecraft is running the cadet scheme. A list of members' email addresses is planned.

Mike Bird will speak at the club dinner on March 11. Remember: Juniors will be charged half the £100 entry fee for the 2000 Rolex Western Regionals from 5-13 August.

Bernard Smyth

Buckminster (Saltby)

THE CLUB enjoyed a visit to Portmoak in October. The first weekend two members achieved three Gold heights, but thereafter unfortunately the wave refused to co-operate. Nevertheless, members enjoyed the conditions and piled up flying hours.

The club's annual dinner was in November and a millennium party and prizegiving was due to be held in the new year.

David Brinkworth

Burn (Burn)

WE CELEBRATED Frank Thompson's 80th birthday with what is known locally as "a reet good do youth". BBC Yorkshire captured Frank's joy ride – or should that be air experience flight? – in a two-seater aeroplane and huge fun was had by all.

Danny McNeill and Dave Chafer have rebuilt a Tost winch which is now giving excellent, consistently high, smooth launches.

Yours truly spent a marvellous few weeks gliding in his native Poland. My friends over there are extremely keen to organise courses in aerobatics and wave, cloud and night flying. The current bureaucracy is fairly formidable but I am certain that visits can be arranged without much trouble. Any takers?

Alistair McKenzie and Dave Bell have their 100km Diplomas, and Colin Stoves has Pt 1. Steve Naylor has his PPL. Oliver Peters flew for five hours. David Goodison, Dave Bell and Alan Jenkins achieved Gold height gains at Milfield; Arthur Burkinshaw got his at Aboyne. Tony Flannery achieved Diamond height at Aboyne twice on the same day after number of very near misses over the past few years. David Bailey flew solo.

Stan Kochanowksi

Cairngorm (Feshiebridge)

OUR NEW clubhouse/hangar is now in full use offering members and visitors every creature comfort including hot showers, excellent catering facilities, and a bar.

Tugmaster Andy Carter is our new CFI (it's a tough job but someone has to do it) and we offer him our best wishes and support.

The latest crop of badge claims includes: Patrick Lewtas (first solo and Bronze legs); Jim Riach (Silver badge); and Chris Fiorentini (Diamond height).

Last year's club awards were as follows. Club ladder: 1, Jim Riach; 2, Bill Longstaff. Best wave flight: Jim Riach. The Jan Heidrick Award for services to the club went to the tireless Andy Carter.

Finally, the "Preston Regardless" Award went to Alister Morrison who, after being instructed to land short, mistakenly landed in a field adjacent and parallel to our undershoot field (well, they all look the same, don't they?).

Chris Fiorentini

Cambridge (Grandsen Lodge)

CHRISTOPHER Hurst has gone solo, and Mike Young collected his 1000km Diploma and the UK National 500km triangle record on a recent visit to South Africa.



Graham Boyle (bottom right) was the first pilot to be sent solo at ***Blenheim GC*** *in Jamaica. His instructor was Adam Clarke (top right)*

Our motor glider is again available for Bronze cross-country endorsement exercises on weekdays as well as weekends.

We appear to have been attracting new members over the winter, which seems rather unusual, and our cadet scheme is growing once again.

John Birch

Clevelands (Dishforth)

OUR NOTORIOUS wave has been sadly missing during early winter. However, we are keeping our fingers crossed, and looking forward to bringing you reports of a bumper crop of millennium Silver, Gold and Diamonds from what will be our last wave camp run from No 1 hangar. Work will start shortly on our new glider storage facility on the other side of the airfield. Portakabins have arrived on site, which will provide us with domestic facilities, social areas (including a new bar) and a glider workshop. Club members and other willing volunteers will have plenty to do on those non-flying days!

Polly Whitehead

Cotswold (Aston Down)

OUR NEW Skylaunch winch has been delivered. We are sure it will be popular with our visitors, some of whom were apprehensive with reverse pulley launching. All members will receive training on "ways with a winch" before it enters regular service.

Helena Brogden, Andy Jones and Robert McLachan have soloed; Andy Henner has re-soloed. Tim Barnes and Paul Gentil have qualified as Assistant and Full Category Instructors respectively.

Thanks to the Godwin family and Gary Fryer who have recently started Earlybird Flying on Sunday mornings to help get *ab initios* solo more quickly and encourage new members.

Our dinner-dance will be on January 21 and our President, Larry Bleaken, is handling ticket allocations in his own inimitable style. The hoped-for tug has taken up residence in our old hangar and we are Prescott-friendly with our new bus for launch control.

Frank Birlison

Denbigh (Denbigh)

MEMBERSHIP is now 60, of whom a quarter are new to gliding. Five of these have soloed, helped by our weekday intensive course system, which aims to provide eight flights a day.

In October, Cosford brought over their tug and, with visiting groups from other clubs, enjoyed some good wave flights.

Ex-member Dave Lorraine, who flew and instructed for several years at the site before going abroad, celebrated his return by going to 18,000ft to get his Diamond.

Other club pilots have enjoyed the wave. It was lovely to see recently-qualified K-8 pilots landing with silly grins on their faces, and muttering "it wouldn't come down". These pilots plus a few others have completed their Bronze and cross-country endorsements; our Falke proving valuable. We are licensed for SLMG/motor glider PPL training also.

We had the opportunity of trying out the Skylaunch winch on site for a couple of days and experienced what can be achieved. A future purchase cannot be ruled out, but in the interim we are upgrading the Wild winch with a 5.5 litre Chevvy engine and gearbox. This should clear our problem of not being able to accelerate some gliders into the climb in calm or light tailwinds.

JEB

Devon & Somerset (North Hill)

THE AGM in December was well attended. After several years as chairman, Joe Acreman has decided to step down to concentrate on keeping the club equipment in working order, which he has tirelessly been doing anyway. Our thanks to him.

His place has been (eagerly?) filled by Chris Heide whose election manifesto promised

ever-improving weather throughout his term in office.

The new CFI, Malcolm Chant, appointed Robin Willis-Fleming as Safety Officer, arranged Simon Minson as his temporary deputy and after an exhausting half-hour handing out buff envelopes immediately left for a fortnight's holiday on the QEII.

The new hangar is now protecting the club fleet from the ravages of winter. Rumours of a planned blockade by private owners to prevent the instantly-available club fleet from monopolising the launch line remain unconfirmed. The private sector has acquired a brand new ASW 27 and an ASH-25b. The latter, at 89ft wingspan, will probably form a secondary blockade at the launchpoint should the hangar defences be breached.

Now all we need is for the new chairman to deliver.

Phil Morrison

Dukeries (Gamston)

HIGHLIGHTS of the annual trip to Portmoak include Steve Simpson's five hours and Pete Uden's successful landout in very difficult terrain. Back home, Nick Ashton has soloed.

Our radio and press advertising blitz has been a great success and will continue; we have David Urpeth, Mick Burrows and Tim Bowles to thank for their efforts.

As part of our winch upgrade we want to convert it to LPG: your suggestions and experiences would be most welcome.

Dave Hall

East Sussex (Ringmer)

HASSELL checks or hassle checks? Negotiations to level our field appear to have stalled (hopefully a self-correcting manoeuvre) so stick forward to regain flying speed and soldier on through the winter. Meanwhile, our bumpy field is turning into a wet bumpy field!

Our spirits are cheered, however, by Steve Phillips and Graham Bowring going solo and our second place in the inter-club. Mike Burney has a Bronze leg and Gerry Gair has completed his first 100km. He and Randall Williams are training for Basic Instructor.

The committee is working very hard to attract new members and plans to display our K-21 at Churchill Square shopping centre in Brighton. We hope to replace some of our more senior fliers (Harry Wainwright, Peter Drew-Bear), who are thinking of hanging up their wings. Sadly, the T-21 and T-31 are both up for sale.

Club members have been to Talgarth and Denbigh recently.

AWL

Essex (North Weald/Ridgewell)

WE HAD a very successful season at our Ridgewell site with a good crop of badge claims and cross-countries. Flying and training are now concentrated at North Weald for the winter, although maintenance work at Ridgewell continues.

Our annual visit to the Mynd resulted in members experiencing and enjoying ridge soaring for the first time despite the snow showers. The high winds made trailing our K-13 interesting!

Very many thanks to the Midland club for their warm welcome and hospitality during our two weekends there.

Peter Perry

Essex & Suffolk (Wormingford)

SINCE the completion of our new hangar, members have been turning the old one (a lean-to corrugated iron shed of insubstantial proportions) into a garage/engineering workshop, a task now near completion. I remember with affection the days when this used to store at least two and sometimes three derigged ships. Our new building will take at least seven rigged aircraft (including a T-21 and the Twin Astir) and recently allowed us to hold a sit-down meal for 80-plus members and guests and still keep both K-13s rigged in there. This also included for the first time an after-dinner speaker in the erudite form of Platypus.



Steve Clark (right) being congratulated by instructor Mike Miller after achieving his ambition of going solo on his 16th birthday at ***Challock***

A recent expedition to Talgarth was blessed (*sic*) with easterlies. People who flew experienced the wave off the Black Mountains although the rotor over the site made for some very interesting launches and approaches.

We have had a very successful year for trial flights and day courses and have grown from 125 to 150 members in two years. Let's hope the soaring weather improves.

Late 1999 achievements include: Denis Heslop, Diamond goal and distance; Brian Darton, Silver; Colin Neill, Bronze and cross-country endorsement; Eric Hibbard and George Green, Bronze (in addition George was granted a Churchill Award which contributes toward his flying fees); and Malcom Myers and Kieron Boost have soloed.

Steve Jones

Fenland (RAF Marham)

VISIT us at *www.glidingclub.freeserve.co.uk*

AJ Padgett

Club News

Highland (Easterton)

WE HEARD with great sadness that Bill Hill passed away – peacefully, after a long illness. For our remembrance, see obituaries, p59.

1999 continued inauspiciously, with less rain (no duck pond) and a bit more sun (thermals) and some wave. John Caithness completed Silver. Andy Anderson did very well in Enterprise with one of his flights involving an epic hill soar up the Great Glen at less than airfield height.

We are building a second hangar which will house our winch, a tug and privately owned gliders, and provide space where work can be carried out.

Negotiations are taking place, which, if successful, will result in Fulmar GSA club being able to operate with us on a permanent basis. This will combine resources including their tug and at least one of their aircraft and should widen the horizons of both clubs for the future. Phil Penrose has joined the elite band of those qualified to fly the Scottish ASH, 925, as P1 – well done. Angie Veitch is to stand down as CFI after at least 12 years in the post. Robert Tait will take over in March 2000. Thanks to Angie and good wishes to Robert. Aberdeen students have joined us with great enthusiasm.

Angela Veitch

Kent (Challock)

WE WELCOME new members from our summer courses – some of whom have already gone solo. Although preoccupied with Cs of A, we are still soaring the ridge in south-westerlies and seeing a fair amount of wave. We are keeping in practice during the winter by paying for one winch launch and getting a second free! Visitors are always welcome – remember we don't charge reciprocal membership fees to members of other BGA clubs.

Sadly, we report the tragic death of a very popular member, Sarah Brydon, following a sub-aqua accident.

Caroline Whitbread

Kestrel (RAF Odiham)

THE AUTUMN weather has been kinder to us this year resulting in a better start to the BGA reporting year.

Thanks to Sylvia, Jenny and Shirley, the Christmas party was a big success. Sylvia indulged many male fantasies by sporting a variety of costumes throughout the evening – from serving lady to fairy.

The new clubhouse floor passed its first big test with flying colours. All reported collapses were later attributed to alleged victims' legs being temporarily unsure of their position. Alcohol was identified as a major contributory factor.

Congratulations to Rob Martin, who has completed his Silver.

Simon Boyden

Club News

Lakes (Walney)

AT OUR annual dinner and prizegiving, the silverware went to: Peter Lewis (services to the club); Peter Seddon (outstanding progress); Graham Welch (best cross-country from Walney); Peter Redshaw (outstanding flight); John Burdett (best gain of height; Keith Whitworth (best flight by non-Silver); Keith Butterfield and Andy Tehay (best two-seater flight); Peter Lewis and Andy Tebay (best two-seater gain of height); John Martindale (club ladder) and Peter Redshaw (wooden spoon). Congratulations to Dave Bull, the tug pilot at Aboyne through the summer and wave season, who returned to the club with a Gold height under his belt. See also *Club Focus*, opposite.

Alan Dennis

Lasham Gliding Society (Lasham)

CONGRATULATIONS to Peter Hearne, a member since 1967, on becoming Vice President of the BGA.

Diamond heights were gained by Peter Twiss and David Williams, climbing to 23,000ft at Minden, USA, on an expedition led by Bob Johnson.

We had 27 first solos in 1999, and courses have been organised to progress from solo to Bronze, and Bronze to Silver.

David Oliver had 24 cadets under his care in 1999. There are eight vacancies for cadets in 2000. George Dadd gained his Silver, flying at Le Blanc and Lasham; he also had a place in the Junior Nationals. Tim Charlesworth and Richard Verrall have both Silver height and duration.

The Society is supporting Richard Nohle's new aviation project and his aim of revitalising Britain's aviation culture via his supporters' club, "Farnborough Airforce".

Malcolm Hook has organised many changes to the airfield during 1999, including a new entrance to the clubhouse, bunkhouse toilet refurbishment, changes to the hangar drainage system, structural repairs to the Brown Elephant building, a new water ballast filling system and grading of the trailer park. In the office, we have new telephone and computer systems. Secretary Lynn Kelly has left after five years and our cook, Paula O'Hagan, has left after for 16 years. Our thanks to them for all they have done.

We regret to report the death of Dennis James Dawson (see obituaries, p59).

Tony Segal

London (Dunstable)

WE HAD three first solos in October, and cross-country flying until mid November. The annual dinner and prizegiving was a great success. Congratulations to all the winners, but especially to Rupert Robertson, whose highly amusing tale of a retrieve he'd undertaken took longer than the retrieve itself.

In early December George Moffat gave a refreshing and thought-provoking talk on the psychology of winning (see p22). Harry Middleton has initiated repair work on our clubhouse, and field levelling has started. Next season John Jeffries will conduct a few of his renowned cross-country courses, open to all. Sign up now to avoid disappointment.

AH

Photo: David Simmonds



*At Southampton Soaring Society's scale gliding comp, at **Lasham**, Ann Welch – one of the judges – is seen with a quarter-scale Slingsby Gull*

Mendip (Halesland)

THE PILOTLESS glider has flown at last. Not qualified to fly the Skylark 3, the early solo pilot syndicate fettled away all summer, polishing their earthbound glider and their flying skills. Given the go-ahead, George Sargeant (Green George) was first, quickly followed by Robin Joy and Dave Hilton.

So many new winch drivers are coming through the Clive Brain training school that we are receiving complaints from people unable to get on the winch!

Keith Simmons

Midland (Long Mynd)

LITTLE changed for ten thousand millennia, the Long Mynd was making no exception for this one. Winter visitors from Essex and Hus Bos looked down on the first soaring site to emerge from the primeval mire and we are happy they enjoyed at least a few good days.

We had a stand at the Telford Exhibition next to the BGA and their Duo Discus. Attendance was good and so was the trade in trial lessons but the national dilemma was evident again: how do you attract youth and commitment?

Roland Bailey

Needwood Forest (Cross Hayes)

THE ANNIVERSARY of when we flew in from the old site was marked by a strong, gusty wind at right angles to the field and so was something of a damp squib.

Wildlife has featured again recently. Following flippant remarks at a winch drivers' meeting about needing something to fend off wild boar, much humble pie is being eaten by the mickey-takers, as a large black one stopped play and had to be persuaded off the field by three vehicles.

Thought is being given to the new clubhouse, with the possibility of a wooden building receiving serious consideration.

The current membership list shows an encouraging 95 names, and we are now all looking forward to getting some points on the club ladder in 2000.

Grant Williams

Newark and Notts (Winthorpe)

WE HAVE active *ab initio* flying in winter on Sundays, limited only by the hours of daylight.

The publication of our web site URL in *S&G* allowed Bob Griffiths, one of our old members now living in South Africa, to contact the club.

The annual dinner was well attended with many prizes being awarded for achievement. This has been one of our best years for cross-country with the cross-country prize going to Roger Starling. The other cross-country prize of note went to John Maddison (CFI) for an outlanding within 200 yards of the field while local flying in the K-13. It's nice that CFIs past and present tend to receive this prize: John's just keeping the tradition alive.

Barry Patterson

Norfolk (Tibenham)

THE CHRISTMAS party went with a swing: the cabaret was much enjoyed, especially Woody and the Wednesday Boys' last-century extravaganza.

Carl Barber and Chris Retzler have gone solo. Andy Vidion and Matthew Cook have become assistant instructors.

We have sold our Rallye tug and are planning to replace it with a Robin.

Bonnie Wade

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Northumbria (Currock Hill)

WE HAD several good autumn wave days with many gliders above 10,000ft.

We have a new promotional video made by students from Sunderland University and will be starting a recruitment drive in the new year.

Martin Fellis

Oxford (RAF Weston on the Green)

ALMOST a year since we had the last one, we had another AGM – can't say that OGC isn't on the ball. Pete Brooks reported that despite the lack of stonking days this season, launches were up on last year and the club continued to gather new members and fly a lot. So no change there, then.

The heroes of the year, winning the silverware, were: Howard, "you can't keep a good man down" Stone (best flight in a club glider and top of the club ladder); Phil Hawkins (best flight from Weston on the Green); John Gibbons (the "nearer to our Lord are thee" deep breath award); and Maz Makari (first Silver duration of the year). Andy Butterfield was voted as the instructor most people were glad to see on a Saturday morning and Tony Hoskins got a BGA Mobil award for gaining his Bronze badge before his 18th birthday.

The rank-and-file membership decided to spend all the piggybank on a new DG-505 to replace the late and not terribly-lamented Acro. Just to make sure they do fly, a motley selection of club members took a trip to Nympsfield to try theirs. Thank you everyone there for letting us play with your big glider all afternoon and not sulking. We are now preparing to send our CFI to Germany with a large wedge of Deutschmarks to get one of our own. Hope he comes back.

Steve McCurdy

Peterborough & Spalding (Crowland)

CLUBHOUSE renovations are now at an advanced stage: a new central heating system and shower room will be completed by the time you read this. The clubhouse is now appreciably warmer, especially the ladies' loos. It will soon be difficult to motivate members to leave the clubhouse warmth for the cold outside.

The club expedition to Aboyne returned with tales of easterly winds and little wave flying. Congratulations to Roger Gretton, who waited a week longer and returned with a Diamond height (21,000ft) to complete his badge, and to cadet Philip Tither, who has soloed at 16.

Welcome to Dale Hunt, Douglas Bains-Dinning and Matthew Cowlan, three 15-year-olds from Spalding ATC who have been accepted on to our cadet scheme.

Our Christmas dinner was a resounding success with 50 attending.

Another Pirat has arrived on the airfield from Tibenham: with three Pirats and two Puchaczs we will soon have cornered the market in Polish gliders.

Pete Goulding

Club Focus: Lakes



LAKES GC traces its origins back to 1930, when the area was considered to be the English Wasserkuppe. In 1932 we hosted the second Open Class UK Nationals where a new UK record of 15 miles was set – nearly double the existing one.

We had a fairly nomadic existence until 1964, when we settled at Walney Airfield (above), on Walney Island in the south-west corner of the Lake District. We are well placed to take advantage of the spectacular, interesting flying on offer. Three tarmac runways enable us to fly year-round (in ridge lift and wave). Our clubhouse is modest but the large hangar means we can keep the club fleet rigged. Visitors are often surprised by the closeness of the sea on two sides of the airfield. Undershooting will result in wet feet (at least) but with over 1000m of concrete to aim at, that isn't a problem.

We tow over water to get to the lift. Our main ridge, Black Combe, is 15km north, including the 6km "wet" crossing – 2,000ft is usually enough to comfortably get back. This is an almost semi-circular hill, rising from sea level to nearly 2,000ft and providing several kilometres of west-facing slopes. It works in most wind directions from north to south.

Beyond, west-facing ridges stretch north up the Irish Sea coast to Wast Water valley (below) where north-facing screes provide truly awesome soaring. The wide coastal plain provides plenty of landable fields if things go wrong.

We get wave in most wind directions from north-west through east to south-east. The club record stands at something like 23,000ft but we regularly get to over 10,000ft. There is a weekend airway overhead at FL155, but it is very easy to climb in the otherwise unrestricted airspace. A high wave flight is an easy way of exploring the whole Lake District.

Although we are only a small club, we have a good fleet and our charges are some of the lowest in the country. If you visit us you can be sure of a very friendly welcome along with some truly different flying. We mainly fly at weekends, although if conditions are really good a tug pilot and crew can usually be found mid-week, too.

Photos: Peter Lewis

At a glance ...

Launch type:
aerotowing; winching (rarely)
Cost of launch:
£1.60/min – c. £13 to 2,000ft
£3.50 (winch)
Club fleet:
T-49, IS 28, K-21; K-8, Astir
Private gliders: 12
Instructors: 13
Types of lift:
ridge, wave, thermal
Operating days: weekends
Contact:
Peter Lewis, CFI:
01229 823457
Alan Dennis, Secretary:
01229 470075
www.lakesgc.co.uk



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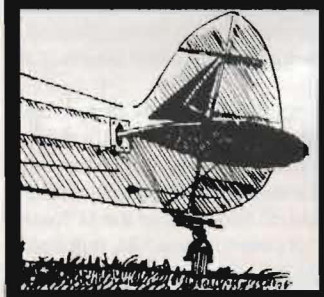
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Scottish Gliding Centre (Portmoak)

WE ENJOYED several good autumn wave days. Steve Nutley obtained his Gold distance, and Diamond goal and height in November. Alastair Wilson gained a Gold height during a five-hour flight to finish his Silver.

Congratulations also to Andy Wright and Andy Bates (Silver heights), Alex McKinnon (first solo), and Tim Sands (for re-soloing). Brian Scougall has returned to gliding after a long absence, and has now re-qualified as an assistant instructor.

At our Christmas dinner, trophies were presented to Richard Allcoat, Kevin Hook, Chris Robinson, John Williams, Z Goudie, John Galloway, David Nisbet, Alastair Wilson, and Tony Brown. Vic Blaxill received a special award for distinguished service to the club.

Joe Fisher has organised a series of lectures on Friday evenings to help people pass the Bronze exam and obtain radio licences. Thanks to all those giving lectures, in particular to Keith Buchan, Dave Hanlon and George Ross.

Neil Irving

Shalbourne Soaring Society (Rivar Hill)

OUR AGM in November was well attended. Most of the committee were re-elected. We welcome Colin Baines as our publicity officer and Liz Sparrow as CFI. Colin has plenty of ideas to increase membership and income; Liz is keen to see more cross-country flying and to improve the two-seater fleet.

We will host a BGA soaring course in May and hope to secure temporary planning permission for aerotowing during this week.

There is still no progress on signing a lease with our landlord, but we hope some will be made in the next two months.

Winter weather has so far been reasonable and not prevented the hardened few from turning up for short hops, including the occasional half-hour on the ridge.

Several members went to Aboyne and enjoyed plenty of wave, which our treasurer Richard Dann will not let us forget.

Clive Harder

Shenington (Edgehill)

BELINDA Keep has gone solo while Roger and Toby Andrews (our most recent father and son combination) managed to go solo on the same day.

Members have been on expeditions to Feshiebridge and Sutton Bank; at home they have been taking advantage of our ridge.

Our winter maintenance programme is well under way and we're planning lectures on various Bronze subjects. We'll be operating seven days a week throughout the winter as usual, so do pop in and see us if you're passing by. You can keep up to date at *http://freespace.virgin.net/fisher.m/sgc*

Tess Whiting

Southdown (Parham)

JUST WHEN we thought the soaring season was over we were blessed with a succession of northerly winds over a three-week period.

Visitors arrived from all points of the compass to sample the delights of ridge-running, not to say blade-running, depending on how low you are prepared to go.

There was plenty of exercise for the ground crews and one of the most effective retrieves must have been that of our brand-new K-21. Spotted in a good-sized field by Derek Eastell in another glider, he promptly returned to base, jumped into an available tug and effected a swift aerotow retrieve before sunset. A gentle reminder that good field selection has its just rewards.

Congratulations to Matthew Roland, a bursary student, on going solo, to John Rayner (Bronze) and to Jim Tucker. Free from the constraints of the instructors' roster, Jim has gained his Diamond height.

Peter Holloway



Identical twins Oliver and Roland Smith, after first solos on their 16th birthday, with instructors Mike Ward (left) and Bob Jones, at ***Portmoak***

South Wales (Usk)

IMPROVEMENTS to our site this year include: an extension to the hangar, to house ground vehicles; the laying of a concrete apron in front of the hangar; central heating in the clubhouse; and the removal of grazing sheep.

The concrete apron, 200mm thick, was laid entirely by members – all 200 tons of it. It ends years of having to lie in the mud to repair/clean gliders, and of pushing gliders through mud and potholes.

Next year's projects include the installation of shower and toilet facilities inside the club-house, making a visit to the club much more comfortable for pilots and their families.

The field remains flyable despite winter rains and there have been numerous ridge runs and flights in wave. Achievements include first solos for Shane Dinsdale (who has thousands of hours in passenger jets), Steve Stokes and Pete Saunders. Maureen Weaver has a Full Cat rating.

MPW

Staffordshire (Seighford)

CONGRATULATIONS to Ian Taylor, who completed his Silver with a five-hour flight at the Long Mynd.

Winners of 1999 awards included: John Maclaughlin, Early Bird (yet again!) for the first 100km of the year; John May, the Avro Cup for the most cross-country attempts and the Ken Sheriff award, for his epic O/R to Caxton Gibbet; and Nick Rolfe, the height boomerang for his Silver height from Seighford of 3,600ft in one thermal.

Louise O'Grady walked away with an armful of awards – the distance boomerang, the grotty potty and the burnt-out kettle (all for the same flight, incidentally).

Glyn Yates received the CFI's cup for making the British Aerobatic Team and for his contribution to the club. Sally Longstaff got the John Burke award for the most significant contribution to the club by a junior member.

Special awards were given to Graham Burton for his work repairing our ground equipment and to Roger Kettle for re-soloing after a long break.

The Avro Vulcan award for ab initio achievement went to Ken Kirby.

Chairman's awards were given to Bob Frazer for his sterling work arranging the Thursday night flying during the summer and Chris Jones for the PR work.

Thanks to Lara and friends for arranging the event's catering.

Chris Jones

Stratford on Avon (Snitterfield)

THE FOLLOWING awards were given at our AGM: Martyn Davies (Andy Coffee and Tom Smith trophy for flying achievements); Chris Wooller (most progress); Andy Balkwill (best flight in club glider); and Barry Monslow (contribution to running of a club).

Mike Coffee won the club ladder, with Martyn Davies and Dave Benton runners-up.

Jim Tyler has retired from instructing after many years dating back to Bickmarsh (Bidford) days and Long Marston, with two stints as CFI. We thank him for his long service through those difficult formative years and award him the Fred Haines Shield (long and meritorious service).

Finally, George Sperryn, who came into his gliding in his early eighties, was awarded the CFI's special award as an inspiration to us all with his endless energy and enthusiasm, putting younger members to shame.

Brian Tebbitt has handed over to Chris Wooller after five years as club treasurer.

A new disabled toilet block has been sited, with plans for the conversion of the K-21 to enable suitably handicapped persons to fly with us in 2000.

Harry Williams

Club News

The Soaring Centre (Husbands Bosworth)

THE CLUB'S annual home-built hot-air balloon competition on Bonfire Night was very entertaining yet again, with even more entries this year. The evening ended with a fabulous firework display organised by Simon Catleman. Congratulations all those given awards at our annual dinner, and to: Robert Johnson (Bronze badge); Peter Rhodes (Basic Instructor); and Anne Stotter, who completed her first 500km at Benalla, Australia. Paul and Steve Crabb both broke a host of records in their LS-8 in South Africa. Paul completed a 500km triangle at a speed of 156.6km/h, and Stephen did a 500km O/R at 163.8km/h.

Welcome to new Deputy CFIs: Mike Till and Mike Cater, and many thanks to Andy Parish and Lindsey Astle, outgoing DCFIs.

You may have heard the sad news that Doug Sadler, a club member for more than 40 years, died in December (see obituaries, p59).

Siobhan Hindley

Trent Valley (Kirton Lindsey)

PAUL DAUBANY and Richard Gray have soloed, Richard on his 16th birthday. Simon Grant has an Astir and Gordon Bowes a K-6E. Thanks to John Sentence for his help with our instructor training programme. Mike Morton found himself towing a one-wheeled trailer while collecting the club's Astir; Phil Bootland and Steve Wilkinson went to the rescue. We have a pool table in the clubhouse to amuse us till spring.

John Kitchen

Ulster (Bellarena)

WE ARE enjoying a clean airfield at last, having surrendered our leased seven-acre east-end undershoot with free-range sheep. The field is now mown, not grazed. A westerly extension to the foreshore on our own land maintains E-W runway length, the cross-wind diagonals remaining unaffected. Soon after soloing, our latest neophyte P1, university member Martin Earle, became *hors de combat* in the line of club duty, fracturing a kneecap while erecting the gliding stand at Queen's freshers' fair. We're glad he's back.

BGA technical committee chairman Mike Woollard was a very welcome if chance guest at our annual dinner, providing a glimmer of sunshine at the dreary dog-end of an eminently forgettable soaring year.

Bob Rodwell

University of the West of England (Keevil)

CONGRATULATIONS to Harry Harrison (first solo), president Simon Tizzard and vice-president Chris French (re-solos). With keen interest from many new members we aim to have at least four more solo by Easter. Training days have now been arranged by Dan Gillians, which are greatly appreciated. We have an Easter week planned for those who have not yet soloed and for others to gain Bronze and Silver. We meet every Thursday in the Bristol Flyer, in Bristol, at 8pm – anyone who buys the round is welcome to join us. You can keep up to date with our progress at *www.UWE.ac.uk/union/gliding*

Anna Gunn



Congratulations to Brian Marsh for the best flame-out in the home-built hot-air balloon comp held annually at ***The Soaring Centre***

Vale of White Horse Gliding Centre (Sandhill Farm)

OUR AGM was held in early December. Frank Davies is continuing as CFI for another year, for which we are very grateful. 1999 turned out to be a fairly poor flying year, albeit with a few notable exceptions and achievements, and we trust 2000 will be better. We are planning weekday flying over a number of weeks this summer since Ed's Week in May has proved consistently popular over the last few years. Details of these and other events as we organise them will be posted on our web site, which will shortly be moving to a new location but should still be accessible from the BGA: *www.gliding.co.uk*

Graham Turner

Vectis (Bembridge)

STRONG winds and poor visibility have somewhat restricted club flying during the autumn, but several good weekends allowed some notable achievements, including first solos by Paul Jennings, Terry McKinley and David Fear. Strong winds at 1,200ft at the end of October provided the unusual sight of four gliders apparently stationary, in line abreast, over the cliffs.

The acquisition of a second two-seater was justified by gratifying increases over the totals for the previous year in trial lessons and training flights.

The annual dinner and awards evening was attended by 33 members and guests. The CFI's trophy was awarded to Ruth Freelove while the Chairman's Cup went to Chris Waghorn. The mounted parrot (reminder of things not to be done) and plunger (for services not directly connected with flying) were accepted by Phil Kirby and Alasdair McLean respectively.

Peter Seago

Welland (Lyveden)

AT THE club's information meeting the year was reviewed and plans for the next season announced. We hope to hold an *ab initio* course week in May, the flying week in August and, for the first time in several years, a BGA soaring course.

At the annual dinner-dance, Lisa Shepherd received the Chairman's Cup for the funds she provides for the club by her culinary efforts. It's amazing how much cash bacon butties and sponge cake can raise amongst a membership better known for its ability to scrounge free beer. Flying achievements were recognised, too, with trophies going to David Evans (CFI's shield), Dick Short (best in wood), Peter Heywood (best *ab initio*), Terry Kendall-Tory (best progress) and Fred Thomas (longest flight in a club glider).

As winter takes hold, refurbishment of our modified K-7 is being led by Alan Bushnell.

Jane Cooper

Wolds (Pocklington)

A NUMBER of impressive feats (not Mike Fox's) were rewarded at our annual dinner dance. Bernie Svenson won Task Week, Sue Webster won the club ladder, and had the longest flight of the year, whilst Anna Sheldon won the trophy for the most meritorious flight. Royce Lorenz gets the Barbara Walker trophy for managing to put up with the CFI jabbering away throughout a classic wave flight. Also impressive are younger pilots Tom Mossop and Craig Pagram, who made the most notable progress this year, and Simon Barker, who soloed at 17, after a month's flying and 36 flights. Much thought is being given by our flying committee to how to help early solo pilots progress.

Financially, the club is in a good position and has decided to buy another tug and a new two-seater. The aim is to equip us to stage some excellent national competitions this year by ensuring that we can get people airborne quickly, as well as to increase the number of members going cross-country by providing tuition in two-seaters.

We are having another open day with the disabled flying organisation early in the year, with national speakers.

Ged McCann

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Wyvern (Upavon)

GOOD CROSS-country achievements at all levels in 1999 ranged from novices completing the obligatory 50km to Lasham run (some took more attempts than others) to competition success for Steve Welsh and Roy Gaunt at Enstone and the Inter-Services.

After many years running the bar, Henry Czarnecki has stepped down. Kev Fry has taken up the reins in the clubhouse. Over the winter we are working through the club fleet's Cs of A and, just as importantly, a small but invaluable band of people are getting their hands dirty keeping the MT running, in preparation for an even better 2000.

Gavin Deane

York Gliding Centre (Rufforth)

THE AGM in December elected Colin Richardson (chairman), Paul Hepworth (treasurer) and Howard McDermott-Row (secretary). Mike Cohler continues as CFI, and is a Basic Instructor Coach. Tony Lee is now a Basic Instructor.

We look forward to collecting our latest single-seater – an SZD Junior – in spring.

Trophies were presented at the annual dinner to: Tom Stoker, Ladder trophy and height gain (15,000ft); Richard Kalin, longest cross-country (359km); Dave Wakefield, League Two Ladder; Chris Sturdy, best Silver distance; and Victoria Wiseman, most promising young pilot.

The Chairman's Shield went to Gill Atkinson for services to the club over many years, and the Bill Tyers Trophy to Bob McDougal for midweek tugging.

We have enjoyed using the BGA DG-500 again this winter. At last, the first stage of the runway repairs is complete.

Mike Cohler

Yorkshire (Sutton Bank)

John Ellis also collected a pot at the recent dinner dance. The winter season seems to be off to a good start with several visitors enjoying our wave.

Marian Stanley

BGA Certificates

ALL THREE DIAMONDS

No	Pilot	Club	Date
568	Kosak, Jurgen	Culdrose	30/6
569	Gretton, Roger	P'boro & Spalding	29/10
570	Williams, David	Lasham	6/10

Diamond distance

1-808	Kosak, Jurgen	Culdrose (in Spain)	30/6

Diamond goal

2-2701	Draper, Kay	Shalbourne	1/8
2-2702	Perkins, Andrew	Upward Bound	28/8
2-2703	Cheshire, Steve	Lasham	28/8
2-2704	Draper, David	Shalbourne	1/8
2-2705	Weston, Raymond	Four Counties	24/7
2-2706	Field, Michael	Shropshire	21/8
2-2707	Beale, Leslie	Southdown	21/8
2-2708	Roberts, Luke	Booker	28/8
2-2709	Susanne Zeigler	Soaring Centre	21/8

Diamond height

3-1497	Tucker, Frederick	Southdown	3/10
3-1498	Wright, Allan	Buckminster (in USA)	6/6
3-1499	Loraine, David	Wrekin	10/10
3-1500	Elliot, Yvonne	Portsmouth Naval	29/10
3-1501	Woodhams, Robert	Portsmouth Naval	27/10
3-1502	Arnold, Alison	Bannerdown	29/10
3-1503	Stratton, Nick	SGU	29/10
3-1504	Flannery, Anthony	Burn	27/10
3-1505	Nutley, Stephen	SGU	6/11
3-1506	Gretton, Roger	P'boro & Spalding	29/10
3-1507	Lee, Jeremy	Portsmouth Naval	29/10
3-1508	Williams, David	Lasham	6/10
3-1509	Crozier, Steve	Lincs	6/6

GOLD BADGE

2105	Weston, Raymond	Four Counties	24/7
2106	Edmonds, Michael	Shalbourne	5/9
2107	Knowles, David	Four Counties	3/10
2108	Endean, Peter	Culdrose	9/7
2109	Roberts, Luke	Booker	28/8
2110	Flannery, Anthony	Burn	27/10
2111	Nutley, Stephen	SGU	6/11
2112	Ziegler, Susanne	Soaring Centre	28/10

Gold height

	Edmonds, Michael	Shalbourne	5/9
	Wright, Allan	Buckminster (in USA)	6/6
	Jones, Roy	Lakes	3/10
	Knowles, David	Four Counties	3/10
	Knowles, Frances	Four Counties	3/10
	Seddon, Peter	Lakes	3/10
	Arnold, Alison	Bannerdown	29/10
	Goodison, David	Burn	22/10
	Bell, David	Burn	22/10
	Flannery., Anthony	Burn	27/10
	Bull, David	Lakes	3/11

Gold height (cont)

	Jenkins, Alan	Burn	23/10
	Moss, Hywel	Bristol & Glos	6/11
	Lee, Jeremy	Portsmouth Naval	29/10
	Ziegler, Susanne	Soaring Centre	28/10

Gold distance

	Draper, Kay	Shalbourne	1/8
	Beale, Leslie	Southdown	21/8
	Cheshire, Steve	Lasham	28/8
	Archer, Jane	London	21/9
	Weston, Raymond	Four Counties	24/7
	Field, Michael	Shropshire	21/8
	Knowles, David	Four Counties	21/8
	Endean, Peter	Culdrose	9/7
	Roberts, Luke	Booker	28/8
	Nutley, Stephen	SGU	6/11
	Ziegler, Susanne	Soaring Centre	21/8

UK CROSS-COUNTRY DIPLOMA

No	Pilot	Part	Club	Date
542	Belcher, Peter	Pt1	Cambridge	24/7
543	Martindale, John	Pt1	Lakes	21/8
544	Braithwaite, Neil	Pt2	Lakes	21/8
545	Crowson, David	Pt1	Midland	14/9
546	Bartlett, Anthony	Pt1&2	Rattlesden	1/8
547	Kendall-Torry, Terry	Pt1	Welland	29/8
548	Furness, Barry	Pt1	Norfolk	9/9
549	Buckley, Simon	Pt1	Cotswold	21/8
550	Lee, Jeremy	Pt1	Portsmouth	6/10
551	Warwick, Justin	Pt1	Surrey&Hants	28/8
552	Welch, Graham	Pt1&2	Lakes	1/6
553	Hunt, Colin	Pt1	Lasham	28/8

SILVER BADGE

No	Pilot	Club	Date
10680	Devey, Richard	Soaring Centre	21/8
10681	Compton, Brian	South Wales	12/9
10682	Wilford, Steve	Chilterns	21/8
10683	Barnes, Paul	Shenington	21/8
10684	Belcher, Peter	Kent	28/8
10685	Varty, Robert	Devon & Somerset	1/9
10686	Barker, Ian	Kent	21/8
10687	Crowley, Alan	Yorkshire	9/9
10688	Riach, James	Cairngorm	13/8
10689	James, Andrew	South Wales	4/10
10690	Lee, Jeremy	Portsmouth Naval	6/10
10691	Strarup, Robin	Yorkshire	19/9
10692	Samuels, Andrey	Kent	28/8
10693	Bungen, Claudia	Oxford	26/6
10694	Cook, Michael	Buckminster	12/10
10695	Harvey, Gary	Yorkshire	18/8
10696	Taylor, Ian	Staffordshire	26/10
10697	Beecroft, Ronald	Lasham	28/8

Obituaries

Bill Hill – Highland GC

Bill Hill (1928-1999) began his gliding career at the Royal Navy gliding club based at the former Milltown Airfield, near Elgin. When the navy left Moray, Bill (pictured below in the back seat of a Bocian at Dallachy) was one of the founding members of the Highland GC and, on Milltown's closure, was instrumental in finding the club's new base at Dallachy Airfield, near Spey Bay.



Bill's mechanical skills were much valued. His ideas and ability led to the completion of many projects, including the construction of a winch based on a former Aberdeen double-decker bus, which is still in use 25 years later at the present site at Easterton, Birnie.

Bill was also treasurer for a number of years, and as a flying instructor he passed his skills on to many trainees.

Bill and his wife Margaret, herself a keen non-flying member, were made honorary life members of the club in recognition of their contribution over many years. Bill is survived by Margaret, their daughter Anne, two grandsons and a great-granddaughter.

Steve Young

Dennis James Lawson – Lasham Gliding Society & Midland GC

Dennis James Dawson (1922-1999) flew at Lasham from 1972-1992; previously he had flown at the Midland GC for many years. He worked in the nuclear industry at Risley, Calder Hall and Harwell. He spent four years working at Power Jets for Frank Whittle. Dennis was an enthusiast and great fun and will he greatly missed by all his friends in gliding. Our condolences go to his wife Marjorie and his daughters Mel and Bev.

Tony Mattin

Doug Sadler – The Soaring Centre

It is with a great sense of loss and sadness that we report the sudden death of Doug Sadler (1922-1999).

He joined the Coventry Gliding Club in the early days when were were based at Coventry airfield, Baginton. Doug became an accomplished glider pilot and instructor, flying most types. His trusty old Blanik suited him well for he could only be happy sharing his pleasure with someone else. He was also a keen competition pilot, giving his whole self to it.

On February 2, 1997, he married Jackie Bradshaw, also a club member from the old days. Alas, his happiness was not to last: for several months he had been caring for her after she became confined to bed, requiring constant attention.

Doug will be remembered for his dry sense of humour, and his contribution to debate, which never faltered. A man of principle with a heart of gold.

Lawrie Watts

Failed winch launches

IN RECENT years, winch launching in the UK has become a reliable method of getting gliders off the ground and up to a sensible height even on the shorter strips. Powerful winches, good cable and other purpose-designed launching hardware have contributed to excellent launches and a launch failure rate that at most sites is acceptable, and can certainly make expensive tug aircraft redundant.

Unfortunately, however, winch launch failure accidents continue to be up in the top three of the 20-plus accident cause groups every year. Why?

Take a quick look at some common winch launch failure accident scenarios:

Dropping a wing on the ground run

"If you drop a wing on the ground run of any launch, release immediately," is the best advice. However, is that what really happens? Psychological and habit factors affect all of us after a while, and so pilots and instructors become slow or reluctant to release for a number of reasons. Previous success in dealing with ground run problems of any sort, the low odds on having to release on a ground run, experience of easy-to-control gliders and straightforward launching conditions result in over-confidence and are significant factors in getting it wrong on the rare occasion a wing drop does occur. We've all seen an instructor pick up a K-21 wing during a student attempt at a winch launch – try the same thing in an 18-metre hot ship and you're risking a violently damaging accident. Long grass, of course, can make winching untenable.

Allowing the glider to climb too steeply near the ground

Everyone is taught that if you climb too steeply near the ground and the launch fails, you may find yourself with insufficient height between you and terra firma to attain a recovery attitude and speed. An additional factor, not appreciated by all pilots, is that as the glider accelerates off the ground, the wind gradient gives a small bonus. Imagine now, the same glider 20 or 30ft in the air, a little on the slow side in a marginal recovery from a launch failure descending back down through that wind gradient. The 2-5kt speed loss is significant.

Slow to recognise a launch failure

If the cable or strop hardware parts during the launch, notwithstanding the sudden deceleration, it tends to be reasonably obvious to most pilots that the launch has failed.

The more insidious situation is the gradual power failure (running out of fuel is a classic) or – perhaps even more of a trap for the unwary – the power failure followed by hint of acceleration, followed by further and total failure just as the hopeful pilot has readopted a climbing attitude. Simulating a power failure reasonably high up the launch should be a part of every pilot's training, as should be the advice offered in the BGA Instructors Manual – if the speed is too low, abandon the launch and treat it as a launch failure. Never hang on in hope.

Flutter – it could be you

"Flutter? That's the sort of thing test pilots play around with: never heard of it on a club glider." Really?

A Std Jantar pilot returned to the airfield and decided to carry out a high-speed run at 120kt. As he commenced a gentle pull-up, suddenly there was a thud and the rapid onset of severe tailplane flutter. This was so bad it required all of his attention to even attempt to control it, with both hands on the stick. As he described: "Fortunately, I was already pointing away from the ground!" At 70-80kt the flutter ceased and the pilot was able to regain control and land safely.

Consultation with the repair agent revealed the severity of the damage. A small blemish on the lower surface of the tailplane, caused by a trailer fitting, had been the starting point for a fracture, which had broken the central elevator hinge leading to the rapid onset of flutter. The thud had been produced by the undercarriage when it was jolted out of the uplock and thrown down by the severity of the vibration, causing extensive damage to the mechanism and one of the undercarriage frames.

Undoubtedly, the pilot was lucky; other such events have produced separation of the tailplane, which invariably results in a fatal bunt manoeuvre. It is irrelevant at that stage whether the ground intervenes or the glider breaks up through further structural failure at altitude. In either case, escape is unlikely.

Lessons to be learnt? The pilot handled the incident well: faced with a sudden, unexpected situation he didn't over-react and kept to the basics. This was a thoroughly frightening experience, but having regained control he sensibly assessed his priorities and, having established that the glider was handling sufficiently well, landed safely.

This event also shows how random and sudden the nature of flutter can be: an identical manoeuvre had been performed the previous day without incident.

Although engineering-related, there were no failures in the system and it is emphasised that no-one is to blame in this respect. Wear did exist in the tailplane fittings: a known problem which was being monitored and found within limits at a recent C of A. Prudently, the syndicate had adopted voluntarily a lower VNE, but even so an unusual combination of circumstances nearly resulted in catastrophe.

VNE? I'm sure you can quote me the placarded red line for your aircraft, but have you looked in the flight manual



Over-controlling during low-level launch failures

If a pilot has been brought up to rely on stick positions to fly a winch launch, and 'getting the nose down' is the limit of discussion on recovery attitudes and speeds, then it shouldn't be surprising when that pilot pitches violently into the ground during a low-level launch failure. Practising failures below 50ft is fraught with hazards, but briefings and ballooned landings can convincingly make the point.

These scenarios are just some of many. Although it's impossible to gain training experience of every launch failure situation, discussions and briefings can help fill the gaps.

Let's be clear about this – clubs that have a culture which insists on disciplined launch practices, thorough training and regular launch failure check flying and refresher training for all club pilots have the least number of winch launching accidents.

If you or your club management thinks launch failure training is inconvenient, try an accident!

Pete Stratten

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recently? If you are going to fly at high altitudes (in wave or at a high elevation airfield), try some revision. You will find a table for reducing VNE with altitude (because of the relationship between true and indicated airspeed). If you aren't aware of it, you could be an instant recipe for flutter waiting to happen!

Faced with a similar event, what would you do? Cases of flutter are rare, but do occur. Occasionally they can be related to disconnection of a control surface, which can add further problems in itself. A few moments' quiet consideration of such an event whilst safely on the ground can pay dividends in the future.

Faced with the unexpected, immediate reactions are rarely sensible. Your primary responsibility is always: *Fly the Aircraft!*

Now, when did I last check that tailplane?

Martin Durham

A bitter pill...

VIAGRA pills and stick thermals are not linked, says last October's issue of the Dutch gliding magazine, *Thermiek*. But there is another issue it wants to bring to our attention. Viagra can allegedly influence your eyesight: discerning colours can become difficult, especially the difference between blue and green. This could be interesting when you're trying to land. *Vliegveiligheid*, the monthly safety publication from the Royal Netherlands Air Force, insists on at least 12 hours between consumption and flying.

Accident/incident summaries

by Dave Wright

AIRCRAFT Ref No	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
107	Discus BT Self-sustainer	3691	Substantial	14/07/99 ----	Portmoak	47	None	134

At the start of the winch launch the right wing dropped and touched the ground as the glider accelerated. It proceeded to rotate about the wing tip, the left wing climbed rapidly and the glider cartwheeled, impacting the ground nose first. The canopy and cockpit area were destroyed and the pilot was lucky to escape injury.

108	SZD Junior	4618	Substantial	31/08/99 1205	Challock	65	Serious	21

Following a winch launch the pilot failed to connect with a thermal and, experiencing heavy sink, returned to the airfield low and very fast. An abbreviated circuit was seen and, still flying too fast, the glider was seen to oscillate in pitch down to the ground where several heavy landings caused substantial damage.

109	Std Libelle	1655	Substantial	28/08/99 1800	Oakley Airfield	35	None	75

On a cross-country flight the pilot decided to land out at a strip used by microlights. After a normal approach the glider seemed to drift rapidly to the right and landed with the wing low. As he started to steer it back to the centre of the strip the wing tip hit a straw bail which caused a ground loop and substantially damaged the glider.

110	Pegase	3599	Minor	24/07/99 ----	Near Nympsfield	53	None	2200

The pilot was on the last leg of a competition flight in failing conditions and left it too late before selecting a landing field. With no suitable fields in range he landed on very rough common land and the glider struck a very steep sided bump hidden in long grass. The underside of the nose was split and cracked in several places.

111	Cirrus VTC	1835	Minor	04/09/99 1130	Bowland Forest	54	Minor	12

This was only the pilot's fourth flight on type. At the top of the winch launch the cable back released and as the pilot pushed over the brakes opened. He retracted the undercarriage then became aware of an aural warning. Confused by this he was distracted from his circuit and undershot the glider into a fence – with the brakes still open.

112	Astir 77	2289	Minor	17/07/99 1506	Yeovilton	42	None	28

The pilot was launched to attempt a Silver cross-country flight but failed to contact lift so returned to join the circuit on base leg, keen to re-launch. He was further distracted by an aircraft being moved off the runway and forgot to do his downwind checks. He landed with the wheel up causing minor gel coat damage.

113	SZD Puchacz	----	Minor	--/08/99	Incident Rept	48	None	349

After landing in rain the two crew pushed the glider backwards, downhill towards the hangar. The glider picked up speed and ran away from the instructor and rotated around the wing holder who also could not keep up. The wing swept around, damaging the aileron on a parked winch and the tail on a petrol pump.

114	Astir 77	2289	Substantial	25/07/99 1500	Westbury	34	None	55

While on a Silver distance attempt the pilot became low and had to make a field landing. From altitude the field looked OK but upon landing he found it was very rough and the glider hit one of many potholes. This cracked the main undercarriage frame.

115	SZD Junior	4594	Substantial	15/09/99 1404	Upavon	39	None	7

As there were three gliders and two vehicles obstructing the south landing area the pilot decided to land to the North. After landing, as he rolled abeam the launchpoint bus, a Land Rover pulled out across his track and hit the glider's wingtip.

116	Not Known	----	Minor	28/07/99 --	Wormingford	--	None None	1130 1249

The student flew a good circuit and approach. Then, after starting the flare and rounding out at about 4ft above the ground, he suddenly pushed the stick forward. Before the instructor could react the glider landed heavily breaking the undercarriage casting.

117	LS-8	----	Minor	--/07/99	Incident Rept	37	None	942

The pilot landed parallel to the winch launch run then, leaving the glider, returned to the launchpoint to get help and a tractor. When he returned to his glider he found the next launch cable had fallen across the wing causing minor damage. The next pilot was briefed to allow for drift and all had assumed the glider was clear.

118	Open Cirrus	3602	Write off	15/09/99 1235	North Hill	58	None	53

After thorough check flights and briefings the pilot was cleared to fly his new glider. On his first flight he made a wheels-up landing, was debriefed and was determined to get it right next time. In the circuit he encountered lift so used airbrake to control height. Unfortunately he did not close them and undershot into the boundary trees.

119	N/A	----	None	--/09/99	Incident Report	--		Minor

This ground accident occurred during cable retrieve operations. The normal tractor was u/s and the stand-in did not have a basket for the chutes and strops. It was found that if trailed these caught on a stock fence that had been laid flat. The tractor driver had the chutes etc on his lap when the cable snagged, severing a finger.

001	K-6CR	1341	Substantial	03/10/99	Wormingford	51	None	6.7

The early solo pilot failed to pick up any lift while drifting downwind of the field. He flew back and started his finals at a reasonable height. However, he opened the brakes and then found he was getting low on the glidepath due to the strength of the headwind. He reduced, but did not close the brakes and descended into trees on the approach.

002	Falke	G-BUEK motorglider	Substantial	03/10/99 1250	Tibenham	25 24	Serious None	605 0

The motorglider pilot set up a glide approach with the spoilers open. About halfway down he put the spoilers away with the speed just over 60kt and everything looking OK. Just before flaring the aircraft was hit by a gust and dropped onto the ground short of the runway edge lip. The severe jolt injured P1's back.

003	SZD Puchacz	99	Minor	05/10/99 1700	Bicester	38 49	None Minor	1350 265

This was a Full Cat instructor training flight with P1 playing the part of a lapsed pilot who inadvertently ballooned the landing. P2 should have taken control, levelled the glider while closing the brakes then landed. He did not close the brakes fully so P1 took control but not in time to prevent a very heavy landing.

➢

AIRCRAFT Ref No	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
004	Mosquito	2472	Minor	29/10/99 1400	Aboyne	73	None	1200
The glider was seen to make a normal approach except that the pilot forgot to lower the undercarriage. It landed on the asphalt runway damaging the fuselage, doors and belly hook.								
005	SZD Junior	3847	Minor	22/10/99 1614	Aboyne	41	None	70
The visiting pilot had a series of good site and check flights before flying solo. His circuit and landing were normal and he let the glider run on to the end as per instructions. Unfortunately the combination of a light headwind, a wet runway and wet, ineffective brakes meant he could not stop before running off the end, down a slope into a fence.								
006	K-13	2256	Substantial	23/10/99 1250	Saltby	61 24	Minor Minor	443 0
The K-13 was winch launched in crosswind conditions. P1 turned right to fly a normal circuit but found he had drifted rapidly downwind. He turned straight back to the field to land on the cross runway. On final approach he saw another glider being launched across his path. The cable fell across the airborne glider's tail, ripping it off.								
007	K-13	3550	Minor	13/10/99 1549	North Hill	53 43	Minor None	1203 0
The instructor set up a normal approach to the hilltop site. It then became apparent that the sink rate was much higher than anticipated so they dived to penetrate before pulling up to clear the ridge. This was not possible and the glider was stalled onto the upsloping undershoot area.								
008	K-7/10	----	Minor	--/08/99	Incident Report		None	----
Various pilots had reported that this glider had tended to roll right on the aerotow. It was getting worse so it was grounded and carefully inspected. The ailerons were removed and the fabric stripped off. A substantial number of rib glue joints had failed and an old repair was coming unglued. Club asked any unusual handling is reported promptly.								

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 April-May issue of *S&G* is **March 3** after which any adverts received will be published in the following issue.
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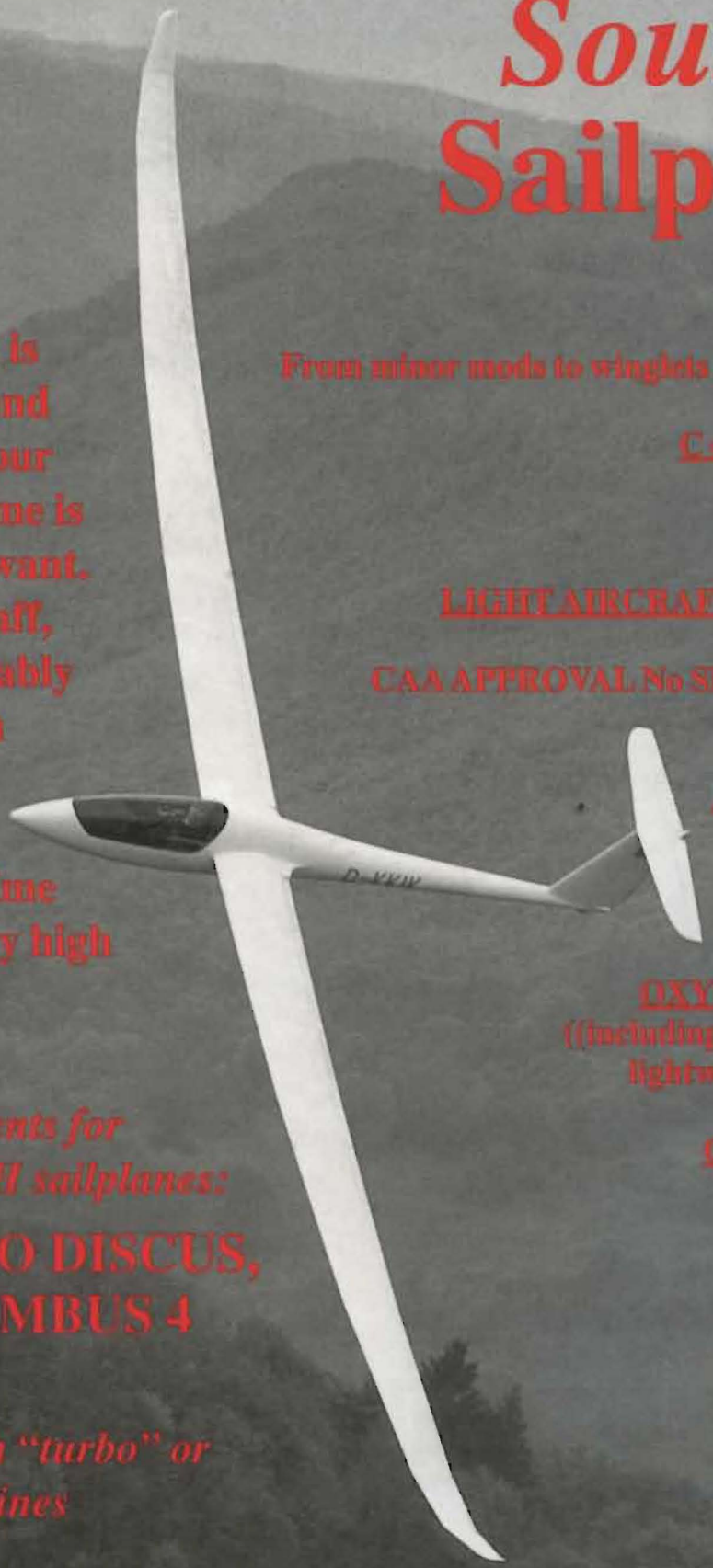
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