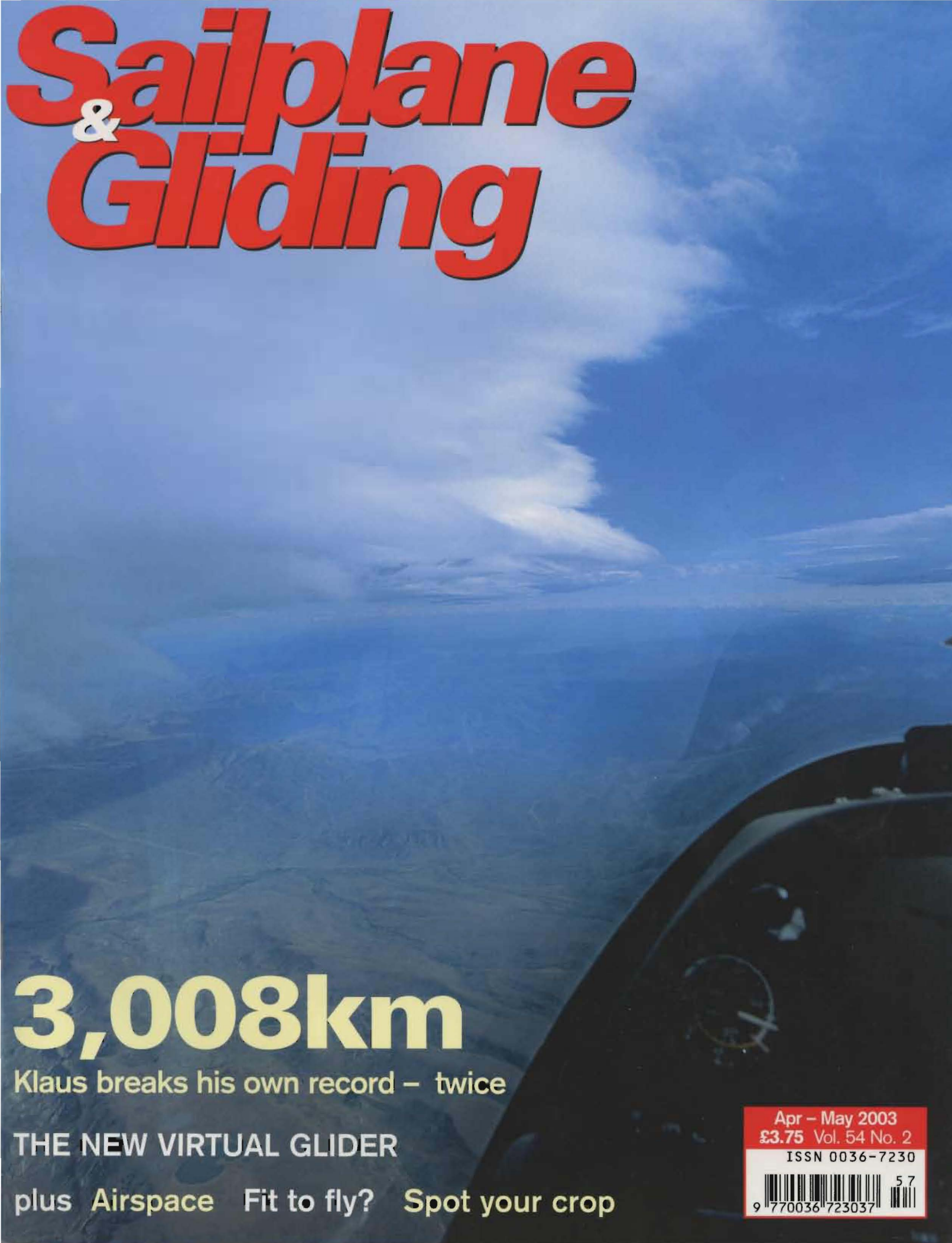
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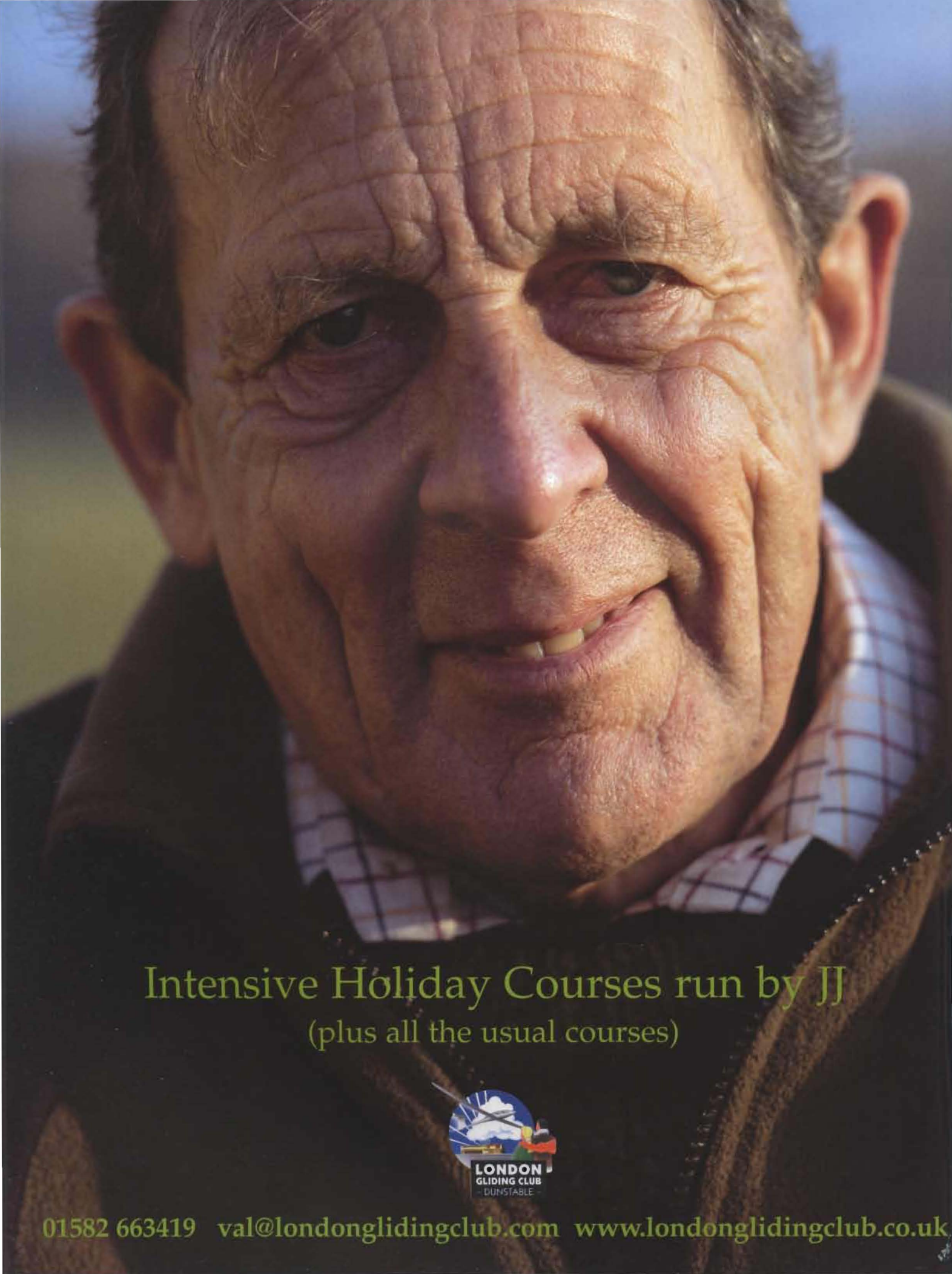
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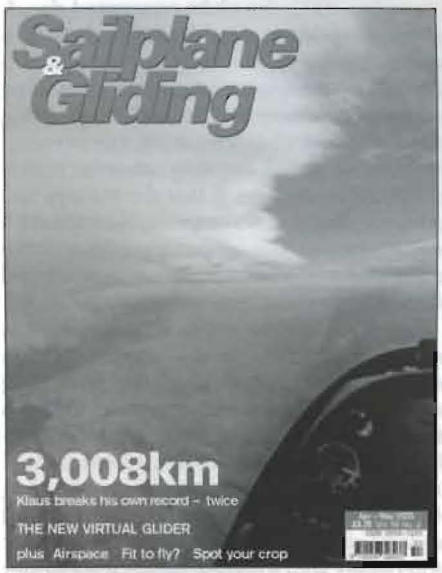
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This picture of an awesome lenticular in South America was taken by Gerhard Marzinzik of Germany's Aerokurier. *He went there to last winter to fly with world distance record holder Klaus Ohlmann. Why don't I get assignments like that?*

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News in brief

Juniors: two-seater places will be available at the Junior Championships in 2003, at Nympsfield. You need only be under 26 and keen. To apply for a place, write to Dave Bullock at the BGA or email *bullockda@talk21.com* by April 30, 2003

IGC decisions: as we went to press, minutes for March's International Gliding Commission meeting were not yet available. It voted, according to *www.glidingmagazine.com*, for Sweden to hold the 2006 multi-class Worlds and for Germany to hold the third Women's Worlds. The concept of a new record class for ultralight sailplanes was approved. New Zealand's John Roake earned gliding's highest award, the Lilienthal Medal. Tor Johannessen (Norway) and Larry Sanderson (who has recently resigned as secretary of the Soaring Society of America) were re-elected to the volunteer posts of President and Secretary respectively. Bob Henderson (New Zealand) was re-elected as First Vice President and Eric Mozer (USA), Tapio Savolainen (Finland), Brian Spreckley (UK), Yaroslav Vach (Czech Republic) and Roland Stuck (France) as Vice Presidents.

AAIB reports: the February 2003 bulletin of the Air Accidents Investigation Branch has reports about the collision between a parachutist and a Schleicher Ka-8B (FKJ) at Hinton-in-the-Hedges in June 2002; and of the collision between a Piper PA-25-235 Pawnee G-ASLK and Std Cirrus GAL at Aston Down in September 2001. For the reports, see *www.aaib.dft.gov.uk/bulletin/bulletin.htm*

Airports paper: the UK Department for Transport has published a revised paper on the future of air transport in the South-East as part of the nationwide consultation on aviation strategy to 2030. The new paper was prompted by the High Court's decision last November that the possibility of development at Gatwick should be considered. The consultation, originally due to end in November 2002, has been extended until June 30, 2003. *www.dft.gov.uk*

Centenary: The Royal Aeronautical Society and the Shuttleworth Trust are holding a Centennial Garden Party and Flying Display on June 29, 2003 at Old Warden Airfield, Biggleswade, Beds. To buy tickets, call +44 (0)1767 627100 or +44 (0)1767 627288.

New website: the White Planes picture co. – whose photography often graces S&G's covers and pages – has an excellent new site: *www.whiteplanes.com*

NOTAM: for the latest news on the problems with the NOTAM website run by NAS at *www.ais.org.uk*, see *www.telecall.uk.com/ais/news1.htm*

Lottery winners: The winner of the January draw of the BGA 1000 Club Lottery was P Ashurst (£42.25) with runners-up RJ Harding, RH Dixon, M Wilson, P Fincham and AD Mattin (each winning £8.45). The winner of the February draw was G Lawley (£42.25), with runners-up S Duerden and L Hood (each winning £21.23).

Three fatalities already this year

THE BGA is very sorry to have to report the deaths of three pilots in two gliding accidents in the UK in February. Without pre-empting the findings of the official investigations, winch cables were a factor in both cases.

At Bowland Forest GC, Martin Moss and David Rukin were in a motorglider that apparently picked up a cable on take-off, and subsequently crashed. The AAIB is investigating. At Derby & Lancs GC, a two-seater was in collision with a winch cable that was launching a second glider. The instructor and the pilot of the glider that was being launched both survived, but the P2 in the two-seater, Dominic Russan, did not. The BGA is investigating. As we await the investigations' outcome, it seems timely to remind all pilots – of gliders, motorgliders or indeed other light aircraft – to beware of cables, on the ground or in the air. They are lethal.

STEVE Jones (right) is being ranked by the IGC as one of the world's leading racing pilots Steve, the reigning 18-Metre World Champion, lies second in the new seedings after Italian Giorgio Galetto. Germany has five pilots in the top 20, France has four and Britain has three (9th, Mike Young; 12th, Dave Watt). Six more Brits in the top 50 (27th, Alister Kay; 33rd, Peter Harvey; 35th, Richard Hood; 36th, Martyn Wells; 37th, Sarah Steinberg and 38th, Andy Davis) show the breadth of British talent in international racing. The new system compares pilots in international and national contests and is updated after each. http://rankings.fai.org/gliding/



More glider pilots and more badges

TARGETS for membership and sporting achievement in 2002 that were established under the BGA's strategic plan have mostly been met or exceeded, it was announced at the BGA weekend in February.

Goals had been met for total membership (target 9,000, achieved 9,166) and women members (target 725, achieved 823) as well as for Silver Badges (target 180, achieved 179), Gold Badges (target 50, achieved 64) and Diamond qualifying flights (target 125, achieved 156).

The actual numbers for Silver and Gold Badges and Diamond flights in 2002 were, encouragingly, between 140 and 225 per cent above the 2001 baseline. It is possible, however, according to Strategic Planning and Finance sub-committee member Diana King, that the foot-and-mouth outbreak in 2001 distorted the results in some way – either by lowering the baseline figure or by creating a "catch up" effect the following year.

The results for early achievements did not beat the targets set. These were: first soloes (target 600, achieved 517); Bronze Badges (target 300, achieved 252) and Cross-country Endorsements (target 250, achieved 233). These may reflect the membership decline of previous years and, presumably, the difficulty of motivating and retaining members at the early stages of their flying career.

It is worth noting, though, that even these totals for early achievements represent increases of between 107 and 122 per cent on 2001's figures.

Don't miss out on BAE bursaries

THE British Gliding Association is pleased to announce that some 130 BAE Systems bursaries have been awarded to undergraduates studying in aeronautical engineering and related aviation disciplines. The selection was made by the club committees of the 16 University clubs participating actively in the scheme.

At a meeting called by the BGA in December 2002, the clubs concerned decided that the bursary should take the form of a cash subvention to each bursary-holder's club flying fee account, thus providing not only an incentive to build up flying experience but also smoothing out some of the unevenness of the original subscription subsidy. The intention is that the bursary will run for a period of three years, during which time it is hoped that the participant will make substantial progress through solo, Bronze and Silver stages.

One of the most difficult problems has been to establish a reliable communication link with the individual clubs, something which is continuing to occupy the BGA's attention. University clubs whose membership contains students studying aeronautical and other engineering disciplines, including electronics, systems engineering and physical sciences are invited to register their club details with the BGA Office in Leicester in time for the 2004 round of awards at the end of this year.

Peter Hearne
BGA Vice President

News in brief

World Juniors 2005: The BGA presented its bid for the Junior Worlds to be held at The Soaring Centre, Husbands Bosworth, in 2005, to the International Gliding Commission in March. At the time S&G went to press, detailed negotiations were ongoing.

Laws and Rules for Glider Pilots: Following the amendment of two Op Regs at the BGA AGM, the revised *Laws and Rules* is due to be published soon.

Sub-committee chairmen: following the AGM, the new Executive Committee re-appointed the existing sub-committee chairmen, with the exception of John Hoskins. He has chosen to stand down from the Safety Commitee to return to the volunteer post of BGA Chief Accident Investigator, which is being relinquished by Colin Short because of his other commitments. Colin remains a BGA Accident Investigator. Kevin Moloney, CFI of Cambridge GC, takes on chairing the safety committee. The other sub-committee chairmen are Max Bacon, John Bradley, Ron Bridges, Marilyn Hood, Patrick Naegeli and Carr Withall.

BGA Waypoints List 2003: the BGA list has been formatted in MS Excel (the word processing format previously used has been dropped). Sorting by region or in any other way should be easier than before. Also available is a straight list of points with hard returns between fields (DOS format, if you like). New points were asked for in the north and west of Scotland, to aid wave flying. The BGA list now has several points between Inverness and Wick and also from Ullapool down to the Isle of Skye. Other new points are in the Aboyne region, north of Manchester near Bowland Forest GC – and St Catherine's Point on the Isle of Wight. Access. the list via the BGA website or direct at *http://users.iclway.co.uk/tim.newport-peace/turningpoints.htm*

BHPA: The British Hang Gliding & Paragliding Association has made a 1,000-Euro donation to Europe Air Sports, the umbrella body representing recreational flying at a European level, to support the employment of further paid staff. It is urging other air sports governing bodies and individual pilots to follow its lead. In response, BGA Chairman David Roberts said that the BGA fully recognises the issues raised by the BHPA – and the severe demands placed on Europe Air Sports volunteers in rapidly-changing regulatory times – and will be considering its response in the near future.

621 VGS: if any ex-members would like information about events marking the 60th Anniversary of 621 Volunteer Gliding School contact Neil Payne on 01454 412954 or visit *www.621.vgs.co.uk*

Apologies: to Dukeries GC, for the editorial oversight that meant their site wasn't marked on the map of airspace changes printed on p5 of the last issue, and to Wolds GC, for publishing the wrong dates, which were supplied to *S&G*, for the Pocklington two-seater competition.

Keeping you informed

BY THE time that you read this, spring should be in full flow and, hopefully, the prospects for a great soaring season will be good.

2003 is an important year for international competitive gliding with no fewer than three sets of world championships being held. This provides gliding with a tremendous opportunity to market itself and we will be going all out to achieve as many column inches and also, hopefully, radio and TV minutes as possible.

I will return to this theme in my next column in the June-July issue of *S&G*. For the remainder of this article, I would like to concentrate on another very important aspect of aspect of communications that concerns the BGA – that of communicating with its membership. Technically, the BGA is an association of its member clubs. Thus, it is the clubs who are BGA members, not individual flying members. The formal route for communications is from the BGA to the club, with the club being responsible for disseminating information to its membership as appropriate. The BGA Executive has, for some time, been keen to improve the lines of communication with individual pilots. I would like to describe a couple of the initiatives that have or are about to take place.

The BGA website – *www.gliding.co.uk* – continues to go from strength to strength. If you have not looked at it recently, go in and have a browse. There are sections devoted to technical matters, safety, and competitions as well as all the latest news from the BGA. There is in-depth information available for download, including datasheets on more than 140 different glider types, all airworthiness directives, the competition rule book, all BGA forms and a lot more.

Whilst the website is a comprehensive repository of information, it does suffer from one drawback – until you go in and look, you don't know what's there. Search engines, such as Google, help to find things quickly, of course, but the onus is still on the reader to "pull" information from the web.

The BGA Newsletter has now been published for about a year. This is a regular monthly publication that is designed to alert pilots to news – both from the BGA and from external bodies – that is relevant to them. In many cases, the Newsletter refers readers to the web for more in-depth information than it is appropriate to include in a newsletter. The Newsletter is sent out to all clubs and, hopefully, is displayed on all club noticeboards. As part of the BGA's internal communications strategy, we now want to go a step further in pushing information out to individual glider pilots. Obviously, it is impractical to post, or even email, all documents to all UK pilots – most are of little relevance to the majority of readers. I have no interest in airworthiness directives for LS8s, for example – I wish I did, but I've still got a bit of persuading to do!

As soon as we have the technology in place, possibly by the time you read this, we will be enabling individuals to subscribe to an electronic version of the BGA Newsletter. This will be emailed to all subscribers as soon as it is published. Readers can then link directly from the email to more detailed information held on the BGA and other websites. In this way, we feel that we can bring important items to the attention of all in the UK gliding community quickly and effectively. Once the system has been proven for the Newsletter, we intend to extend the scheme to allow subscriptions for other classes of information, such as safety bulletins, etc. You will be able to manage your subscriptions via the BGA website. The paper version will, of course, continue to be sent out to clubs.

I hope that this will be a useful new service to glider pilots.

Keith Auchterlonie
BGA Communications Officer

Dates for your diary

Dan Smith Memorial	Dunstable	30 Mar-31 Mar
AEROFAIR 2003	Friedrichshafen	24 Apr–27 Apr
Overseas Championships	Spain	5 May–16 May
Women's Worlds	Czech Republic	18 May–1 Jun
VGC National Rally	Sutton Bank	24 May–31 May
Aerobatic Nationals	Saltby	30 May-2 Jun
"Turbo" Regionals	Bidford	14 Jun–22 Jun
Regionals	Booker	14 Jun–22 Jun
Classic & Vintage Rally	Camphill	21 Jun–28 Jun
Regionals	Hus Bos	28 Jun–6 Jul
Junior Worlds	Slovak Republic	5 Jul–19 Jul
World Class Worlds	Slovak Republic	5 Jul–19 Jul
PFA Rally	Kemble	11 Jul–13 Jul
Regionals	Tibenham	12 Jul–20 Jul
18-Metre Nationals	Tibenham	12 Jul–20 Jul
Competition Enterprise	Sutton Bank	12 Jul–20 Jul
VGC Rendezvous Rally	Oripaa, Finland	18 Jul–21 Jul
VGC International Rally	Jämi, Finland	22 Jul–31 Jul
28th Worlds	Leszno, Poland	19 Jul–10 Aug
Regionals	Lasham	19 Jul–27 Jul
Standard Class Nationals	Hus Bos	26 Jul–3 Aug
Regionals	Sutton Bank	26 Jul–3 Aug
Inter-Services Regionals	RAF Bicester	9 Aug–17 Aug
Club Class Nationals	Lasham	9 Aug–17 Aug
Open Class Nationals	Lasham	9 Aug–17 Aug
Regionals	Dunstable	16 Aug–24 Aug
Two-Seater Comp	Pocklington	17 Aug–24 Aug
K-21 Competition	The Long Mynd	16 Aug–24 Aug
15-Metre Nationals	Booker	23 Aug–31 Aug
VGC Slingsby Rally	Sutton Bank	23 Aug–31 Aug
Regionals	Gransden Lodge	23 Aug–31 Aug
Junior Championships	Nympsfield	30 Aug–7 Sep
Mountain Soaring Comp	Deeside	7 Sep–13 Sep



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BGA COURSES FOR 2003

WE HAVE VACANCIES ON THE FOLLOWING BGA COURSES DURING APRIL, MAY AND JUNE:

BASIC INSTRUCTOR COURSES:
BI 1 26 – 30 May
Bicester Airfield
BI 2 2 – 6 June
Bicester Airfield
BI 3 30 June – 4 July
Bicester Airfield

ASSISTANT INSTRUCTOR COURSES:
IC 4 12 – 20 April
Bicester Airfield

CAA MGIR COURSES:
MG 1 19 – 23 May
Bicester Airfield

SOARING COURSES:
SC 1 28 April – 2 May
Rivar Hill Airfield
SC 2 5 – 9 May
Snitterfield Airfield
SC 3 19 – 23 May
Kent Gliding Club
SC 4 26 – 30 May
Peterborough & Spalding
SC 5 9 – 13 June
Tibenham Airfield
SC 6 16 – 20 June
Camphill Airfield
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web www.gliding.co.uk

Your letters

Have you seen each other?

MIKE Fitzgerald, in the Winter 2000/2001 *Gliding Safety* newsletter, makes the following suggestion:

"Perhaps the term 'effective lookout' has in some way lost its punch and if we switch to the term 'collision avoidance' that might just reinvigorate pilots' attitude to this whole vital topic of lookout. Equally, the term 'near miss' is a bit of a misnomer when what we really mean is 'near hit'."

An incident this February leads me to think that there are more, and more cogent, reasons to adopt his suggestion than simply reawakening interest in a topic or term which has perhaps become somewhat stale.

It was a delightful day on Bishop, spring before the calendar allows, easy ridge soaring, with hints of thermal and wave and perfect visibility, except possibly into sun, and even that wasn't bad. It was moderately busy. The student and I were working on Bronze when we both remarked on the high speed of the solo glider of a type I shall call XXX. We agreed that there was no indication that its pilot had seen us. No avoidance was required (we were already pointing away) but it was one of those occasions when you decide to keep well aware of where he is and what he's up to.

We continued with the Bronze work and were heading away from the ridge when the XXX reappeared, possibly as much as 50ft above, probably less, and tracking precisely for the junction of our right leading edge with the fuselage. I rolled 10° left, bunted to 80kt and resumed breathing when no untoward noises were heard.

The timing was early enough for it to act in part as a signal to the XXX that we were far from happy, but if it had been a fraction of a second later there would have been no room for our rising wing.

Back at the launchpoint, polite advice was given to the pilot of the XXX: it was, however, fairly emphatic. His defence included, on three occasions: "But I'd been watching you all the time".

The occasional student fails to do any lookout detectable from the seat behind. Often the head moves excessively: looking at the same piece of sky three separate times in the course of two seconds. What can possibly have changed? What's happening to his own aircraft meanwhile?

Most commonly they religiously call aircraft which are high or low or distant and fail to see the one which is level and approaching.

Occasionally, the student is "situationally aware", calls when he needs to and not when he doesn't and handles his own aircraft in a way which makes apparent to others his intentions and his awareness. Happy the instructor behind him/her.

I may be wrong, but it does seem as if the XXX pilot reckoned he'd conformed to his instructors' teaching, done a good lookout, succeeded in seeing the conflicting aircraft and then simply chose not to avoid, or at least not sufficiently for this experienced pilot. I reckon Mike Fitzgerald is right.

Ian Trotter, EDINBURGH, Scotland

PS: Pete Stratten some time ago suggested making "Canopy" the last item in the pre-flight check CBSIFTCBE. In practice, in winter, we do C last to minimise misting; in summer, we do C last because it's too hot until we get moving. Regardless of season, in the canopy is open, there's less risk of some ignorant busybody outside the aircraft nagging you to launch when you're in the middle of E. A closed canopy as an indicator of readiness for a cable has got to be helpful



Roy Ferguson-Dalling says that the trial lesson patter should be changed to help the new pilot. See Perhaps I'll take up golf, *below (the* **White Planes** *picture co.)*

Pre-flight checks

LAST week I flew with a couple of chaps who had received training at the super seaside cliff-top known as Perranporth. Down there they have been teaching not C B S IF T E (I usually say the last as Eeeee!) but C B S I F T Eeeee C B. Now isn't that how we usually do it, anyway, to avoid steaming up the canopy while the student struggles to articulate his intentions should Eventualities (action in case of) be called upon? I've been teaching it that way ever since; how about making it official?

Mary Meagher, OXFORD, Oxfordshire

Perhaps I'll take up golf

HOW much longer are we going to train our Basic Instructors to try to teach the effect of the elevator in the current fashion?

Imagine the scene. A prospective new member arrives at the airfield and is greeted warmly and enthusiastically (odd). They are allocated an instructor and glider within an hour (even odder). They then receive a professional and comprehensive briefing on the history of gliding (Part III), and have explained to them how the controls work, handover/takeover control procedure, where the sick sack is and how to evacuate the aircraft in case of collision, lightning strike, plague of frogs, and so on.

Our novice enthusiast is strapped down, told not to touch anything red or yellow unless we scream at them, given a final brief on the sensations to be expected during the launch – and off we go heavenwards.

After a good look around at the local landmarks, places of interest, punter's house and so on, we get to the teaching phase.

Instructor: "So, would you like to see how the controls work then?"

Student: "Oh yes, please."

I: "Right – put your right hand lightly on the stick – I am still flying the glider. Look ahead – see where the horizon cuts through the canopy near that bit of string and how much ground you can see over the nose.

"Now, if I move the stick centrally forward, the nose goes down, the horizon goes up, we can see more ground ahead. The airflow noise increases and so does the speed. Look ahead again, if I move the stick centrally back the nose rises, the horizon goes down and we see less ground ahead, both the airflow noise and speed reduce. If I hold the nose up here too long it goes down all by itself. In fact, that was a gentle stall."

"Now, would you like to try that?"

S: "Oh yes, please."

I: "You have control."

S: "I have control."

I: "Move the stick forward like I did."

So, the nose goes down and, with no other inputs to the stick, it comes back up then goes down again – up – down – and so on.

By now, keen novice is beginning to think that they are an idiot and have no sense of co-ordination, is starting to feel sick, forgets where the sick bag is and so feels extremely uncomfortable.

Our seasoned BI takes control and, as we are down to circuit height, tells not-so-keen novice how well they did, warns them there may be a bit of a bump when we land, pulls off a greaser and stops in the appropriate place on the airfield.

Instructor and student get out and the instructor asks what the student thinks so far. Not-so-keen student, very polite, mutters something like: "Yes, very interesting."

Our instructor cannot understand where all the enthusiasm has gone.

Our student thinks: "Perhaps I'll take up golf," shakes our instructor's hand and leaves.

So, what went wrong?

Perhaps, if our BI had been taught to teach the effect of elevator slightly differently, the outcome may have been different.

I: "Right – put your right hand lightly on the stick – I am still flying the glider. Look ahead and see where the horizon cuts through the canopy, near that piece of string. Notice how much ground you can see over the nose.

"Now, if I move the stick centrally forward the nose pitches down, the horizon goes up, we can see more ground ahead, the airflow noise and speed increase. *To maintain this new attitude I need a steadily-increasing forward pressure on the stick."*

Roy Ferguson-Dalling, *via email*

Forgotten Pots

IF you fly from Sutton Bank, Dunstable, Nympsfield, Husbands Bosworth or Swanton ➢

Morley then you might like a nice pint tankard to drink your beer from. Behind the bar at Camphill is a collection of tankards, engraved with each of the above club names. They have been there since – well, who can say?

The tankards were originally provided to encourage cross-country flights between the clubs. The idea was that each time a pilot flew from one club to the other then the pilot could take the "pot" home to reside behind his club bar and to be used by the pilot until it was collected by the opposition. Unfortunately I think that the last Camphill pilots to collect the various pots have probably passed away, drunk too much beer to remember that they collected them or given up gliding.

It would seem to be a good idea to get the challenges going again. There is a similar Beer Tray arrangement with the Mynd and the Tray sometimes changes hands several times a year. What can be more satisfying for an inexperienced cross-country pilot than a task with a welcoming cuppa and a trophy at the end of it? If you think you can hack it then why not take a launch and try to fly home again too? It can be good fun without being too serious.

So come on, pilots, and collect your tankards from Camphill. The soaring season is almost upon us and our embryo pundits need some goals.

Mike Armstrong, CFI, Derby & Lancs GC

When the elastic band breaks

WHILST starting the engine on a D-400 self-launcher prior to take-off, I caught a flash of something black passing away behind the wing of the glider. The engine was shut down immediately and to my surprise, the propeller continued to rotate. I instinctively applied the prop-brake and the prop continued to rotate.

What had happened of course, was that the toothed drive belt from the engine to the propeller shaft had broken. It occurred to me that had this happened in the air, there would have been a number of "GOTCHA" situations, which would have considerably added to my workload, particularly if I had started the engine to avoid a field landing.

Let's go back to the ground. The glider was facing into a wind of about 12kt and the prop continued to windmill until I was able to get out of the cockpit and apply a fairly forceful push on the prop hub with my hand. Holding the prop in the vertical position, I was then able to lower the engine.

The problem with the DG-400 – and possibly other self-launching gliders where either the whole engine or propeller assembly is raised – is that if the prop brake acts on the engine crankshaft (as it does in the DG-400), there is no way to stop rotation of the prop if the drive belt breaks. You are then faced with the problem of how to retract the engine. Even flying near the stall, the revolving prop would seriously damage the engine bay doors or fuselage as it went down. Retraction is not really an option.

When we fly the DG-400 it is treated as a sailplane and the engine is used as a last resort to avoid a field landing. A last resort means looking for suitable fields at 2,000ft AGL, followed by an engine re-start when a suitable field has been selected. The engine always starts... but you never know and it's better to be safe than sorry! Imagine the scenario if the following happened:

On a cross-country; down to 1,500ft AGL – no likely-looking clouds or thermal sources about – better think about starting the engine – couple of fields over there that I might get into.

So you jack up the engine, press the starter and PING, the elastic band breaks! Now you are in deep trouble, because you don't know yet that it has broken. The engine is running very well. You can see the prop easily in the mirror, but it is difficult to see the drive belt, especially if the sun is shining in the mirror. You open up the engine and ease back a little into the expected climb. The engine is racing a bit, but the prop is turning over OK.

However, you are not climbing. Quite the reverse. The variometer is showing a fair old rate of sink!

Thinks: "Must get the engine down". So you close the throttle, switch off the engine and apply the prop brake as you always do. This is where "GOTCHA" getscha. To your, by now extreme, consternation you notice the prop still whizzing round however hard you pull on the prop brake. It is at this point it might dawn on you what has happened and that you cannot lower the engine.

Whilst all this has been going on, you have been losing height quite quickly. The engine is up in the slipstream, but the glider is now driving the propeller. Perhaps the manufacturers could tell you if this increases the drag even more; my bet is that it does. Those fields that you saw from 1,500ft look a lot further away now and you start leaning forward on the straps. It's the stuff of nightmares, isn't it?

In the maintenance manual for the DG-400, the propeller drive belt is not given a life period to renewal. This is surprising, as the one in your car engine is.

What is more disconcerting is that the drive belt is always carefully inspected at each DI. On this particular day although it showed no sign of undue wear or cracking, it failed almost immediately the engine was started. Breakage of the prop drive belt is probably an unusual occurrence; I hope the above will give other self-launcher pilots food for thought, particularly regarding the safe height for an engine start when the lift runs out.

John Collins, *via email*

For more on engines and safety, see p43 – Ed

It's best to wait until you're 16

I RESPOND to the letter from Taz Hocking, regarding his plea for the solo age to be lowered from 16 to 14, in line with Germany (*Solo at last*, p7, February-March 2003). When I first started gliding, my son Michael was 10. By the time he was 11, instructors were saying that they were in the back seat "as a legal requirement only". In other words, if he were old enough they would be happy to send him solo on his own. He had started flying on a semi-regular basis at the same time as I. He soloed on his 16th birthday.

Now as an instructor, a parent and a grandparent, would I then let anyone loose at the age of 14? I certainly would not. I might consider it if I knew that the weather would not change during a flight, that there would be no-one else in the circuit during the time the 14-year-old was in his/her

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SC 3	19th May – 23rd May 2003	Kent Gliding Club
SC 4	26th May – 30th May 2003	Peterborough & Spalding
SC 5	9th June – 13th June 2003	Tibenham Airfield
SC 6	16th June – 20th June 2003	Camphill Airfield
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course no.	date	venue
SC 9	14th July – 18th July 2003	Bicester Airfield
SC 10	21st July – 25th July 2003	Bicester Airfield
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circuit, that absolutely nothing could happen to influence the flight in any way. It isn't the flying of the aircraft that would lead to an incident; it is the circumstance that is unforeseen, which would be more likely to cause the 14-year-old to go into overload and a disaster as a result of his/her inability to cope.

There has to be a minimum age, so why is 16 unreasonable? At Burn we have a good stock of junior members, some of whom have soloed at 16, some who will I'm sure when they are 16. I see no reason to change this. Before flying alone, a person needs not only a level of skill and ability, but also and just as important a level of maturity and the ability to cope with the unexpected that few 14-year-olds would possess – and this is not intended as derogatory towards the young.

The notion that lowering the age to 14 would somehow keep some from committing vandalism is ridiculous; there always unfortunately will be vandals regardless of what is offered to occupy their time. I do not believe that lowering the solo age will alter national crime statistics.

In conclusion, then: congratulations, Taz, on becoming a pilot at your tender age. You are very lucky to have had the opportunity to enjoy our sport, but if the Germans or any other country wants to let their 14-year-olds fly solo, then that is a matter for them. I maintain that there is nothing at all wrong with waiting until 16 for that momentous day to arrive. Moreover, be assured that along with the extra two years you have had to endure, comes a very valuable two years of experience which may be invaluable should the need to cope with some eventuality present itself to you during some flight or other.

When Michael soloed I couldn't have been more proud. I now have two granddaughters and if they decide to take up our sport then it will be a very proud moment indeed when I send them both solo, but it should be on their respective 16th birthdays, and not two years before.

Tony Flannery, SELBY, Yorkshire

Yet more history

SEEMS a wave of nostalgia is sweeping through the gliding movement.

Over the past year members of Yorkshire GC have been gathering together photos, flying logs, documents and publications, which will form an archival record of events at Sutton Bank since the club was formed in 1934.

Can I appeal to anyone out there who would be prepared to donate, lend or have copied any items that would add to our collection please?

Naturally any stories attached to these items will be very welcome.

We have multiple duplicates of *Sailplane & Gliding* from 1959 onwards which we would be happy to make available to genuine collectors.

Phil Lazenby, *lazenby98@onetel.net.uk*

Did you land at Oak Farm?

DURING last summer a gliding competition took place at Norfolk GC. One unfortunate result of this was that on one day five sailplanes landed in one field on Oak Farm just across the border in Suffolk. The farmhouse and buildings are on a rough bearing of 245° from the centre of Diss.

The choice of field was reasonable, since the surface was firm and covered in stubble, with a gradient uphill from north to south, and a convenient, gated access to the road on the north side.

Since the field is within about 12 miles of Tibenham, the retrieve vehicles and crews arrived quite soon, and it was at about this time, too, that the farmer himself arrived.

However, he was not at all pleased to see that the crews had driven the retrieve cars, with trailers still attached, on to the field and up to their respective sailplanes.

No apologies were received, and as he told me later he was only sorry that he had not thought to bring a tractor to block off the exit and charge them £20 each.

It goes without saying that people who fly sailplanes will, in future, be most unwelcome in this part of the world.

RG Gregory, DISS, Norfolk

Please send letters (marked "for publication") to the editor at helen@sandg.dircon.co.uk *or the address on p3, including your full contact details. The deadline for the next issue is* ***April 15***

Motorgliders and training

DEREK Piggott makes an excellent case for the use of motorgliders for early training for gliding. He also makes the point that with the advent of the NPPL the route to progress to a power licence and thus an SLMG/TMG rating has become less onerous.

However, in order to instruct gliding in a motorglider one also needs to be a gliding Full-rated instructor, thus severely restricting the number of instructors available to give this training and therefore the use a motorglider can get within a club that has one. There are a lot of Assistant-rated instructors with SLMG PPLs or PPLs with TMG ratings who could make very good use of a motorglider for gliding instruction, as outlined by Derek. Indeed, a large part of their instructors' course would have been done in a motorglider demonstrating those very exercises.

An Assistant Instructor can instruct the same exercises in a glider so why not in a motorglider simulating a glider? It seems that the main difference between a Full-rated instructor and an Assistant-rated instructor is the ability to test, for example, doing the Bronze flying test. Within the BGA MGIR syllabus are field landing and field selection, so why not have a two-tier system in the MGIR as in gliding? Only a full instructor would be able to test those exercises.

If Assistant Instructors could attain a BGA Motor Glider Assistant Instructor rating it could enable much better use of motorgliders in clubs, speeding up and improving the gliding training process and taking advantage of the wealth of talent and experience of Assistant Instructors.

John Northen, ST LEONARDS, East Sussex

Bob Pettifer, chairman of the instructors committee, replies: It has been our policy to restrict motorglider instruction to Full cats for two reasons. Firstly we have a check on the capability of the instructor from outside the club and, secondly, it serves to ensure standardisation of instructor skills. Our experience when carrying out Full cat tests indicates a degradation of instructor skills such that only around 50 per cent of candidates are successful. If an Assistant Instructor cannot meet the Full cat criteria and take the test then should we allow him/her to add more instructing opportunities? We do review this regularly at instructors committee meetings but at the moment we feel the extra opportunity of increasing instructor skills is necessary

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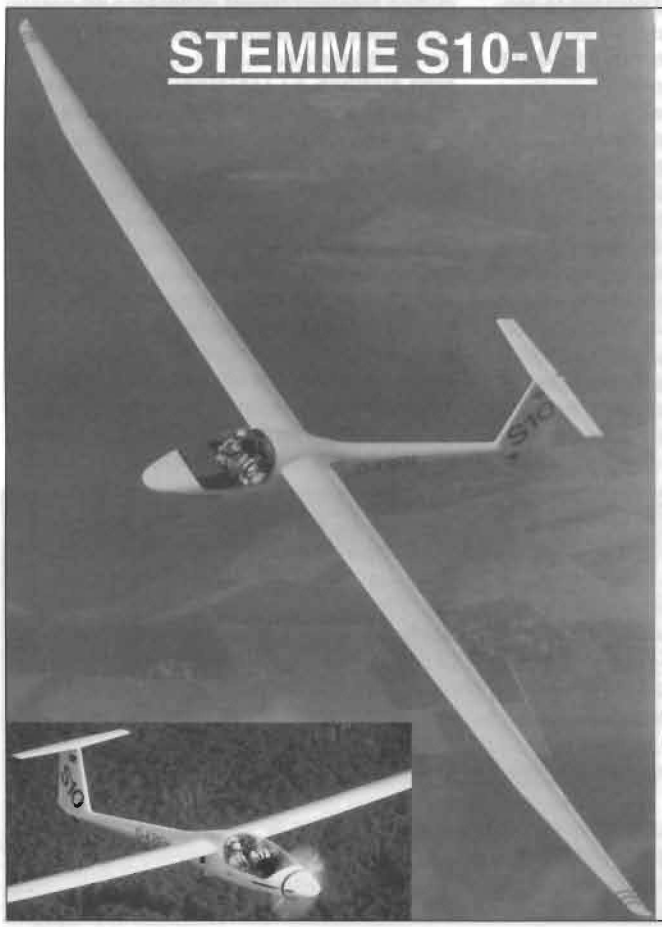


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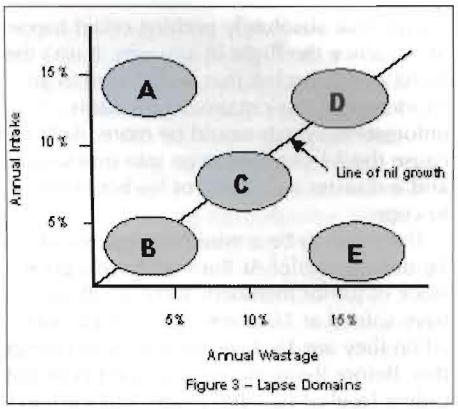


Figure 3 – Lapse Domains

Roger Coote describes the interim results of two projects investigating the problems of membership retention

THE problem has been around for years. BGA statistics show a steady decline in membership – 16.5 per cent or 1,700 full flying members since 1990. Gliding in other countries has been similarly affected. The BGA's "Project 2000" team did some original research but it was Ian Godfrey, in his market analysis (Annex A of the BGA Strategic Plan), who realised that the real problem was due to high turnover (churn rate), poor retention and high wastage rates.

Club chairmen at the BGA Chairmen's Conference in 2000 were advised: "Go back to your clubs and take action to stop the rot by discovering ways of hanging on to your existing members". Jim Rochelle, chairman of Southdown GC, went one better. He volunteered to carry out a special trial project at Southdown to discover the root of the problem and to take action to recover membership losses. Chris Haslett, chairman of Derby & Lancs GC, Camphill, offered to replicate the trial in the north of the country and to compare notes.

Meanwhile, many other clubs throughout the UK set about tackling the same problem in their individual ways.

Two years later, we are reviewing the interim results in an attempt to identify any important messages and to recommend best practice guidelines that might apply to the whole movement or be of particular benefit to individual clubs facing similar difficulties. Full flying membership numbers at the two clubs on September 30, 2002, were:

	1999	2000	2001	2002
SGC	226	232	207	202
DLGC	171	181	194	216

Southdown

Jim used the analogy of the leaking bucket. In order to maintain full flying membership at around 220, it was necessary to keep the bucket topped up by recruiting 48 new members every year. Alternatively, the wastage had to be better controlled. The "nil growth" line was set at 48. This was the

Stop the membership rot

Left: variations in how a club's overall membership may be assessed, depending on the balance between its new recruits and pilots who leave.
***A** – Sharp growth. New intake sufficiently in excess of wastage. Keep it up!*
***B** – Low intake and wastage in equilibrium. Consider intensifying recruitment if numbers need boosting*
***C** – Average intake and recruitment in equilibrium. Consider fine tuning.*
***D** – High intake and wastage in equilibrium. Consider steps to reduce wastage.*
***E** – High wastage and low intake. Desperate times! Unless effective action taken on wastage, club will fold*

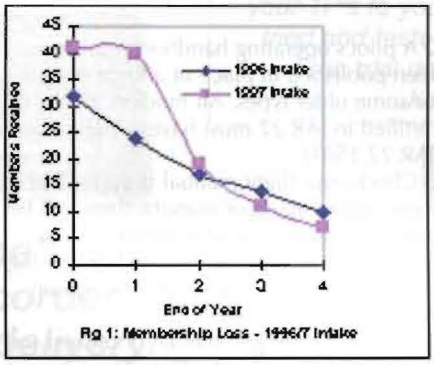


Fig 1: Membership Loss - 1996/7 Intake

annual rate at which the bucket was leaking lapsed members. Recruit any fewer or leak any more from the busted bucket and membership would be in decline. The solution lay in maintaining recruitment and, more importantly, in blocking some holes.

Choosing the right approach in a club environment where every volunteer has his own pre-packaged and brilliantly simple solution can be a problem. Being a canny chap who hates upsetting people, Jim therefore spent further time analysing the problem to discover the sensitive or "high-risk" periods of membership when the greatest wastage occurs, either because people pack up gliding or because they just slope off and fail to renew their subscriptions. The results of this analysis are shown in figure 1 *(above)* and figure 2 *(below)* and display a classic exponential decline in numbers against length of membership, with the principal wastage occurring in the first two years of membership.

Jim also realised that for any particular club, the appropriate solution is dependent upon the "lapse domain" into which that club falls. Jim has categorised five "lapse domains" which should govern the emphasis placed either upon recruitment or retention when attempting to reach the right solution. These are shown in figure 3 (top left). Next, Jim went on to devise an "early-warning system", based on flying activity levels (traceable via the flying log and members' flying accounts) to identify those members who were losing interest in gliding and most likely to give up in the next few months. The "quitters" became predictable – but the big problem was how to stop them quitting?

Owning the problem

Southdown decided to share the problem with the instructor community, believing that ownership of the solution should rest in their hands. Mentors were allocated to each new member. Their duties involved keeping closely in touch with their new members, advising them and assisting them with any problems. Any pupil identified by the early warning system as a potential quitter is immediately contacted by his mentor who does his best to persuade the errant member to "give it another go". Generally, this approach has worked but Southdown underestimated the number of mentors required for the task. Three were appointed originally but a further three soon became necessary.

To date, some of the rot has been stopped but growth has not yet been sufficiently re-stimulated and the bucket is still leaking. In order to return to 220 full flying members, improvements are still needed, both in recruitment and membership retention.

On the recruitment side, some progress has been made with one-day "introduction to gliding" courses, which have produced a much better conversion rate to full flying members (12 per cent) compared with one or two per cent for conventional trial lessons. Bursary and youth schemes continue but fail to contribute significantly to membership, once the free flying has been used up.

For a detailed report of the Southdown project, please contact Roger Coote via the BGA office at Leicester.

Derby & Lancs

Over the last four years, significant increases in full flying membership have been achieved. However, the approach taken by the club has not involved a replication of the Southdown trial, as originally intended, but has emerged as a separate initiative. Chairman Chris Haslett began by conducting a comprehensive members' survey, based on a detailed questionnaire. The results helped shape a five-year plan for the club. The essential differences in Camphill's approach can be summarised as follows:

- A culture change programme was undertaken to help ensure that members became part of the club, with the club looking after them. They in return want to continue to be part of the club and the sport.
- Improving recruitment was deemed vital. To some extent, Camphill accepted that wastage was inevitable and worked on the basis that if recruitment was rapid enough, membership would grow, despite a high lapse rate.
- The club's recruitment strategy was to focus its efforts on an agreed target audience of potential members who would be of immediate use to the club and its finances. The market segment chosen was young professionals with high disposable income who had already demonstrated an interest in recreational aviation.
- In support of this recruitment strategy, the club marketed itself and gliding efficiently and innovatively. Big advertisements in Manchester and Sheffield evening papers, offering "Flying Start" membership (developed in 1999), bargain-basement deals and a 12-month rolling direct-debit subscription, produced an excellent response.
- A "Buddies" system was adopted in place of mentors. "Buddies" are appointed from across the membership rather than just from the instructor community.

The club has capitalised upon the unique features of the Camphill site by extending associate membership to other airsports bodies (without necessarily sharing the use of the airfield). This has provided access to other air-minded individuals, some of whom have become glider pilots as a result.

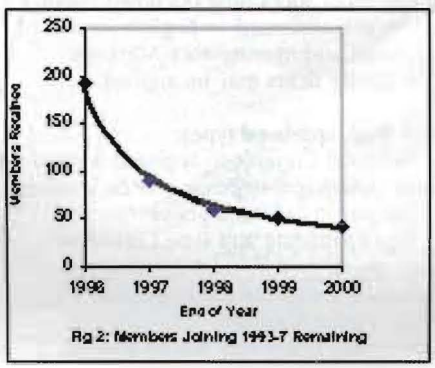


Fig 2: Members Joining 1993-7 Remaining

Conclusions?

BGA statistics for 2002 indicate that many more clubs have succeeded in stopping the rot and that total UK membership is starting to recover.

It is still too early to draw any hard and fast conclusions. The clubs concerned were at pains to stress the need for a long-term approach to the problem and I have probably been impatient to find worthwhile recommendations to help other clubs in the same predicament. The results demonstrate that there is more than one way of solving the problem, provided that the problem itself is first clearly identified.

What is certain is that there are no quick fixes. What is important is deciding on a strategy that is right for your club's particular needs and your members' wishes, acting on it to the fullest extent that resources allow, and then reviewing and refining as required in the light of experience.

Roger Coote
BGA Development Officer

Changes to the C of A

MANY OF you will have noticed the BGA Data Sheets that are published on the BGA website and you may possibly have been frustrated by incorrect or insufficient information on the C of A (Certificate of Airworthiness) document itself. Well, all that is about to change.

In the near future, your C of A document will not show any limitations or weighing data. The revised document will show the glider and owner's details, date of issue and expiry of the C of A and – in a very few examples – special BGA limitations.

The primary source of limitations and weighing information will be your Flight Manual and the weighing report details on the BGA 267 C of A inspection report.

You may ask:

What form will the new document take?

❑ The new document will be called the "BGA Certificate of Airworthiness and Registration".
❑ The final layout has yet to be decided; this will depend on the selected stationery.
❑ The document will be replaced each year in a similar way to the inspector's authorisation certificate.
❑ It is planned to produce the C of A sticker as part of the C of A document.

What happens if there is no flight manual for my glider?

That is where the BGA Data Sheet comes in. You will find basic limitations information listed here together with useful information for your inspector whilst carrying out the C of A inspection. The Data Sheet is not meant to replace the Flight or Maintenance Manuals but to complement them and to assist if the manuals are not available. The manufacturer's manuals override any information on the Data Sheets.

Why is the BGA introducing this initiative?

❑ The current document does not contain enough information for all the permutations of load, ballast, speeds and the other configurations available in a modern glider.
❑ Some C of A documents are inaccurate and do not take account of serial number breaks for limitation changes.
❑ Constant revision to the weight and balance information and owner's details is messy and misleading.
❑ The present document is labour-intensive to administer.
❑ The C of A sticker is often illegible due to ultra violet light and is hand written. UV stable inks are used if printed.

What should I do now?

❑ Find that flight manual (this is probably a good time to read it again!).
❑ A pilot's operating handbook may have been published in place of a flight manual for some older types. All modern gliders if certified to JAR 22 must have a flight manual (JAR 22.1581).
❑ Check your flight manual is up to date – your glider agent or manufacturer will be able to advise the latest revision.
❑ Place an order to be included on the flight manual revision list (a small subscription may be required in some cases).
❑ If there is no flight manual published for your glider, down load a Data Sheet from *www.gliding.co.uk* (technical section).

When is the new C of A being introduced?

❑ It is planned to start introducing the new style document this summer (2003) and envisaged it will be completed in one year.

A couple of further points:

❑ You still need a basic limitations placard on display in the cockpit
❑ If no data sheet is available for your glider and you can assist with the information to create one, please contact Tim Macfadyen c/o the BGA office *(see p3 for the address).*

What documents do I need for a new glider C of A?

I am constantly asked this question. Most inspectors will know, as the information has been published in the Technical News Sheets on several occasions, but just in case you are thinking of purchasing a new glider the following is required.

BGA-approved types:

❑ BGA 267.
❑ BGA 276 T and flight test (self-sustaining sailplanes).
❑ Weight and C of G schedule in English.
❑ Export C of A or (for used aircraft) current domestic C of A from exporting country or BGA 268 airworthiness report.
❑ Certificate of Non-registration or (for used aircraft) Certificate of De-registration or details of de-registration.
❑ Current C of A fee.
❑ Any other supporting documentation.
❑ You will also need an English version of the Flight and Maintenance Manuals.
❑ A 30-day ticket may be applied.

Non BGA-approved types:

❑ Technical Committee approval is required, some design investigation may be required.
❑ Documents as listed above.
❑ Type Certificate and Type Certificate Data Sheet.
❑ English version of the Flight and Maintenance Manuals.
❑ A 30-day ticket may not be applied.

To register a glider with the BGA:

Registration is available only to UK Nationals or for British Vintage types that cannot get type approval overseas. Contact the BGA office and provide the following information:

❑ Glider type, make and model. The office staff can advise if the particular type is approved or not.
❑ Glider serial or works number.
❑ Owner's details.
❑ Name of the BGA inspector who will complete the C of A issue recommendation.

There is no charge for this service and you will be provided with a BGA number and a trigraph. The BGA number is to be used in all correspondence and displayed on the glider (20mm high letters) and the trigraph is to be displayed on the fin and wing as required in *Laws and Rules for Glider Pilots.*

BGA 30-day tickets

There appears to be some confusion still about the use of BGA 30-day tickets. To clarify the procedure, the following code of practice is used:

❑ A 30-day ticket is applied once the C of A renewal inspection is complete.
❑ It should be dated the same day as the BGA 267.
❑ Only one 30-day ticket may be applied by any inspector.

The 30-day ticket is used to allow time for the C of A renewal paperwork to be posted to the BGA and processed and to allow for return postage of the renewed C of A. The paperwork should be posted to the BGA as soon as possible after completion.

30-day tickets must not be used for "G" registrated motorgliders or BGA Permit to Fly gliders.

If the 30-day ticket is about to expire due to a delay in the paperwork or for some reason outside our control, a second 30-day ticket may be issued only with written permission from the BGA Chief Technical Officer (CTO). If an extension to the C of A is required due to maintenance planning |reasons a 30-day ticket is applied only after receiving written permission from the CTO. Strict control of extensions is maintained and reasons such as wishing to fly the glider are not acceptable. In such cases the C of A should be completed early. Applications for extensions are normally by email to *cto@gliding.co.uk*

Failure to follow this code of practice may result in loss of insurance cover as technically your C of A is invalid.

Jim Hammerton
Chief Technical Officer
British Gliding Association
cto@gliding.co.uk

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Looking for a Windows software program which can upload your EW unit, analyse IGC format files as well as task set, upload your Garmin logs and download your TP's to your Garmin? Look no further than the tried and tested EWView3 for Windows program. Free trial disc set available on our web site. Just £49.95 inc. VAT & p&p

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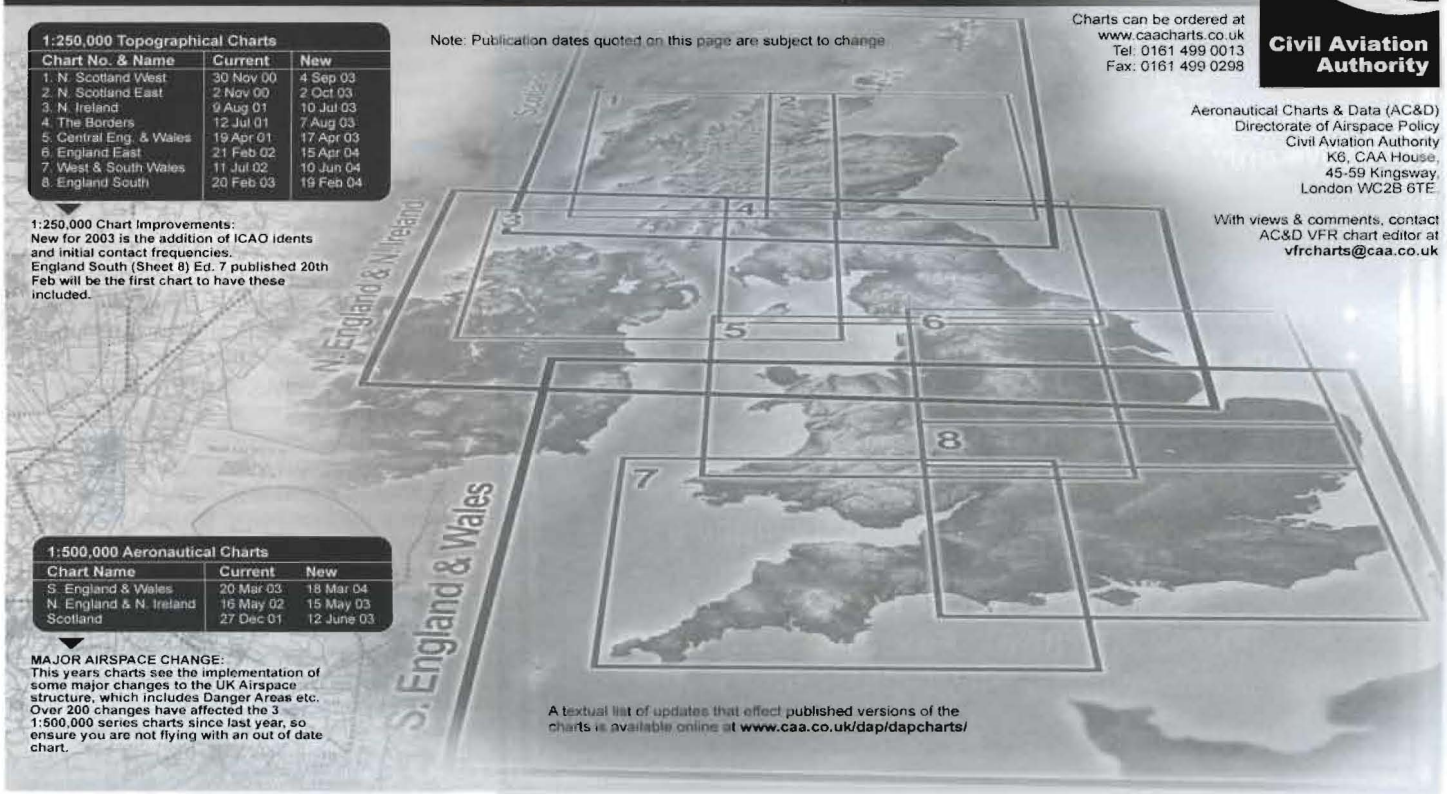
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1:250,000 Topographical Charts		
Chart No. & Name	Current	New
1. N. Scotland West	30 Nov 00	4 Sep 03
2. N. Scotland East	2 Nov 00	2 Oct 03
3. N. Ireland	9 Aug 01	10 Jul 03
4. The Borders	12 Jul 01	7 Aug 03
5. Central Eng. & Wales	19 Apr 01	17 Apr 03
6. England East	21 Feb 02	15 Apr 04
7. West & South Wales	11 Jul 02	10 Jun 04
8. England South	20 Feb 03	19 Feb 04

1:250,000 Chart Improvements:
New for 2003 is the addition of ICAO idents and initial contact frequencies.
England South (Sheet 8) Ed. 7 published 20th Feb will be the first chart to have these included.



1:500,000 Aeronautical Charts		
Chart Name	Current	New
S. England & Wales	20 Mar 03	18 Mar 04
N. England & N. Ireland	16 May 02	15 May 03
Scotland	27 Dec 01	12 June 03

MAJOR AIRSPACE CHANGE:
This years charts see the implementation of some major changes to the UK Airspace structure, which includes Danger Areas etc. Over 200 changes have affected the 3 1:500,000 series charts since last year, so ensure you are not flying with an out of date chart.

A textual list of updates that effect published versions of the charts is available online at **www.caa.co.uk/dap/dapcharts/**

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What's

BGA Chairman David Roberts brings us the latest news on European proposals to regulate gliding



THERE is much going on in Europe each month, so I make no apology for bringing you up to date following the article (p10) in the February-March issue of *S&G*, in which I summarised what we had been doing to face up to the changes posed by the EU's legislation to establish the European Safety Agency (EASA).

EASA and pilot licensing proposal

In late January the European Commission's (EC) Core Group (CG) on Pilot Licensing produced its report containing proposals for the legal framework to be considered by the Parliament, together with what are termed Essential Requirements (ERs). It will apply to pilots of those aircraft included in the scope of the EU airworthiness regulations passed last year and therefore covers licences for gliders and motorgliders, but excludes licences for hang-gliders, amateur-built aircraft (51 per cent rule), and most microlight aircraft. Again, the logic of this division remains a mystery.

Members of this CG included Ron Elder, until recently the Head of Personnel Licensing at the UK CAA, as well as Rudi Schuegraf, recently-retired Secretary-General of Deutscher Aero Club and on the CG as an expert attributed with representing Europe Air Sports (EAS).

The proposals cover training, medical fitness and training organisations and apply to all flight crew of and applicants for a licence to fly an EU-regulated aircraft, instructors, aeromedical examiners, organisations providing training and persons involved in issuing licences and medical certificates. Significant parts of the proposals as they may affect glider pilots are:

- Organisations responsible for training will need to become approved and registered "qualified entities"
- The suggestion that licences may have a limited duration before the need for renewal
- Minimum and maximum age limits for exercising the privileges of a licence or rating (ages not yet proposed)

It states that the Commission shall adopt different rules specific to non-commercial sporting and recreational activities, covering conditions for demonstrating medical fitness and for recognising training organisations. I emphasise that this exception does not cover the aspects of duration of licences or

happening in Europe?

the minimum/maximum ages for exercising the privileges of a licence, which appear to be retained under the main provisions. A footnote states that the regulation of some areas of these activities may be best determined by the National Aviation Authority or by appropriately authorised governing bodies/federations. This is something the Royal Aero Club and Europe Air Sports lobbied for and will offer the opportunity for the BGA to retain much of what it has done for the last 55 years, but in future on a delegated basis.

Non-commercial sporting and recreational activities must comply with the following conditions (intended to apply to aeroplanes, gliders and balloons, not rotorcraft):

- Maximum authorised take off weight less than 2,000kg;
- Have maximum number of passengers (4);
- Be single-engine piston powered and propeller-driven;
- Be single-pilot operated (meaning, we assume, capable of being operated by one pilot even if two are on board);
- Be operated under VFR, day only.

Obviously, gliders comply under all but one of the conditions, and engined gliders under all conditions.

The above demonstrates the value of two things. First, the introduction of the NPPL in the UK last year, which has clearly influenced thinking within the CG, I suspect mainly through Ron Elder. Secondly, the value of the extensive work done by the Royal Aero Club and in turn Europe Air Sports in formulating proposals to submit to the EC. Without those efforts it is doubtful this element of the proposal – to have a separate category of licence for sporting and recreational aviation, with all the associated proposals – would have seen the light of day. Whilst there are clearly some issues to be addressed in detail in these proposals, if the intentions set out in the report come to fruition, I believe we shall have achieved a major breakthrough in the thinking behind EU regulation on pilot licensing.

On medical issues, the report states: "we anticipate for non-commercial sporting and recreational activities that the pilot/flight crew member may demonstrate medical fitness through a declaration to be countersigned by a General Medical Practitioner, well acquainted with (the) pilot/flight crew member. ***The Core Group's opinion was divided on this issue."*** *(my emphasis)*

Thus all the lobbying we have been doing through Europe Air Sports is starting to bear fruit, although with the caveat above, clearly the battle is not yet over. Readers need to bear in mind that had it not been for the UK NPPL and the BGA's advance move to add GP endorsement to the medical self-declaration, our negotiating position, as reflected in the provisional outcome in the report, would not have been anything like as strong.

The proposed ERs set out in the annex to the report generally appear acceptable at first sight. However, some aspects will require challenge in the detail, such as the maintenance of a level of competence by means of regular assessment, examinations, tests or checks, and the definition of flight crew in relation to trial lessons and the associated medical conditions.

By the time you read this, the RAeC will have held a seminar for member associations on March 22 to put together a co-ordinated response, which will be submitted to Europe Air Sports for its mid-April meeting, both of which I shall be attending.

Operations

As yet there has been no news on any emerging proposals for "Operations", which the EC wants EASA to address this year. I suspect with all the activities on airworthiness, maintenance and licensing, discussion on Operations is behind the drag curve. But we watch this space intently.

EU proposed regulation on insurance

As if EASA wasn't enough to cope with, late last year we picked up on another piece of proposed EU legislation, this time on third party limited liability insurance (TPLL). In response to the events of 9/11, the EU is now proposing a legally binding requirement that all aircraft up to 25 metric tonnes (mt) should carry TPLL, including war and terrorism cover, for a minimum of 80 million SDRs (Special Drawing Rights) that translates to about £68 million. Yes, you did read this right – £68 million!

That's the bad news. The good news is that under Article 2 of the proposal, gliders would be exempt from this, though the wording of the exemption leaves a little bit to be desired in terms of clarity as regards solo gliders as distinct from gliders carrying passengers. The bad news again, though, is that SLMGs, TMGs and tugs would be within the scope of the regulation.

In response to this, again we have taken the initiative in the Royal Aero Club, combining with the Aircraft Owners and Operators Association and Europe Air Sports, to mount a campaign to counter these proposals. We have had tremendous support from an ex-MEP, Anthony Simpson, who happens to be the brother of the BGA's senior Vice President, Chris Simpson, and Gordon Keymer, a power pilot who as Conservative leader of the Local Government Association has a seat on the EU Council for the Regions. Between them they have worked tirelessly since early January, lobbying in Brussels, speaking to MEPs including an MEP for Northern Ireland who is the "Rapporteur" for this proposal for the Parliament.

At the time of writing, we are formulating an amendment to the proposed legislation to insert several weight categories below 25mt, including one for up to 2mt, with far more sensible indemnity limits (about £1.3m for the first weight category). Whilst there is growing scepticism that this proposed legislation will see the EU statute book, nevertheless we are taking nothing for granted, and continue to lobby vigorously.

European Gliding Union (EGU)

Representing glider pilots' interests has become a full-time occupation this last year with all these regulatory activities on the European front. One of the organisations that dedicates its efforts to this cause is the EGU, established 10 years ago and invigorated in the early days by the late Tom Zealley, a past BGA Chairman. The BGA is one of 11 member associations.

In mid-February I attended my second annual EGU Congress, this time in Sweden. The weekend's work was productive and included a debate on a "straw man" paper for a European Glider Pilot's licence. Work on this is being taken forward by a working group of volunteers from several countries, including the UK, with a view to submitting proposals through Europe Air Sports in April. Another important topic is airspace, where Carr Withall acts as the technical officer of EGU. Flight levels under Eurocontrol, transponders, radios and other wide-ranging aspects are debated and policy positions arrived at. Next February, the BGA will be hosting the annual EGU Congress.

Your Association Needs You

The representative work I have outlined above falls on the shoulders of a handful of volunteers at the BGA. It has become abundantly clear to me in the last six months that this type of work, and the extent of it, was never envisaged even a year ago, and is a significant burden on myself as Chairman, and on others. Things will have to change, and I want the BGA Executive to consider what can be done when it meets for its annual workshop at the end of March. But solving the problem within that small group is not enough. We badly need a wider group of willing, capable and dedicated volunteers who can grapple with these issues in the future and take on some of the burden after a period of shadowing the current players. The goal is clear and the task self-evident. If you think you are up to it, get in touch.

d.g.roberts@lineone.net
David Roberts
February 21, 2003



The Wright Stuff

"RETURN to Kitty Hawk is a transcontinental glider race starting in the Los Angeles area on June 17, 2003 and finishing on July 4, 2003 at Kitty Hawk. The organisers reserve the right to give priority to entrants that will increase media attention. (Celebrities such as Platypus, youth, etc.)"

No, I did not bribe anybody to write that amazing item on *www.ssa.org*. I was as staggered as everyone else when this very public invitation was broadcast on the internet. Naturally I have sent in my entry and am of course tempting Providence by telling you all. However, just as rules are there to be broken, Providence is there to be tempted. All manner of things could happen to this wheezing old aviator, and in the turbulent world at large, in the meantime. If the race occurs according to plan and I make it across I'll write up the story for the BGA's mighty organ.

Giltless geezerdom

By the way, I'm not sure I like the way that Platypus and youth are treated as being, implicitly if not explicitly, at the opposite ends of some spectrum. The standard cliché for youth is "gilded." I wonder what the appropriate cliché is for Platypus? (No, not "gelded", thanks very much. Though in the 1930s a member of Dunstable landed an unsprung primary so heavily that he lost one half of his essential kit, and when he became a father a year later boasted that he was still able to fire on one cylinder.) What do you call someone who has definitely lost his gilded look? Maybe "Ungilded" though I prefer "Giltless".

If only

In February this year I had the pleasure of George Moffat's company as a house-guest and of taking him round to speak at three big clubs. I rather wish I had taped the many conversations about gliding to turn them into a book to succeed his *Winning on the Wind*. Only one item, however, shall I mention here. It is the answer given by an old man to a young fellow in New York who stopped him and asked how to get to Carnegie Hall: "Practice, dear boy, practice!"

I still have piano lessons, though as Rubinstein said after 60 years of playing, "If I don't know where the keys are by now, I never shall," and now cello lessons, too. In the Black Book I carry around teachers write down all the points on which assiduous work is needed, especially the weaknesses over which I must go again and again. Yeah, sometimes I hate it, but at the next lesson the skipped practice-periods will show up, to my shame.

In bygone years when my photo-penalties averaged 100 points per competition, did I on a mediocre day decide to fly round a number of tiny triangles near the club, then



Sometimes I hate it...

have my turn-point pictures analysed by a friendly expert? Did I Heck. Knowing that the way I entered thermals at high speed often caused me to lose the core for a turn or two, did I systematically rehearse that manoeuvre till I eliminated the fault? Of course I didn't. Well aware that I frequently came out of thermals pointing 50° or more off track, did I set about repairing that hole in my technique? Don't ask.

As the old bruiser with the cauliflower ear says, "I coulda been a contender."

If only. The two saddest words in the language.

Justin writes about flaps

This piece by Justin Wills missed the last issue for simple reasons of space. It is a fascinating item: in a few words, he covers:
1. How to fly efficiently with flaps;
2. Performance gains from flaps (small!);
3. How the Racing Class came about;
4. Different flying styles of Standard and Racing pilots.

"Techniques of using flaps vary a bit from glider to glider: the LS6 repays smooth progressive flap movements, whereas the ASW 27 requires quick transitions as its airfoil is quite inefficient at intermediate positions.

The theory of performance advantage of flaps lies in keeping the fuselage at the optimum angle, and minimising loads (and therefore drag) on the tailplane. The other advantages include lower landing speeds and better view forwards during landing. In fact, these advantages are minimal as illustrated by the mere one per cent handicap difference between the LS6 and LS8 (which is really an LS6 with fixed flaps). As you say, a non-flapped wing is cleaner, lighter, stronger (as well as cheaper) so can provide a wider range of wing loadings.

I think it was Eppler who questioned the validity of the 15-Metre Class when it was established 26 years ago. But the most interesting thing about it is the insight it gives into:
a) the workings of international governing bodies;
b) the strange interconnections of the human brain.

The 15-Metre Class resulted from a classic international compromise at IGC (then CIVV) in the early 1970s. Dick Schreder had championed the cause of 90° flaps to replace DFS airbrakes, claiming they were safer and enabled lower landing speeds. The PIK 20 appeared in the Standard Class with such flaps, which could also be set at negative angles, followed by the LS2, which had very long flaps and tiny ailerons (the Standard Class rules prohibited interlinking the 'landing' flaps and the ailerons). The CIVV took fright at the prospect of Standard Class gliders with minimal ailerons, and "solved" the problem by introducing the 15-Metre Class while redefining the Standard Class. Clearly a bad decision, but arising from the consensus mechanism used by almost all international governing bodies including the IOC, FIFA, and even the EU. In my view the process is flawed due to the fixation that such bodies must exercise centralised control, rather than act as service organisations helping their constituents

achieve their own changing aspirations.

Interestingly, the USA (whose government process, thanks to Thomas Jefferson, conforms much more closely to the service ideal) tried to mitigate the 15-Metre/Standard Class rule nonsense by allowing 15-Metre Class gliders to fly in US Standard Class Nationals with their flaps locked.

This worked fine until the dead hand of international conformity overruled it.

Regarding the human brain, the remarkable thing about the Standard/15-Metre Class structure is that, despite virtually identical performance, the flying style is very different: Standard Class contests are normally very closely fought, involving lots of tactical gaggling, etc, with the leading pilots displaying great consistency. 15-Metre pilots appear far more individualistic, the standings change significantly throughout a contest and gaggling is much less pronounced. Why? My only explanation is that the human brain works differently when a person's left hand is being occupied, encouraging more risk taking, enterprise, and correspondingly greater differentials! It would make an interesting research project.

'They scrub up nice, don't they?'

When glider pilots come to a club dinner you often have a hard time knowing who they are with their clothes on. That's half the fun, the annual transmogrification of familiar shambling figures normally seen pottering around the workshop or trailer rack. In the south of England, however, informality is seen as the trendy, modern thing. Inverse snobbery requires pullovers and pints rather than dinner-jackets and dry Martinis. If you can recognise your friends they haven't really made any effort. I am afraid many of them are all too recognisable.

At one club banquet I was embarrassed to be the only person turning up in a tuxedo and black tie, and was in danger of being treated like the head waiter – which so long as I get lots of tips isn't so bad. However, I was rescued by the sudden and glorious appearance of a tall and slender Brian Spreckley fresh from his Worlds triumph in Benalla in full fig. For that, and some amazing instruction back in the eighties by one of the world's finest coaches, I shall always be grateful.

So I honestly did not know what to expect at the Staffordshire GC's 40th anniversary bash on February 7, where I was the cabaret. I need not have worried. They put the Deep South to shame. Not just ranks of black bow ties, but lovely women poured into bare-shoulder gowns that left something to the imagination, though not a lot.

After my speech I was surrounded by a bevy of young ones, though I have to admit it was only because they found out I had an ASH-25. (Well, you have to have an unfair advantage as the hair starts to fall out.) "Where have you imported those girls from?" I asked. "Oh, we grow our own," they said.

Being born in Staffordshire, I am of course a bit biased, but I am not surprised.

If that's the improvement you get just 130 miles north of London, I wonder what a trip to Scotland would reveal. I haven't worn the Davidson-tartan kilt for ages and I shall have to be forcibly prevented from attempting the sword-dance in those flimsy slippers that go with Highland rig. But it could give our cartoonist the opportunity of a lifetime.

High-cu in Spring Oh-Three

You are all aces
At Haiku – how sad it is
There's only one prize

After a very quiet start, there was a great flurry of haiku writing in January and February, which makes me think that the period between Christmas and the soaring season is the ideal time for fallow minds to become fertile. (Every farmer knows that the leafless trees and apparently inert soil are buzzing away with activity in those winter months, getting ready for warmer days.) Or maybe it was just the editor and me nagging you till you said, "Oh, for Pete's sake, let's shut them up!"

Anyway, spoilt for choice, we eventually picked, as equal first, two verses by Ann Parry which have the right combination of wistfulness and colour – two different colours in each high-cu. One can imagine a Japanese artist trying to paint each scene with minimal brush strokes to match the spare words.

Soaring in sunlight
Forgotten world grey below
Wave flying to gold.

Wings ride white on blue
Pegasus sings her wave song
Soaring sunlit heights.

Ann wins a copy of *The Platypus Papers*.

Plat is flattered, but

Some authors doubtless hoped references to *moi* would work – knowing that only someone colossally conceited would bother to knock out this column for N decades in a row for no reward apart from fawning praise. I include an example of the genre, by Trish Williams:

Wall to wall wave bars
Vario singing smooth lift
Platypus purring

George Sanderson positively oozes charm and smarm:

Two months gone again
Lo, Platypus writes anew
A fresh read, O joy!

And as for a February 14 missive from Liz Sparrow –

Valentine's high-cu
shows my love of soaring flight
and of course of Plat



A February 14 missive from Liz Sparrow

– I can only say: good try, Liz! May your feathers ever glisten.

Talking of sparrows, George Taylor gives two fiercer birds some airspace:

Six up and climbing
a hawk formates off my wing
Does his joy match mine?

Scratching for some lift
A kestrel climbs past with ease
Feathers can beat glass

Finally, I liked Gavin Deane's gripe about the intellectual demands of this art-form. Just as well he didn't learn fugues from Bach, he'd have run out of toes, too:

I haven't done this
Much counting on my fingers
Since primary school

Do not be mortified if your high-cu does not appear today since we may well use it in a later issue.

A relevant item in my column may suddenly make it apt – and I say, "Now there's a haiku that just sums up that point!". More likely the editor will find a hole on the page that she just needs to bung something in. A pee-bag advertiser suddenly pulls it out – the ad I mean – and there's your chance to shine.

Editors are a strange mix of the romantic and the intensely practical, you know. The nearer to the deadline, the less romantic. That's a useful tip when it comes to deciding when to send in stuff. A long, lyrical piece – post it early. Short, punchy items can go in at the last minute. If you are desperate to be published at any price, don't be too topical or you might miss this issue and then it's no use in the next.

So write lots of short AOT (Any Old Time) pieces in your lunch hour and sooner or later you will see them in print.

I'm curious to know if this irresponsible advice is going to appear at all now.

mdbird@dircon.co.uk

The Platypus Papers: fifty years of powerless pilotage (hardback, 160 pages, 100 Peter Fuller cartoons) costs £19.95 + £3.50 p&p. tel 0208 748 6344 or see *www.hikokiwarplanes.com* or the BGA website at *www.gliding.co.uk*

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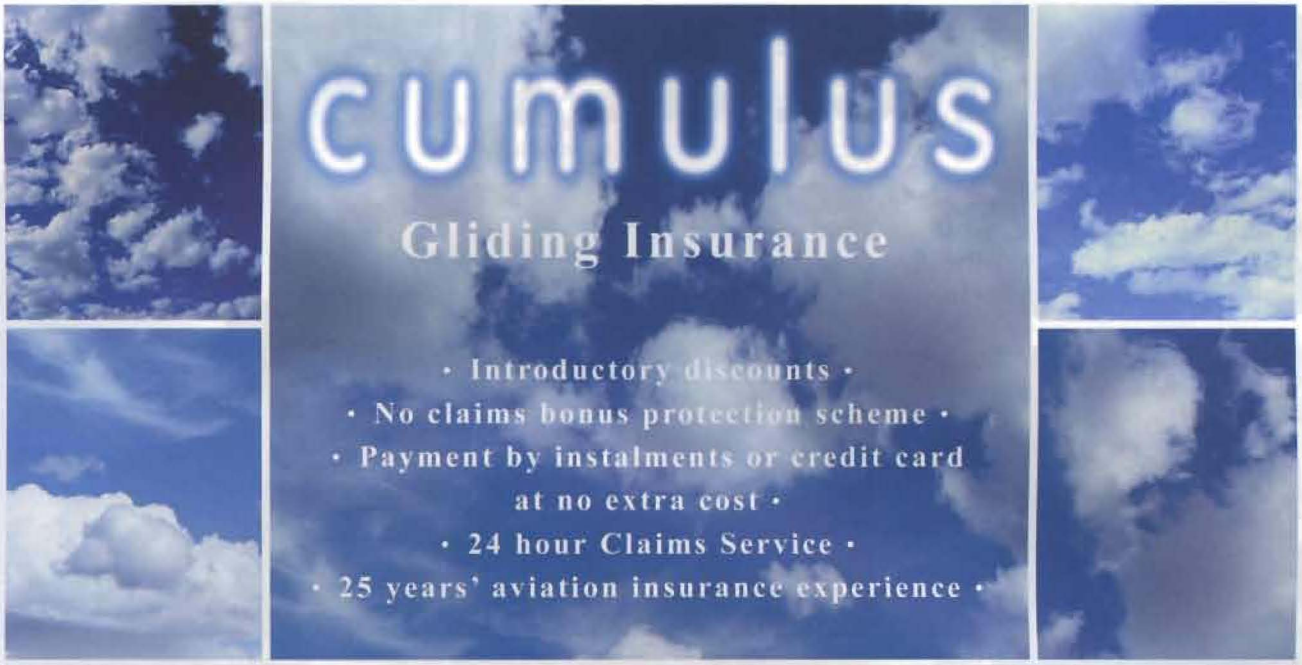
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All quiet at the AGM

The BGA weekend attracted more than 300 glider pilots but the AGM passed almost without incident. Helen Evans reports



From left: BGA Treasurer Keith Mansell, Chairman David Roberts and Secretary Barry Rolfe, at the AGM this year

Another well-attended, well-organised and enjoyable BGA weekend took place at Eastwood Hall in February. BGA Chairman David Roberts started the official programme. On the positive side, he said, membership had risen from 8,848 to 9,166, in line with BGA strategic plan targets *(see p4)* and UK Sport had granted the BGA an additional £10,000 in response to recent international successes. On the negative side, there had been three fatalities in the previous few days *(see p4)* and huge developments on the European front were starting to affect British gliding *(see p14)*. David also paid tribute to the late Tom Zealley, most recently a former BGA Vice President, for his pioneering work to establish the European Gliding Union.

There followed presentations from the BGA Communications Officer, Keith Auchterlonie, Will Owen of the Met Office and Sakari Havbrandt, the chairman of the OSTIV Training and Safety panel. After lunch came the AGM. The previous AGM's minutes were approved and the chairman's and sub-committee chairmen's reports of activity were received. The revenue account and balance sheet for the year ended September 30, 2002 and proposed budget for the year ending September 30, 2004 were adopted *nem com*. An Operational Regulation on radio use in winch launches was withdrawn by the BGA; two others were carried *nem con* (Op Reg 2.5 was brought into line with the new medical requirements and 6.8 was updated in line with the law.)

The new medical requirements did, though, prompt questions from Ted Norman, Jim Rochelle, Cris Emson and George Crawford, as well as from Ralph Jones. He urged the BGA to fight a rearguard action against bureaucracy instead of "selling us down the river". BGA chairman David Roberts replied that, following the European Aviation Safety Agency's creation by the European Parliament, the regulatory environment had changed. If the BGA hadn't moved to the new system, he said, he believed we would be faced by European law demanding JAR Class 2 medicals for all glider pilots – a battle not yet won, but one in which the BGA was continuing to fight.

King, Freeman & Co were reappointed as the BGA's auditors, the new Executive was announced *(see opposite top)*, and the formal meeting closed with the re-election of the Vice Presidents (Chris Simpson; Roger Barrett, Ben Watson, Bill Walker, Don Spottiswood, Dick Dixon and Peter Hearne). BGA awards were presented *(see the picture captions below and below opposite)*.

British Team member Pete Harvey then described the work of the Ted Lysakowski Trust and announced the winners: Simon Miles-Grant of Trent Valley (winning a course at Lasham); Simon Barker of Wolds and Ian Craigie of Syerston (flying the Open Class Nationals in a Nimbus 3DT with top pilots); and Dan Pitman of Bicester and Neil Irving of the Scottish Gliding Centre (a mountain flying course at Rieti). There followed an auction of glider number 111, donated by Terry Joint (Joint Aviation Services also sponsored the "goodie bags" given to each delegate). The money – a bid of £300 later raised to £400 by winner Malcolm Lassan – will go to the Trust.

An hour-long break allowed delegates time to visit the various exhibition stands and to take advantage of the membership task force service run by Paul Hepworth and Jon Hall with help from Southdown and Derby & Lancs GCs. A star attraction in the exhibition hall was the new and well-received BGA virtual glider *(see overleaf)*. This will be available for clubs to use in local recruitment, subject to a charge and certain conditions – contact the BGA office to register your interest if you would like it



Bob Sharman, right, was the recipient of one of three BGA Diplomas awarded this year. He is seen collecting the award from BGA Chairman David Roberts



David Roberts (left) presented a BGA Diploma to Jack "Weatherjack" Harrison, for his hard work providing met information via the website www.weatherjack.co.uk



Cotswold GC President Larry Bleaken handed over a BGA Diploma to Sarah Gay (right) for her late husband, Malcolm. Children Thomas and Hannah were also there

The new Executive





THE new BGA Executive Committee, announced at the AGM, consists of:
John Birch (Cambridge GC);
Philip Burton (Norfolk GC);
Claire Emson (Oxford GC);
Jon Hall (Midland GC);
Paul Hepworth (York Gliding Centre);
Vice Chairman Mike Jordy (The Soaring Centre);
Diana King (Herefordshire & Stratford on Avon GCs);
Doug Lingafelter (London GC);
Treasurer Keith Mansell (Midland GC);
Patrick Naegeli (Lasham Gliding Society);
Chairman David Roberts (Cotswold GC);
Barry Rolfe (BGA Secretary);
Terry Slater (Highland GC and Norfolk GC).
Pictured, clockwise from top left, are John Birch, Patrick Naegeli, Philip Burton and Terry Slater. They joined the Executive this year. Paul Hepworth and Doug Lingafelter rejoined the committee. Keith Mansell continues to serve as treasurer. Because this year there was the same number of places as there were candidates, they were elected unopposed





for a forthcoming event. Other exhibitors this year were: AFE/ RD Aviation; the British Gliding Association shop; Cair Aviation; Europa; *Glidingshop.com*; Irvin GQ; Joint Aviation Services; LX Avionics Limited; McLean Aviation (with a DG-808B); Optimal Aerodynamics; RC Simulations; See You Software; Shirenewton Sailplanes; Southern Sailplanes (with a Ventus 2BX); TL Clowes (Cumulus insurance); The Met Office and the ***White Planes*** picture co.

After the break came the finale of the day. It started with the usual perceptive and funny parliamentary update from Lembit Öpik MP, who warned of the dangers of negative publicity in a political climate where risk elimination, as distinct from risk management, is seen as possible and desirable. He urged clubs to build better relations with their local politicians before crises hit. The final presentation, from Alan Rodger of the British Antarctic Survey, offered a fascinating glimpse into cutting-edge research into the atmosphere hundreds of kilometres above us.

The event concluded with drinks, dinner, an enjoyable speech by Eddie "the Eagle" Edwards and live music.

The BGA's thanks go to Claire Emson and her team of helpers: Cris Emson; Paul Morrison; Ian and Carole Shepherd; Simon Walker; Maz Makari; George Crawford; Nick Hill and Claudia Buengen; and to Matt Cook for selling the Juniors tickets.

This year's BGA trophy winners were: **Wakefield Trophy**: Jack Stephen (Deeside) – for the longest handicapped distance, 785km in a DG-400 on August 31, 2002, from Aboyne, Loch Kinord to Dunoon, Huntly, Rhossdhu House, landing at Currock Hill (actual distance 793km); **Furlong Trophy**: Mike Young (Cambridge GC) – for the longest handicapped triangle. 762.8km in an LS8 on June 19, 2002, from Gransden Lodge to Bruton, Whitchurch and Tibenham (actual distance 762.8km); **Frank Foster Trophy**: Mike Young – for the fastest handicapped 500km. 105.8km/h in an LS8 on April 16, 2002 from Gransden Lodge to Westbury and Stafford (actual speed 105.8km); **California In England Cup**: Sarah Steinberg (Cambridge GC) – for the longest handicapped flight by a female pilot. 760.1km in an ASW 28 on June 19, 2002, from Gransden Lodge to Hay-On-Wye, Tibenham and Banbury (actual distance 760.1km); **Manio Cup**: Jay Rebbeck (London GC) – for the fastest handicapped 300km. 121km/h in an LS8 on August 26, 2002, from Leighton Buzzard to Ludlow to Leighton Buzzard (actual speed 121km/h) – a new National 300km O/R record; **Rex Pilcher Trophy**: Iain Reekie (London GC) & David Masson (Lasham) – for the earliest Diamond distance in the year, on April 16, 2002. David Masson, 755km in an LS6 18, Lasham-Doncaster-Popham-Watford; and Ian Reekie, 513km in an LS8 18 from Dunstable-Salisbury-Grantham-Littleport-Leighton Buzzard; **De Havilland Trophy**: Michael Clarke (Lasham) – for the maximum gain of height 6,600m (21,655ft) on October 5, 2002, at Aboyne in a DG-400; **Volk Trophy**: Andrew Hall (Lasham) – for the longest handicapped out-and-return. 581.8km in a LS6c 17.5 on June 19, 2002, from Lasham to York and back (actual distance 616.7km); **Seager Trophy**: Richard Baker (Cambridge GC) – for the longest handicapped distance in a two-seater. 485.9km in an ASH 25 on June 19, 2002, from Gransden Lodge – Leominster -Tibenham – Mendlesham (actual distance 554km); **Goldsborough Trophy**: Mike Young, 2nd, Standard class, Mafikeng. Highest placed pilot in recent World championships. Richard Hood (Syerston) – 2nd, Club class, Musbach; **Enigma Trophy**: Phil Jones (Cambridge GC) – winner of Open National Ladder. 13,813pts; **Firth Vickers Trophy**: Mike Young – runner-up in Open National Ladder. 13,555pts; **L. duGarde Peach Trophy**: John Bridge (Cambridge GC) – winner of Weekend National Ladder. 9,694pts; **Slingsby Trophy**: Peter Baker (Cambridge GC) – runner-up in Weekend National Ladder. 8,503pts; **Spitfire Trophy**: David Bromley (Syerston) Junior ladder winner. 4,431pts; **John Hands Trophy**: John Bridge (CGC) – for services to competition gliding John Bridge for his tireless work on the national ladders.



Malcolm Lassan, who flies at Bidford and has recently returned to gliding, bid £300 for glider number 111 – then generously raised his donation afterwards to £400



Krystyna Lysakowska, left, presents one of this year's batch of Ted Lysakowski Trust award winners with his prize. For the full list of winners, see the opposite page



Dr Tony Segal, left, a long-standing contributor to Sailplane & Gliding, *was presented with the Bill Scull Safety Award by David Roberts*

Try this for size...

Iain Evans led the team that (was) volunteered to build the new BGA simulator or "virtual glider". *S&G* asked him how the project started...



The two-seater simulator at the BGA conference before the crowds arrived. Its brain is a 1.8ghz AMD processor controlled from a monitor and keyboard (right). On the left, at right angles to the fuselage, is a projection screen to give pilots a view ahead. The trailer doors facing the camera have been extended out from the container body to eliminate distractions in the users' peripheral vision. The total weight is 600kg (1.320lb). De-rigged in its trailer, the virtual glider measures 1.2m x 4.5m x 1.8m (4ft x 15ft x 6ft); opened out, it occupies approx 4.5m x 4.5m (15x15ft)

IT ALL BEGAN at the end of last summer, when Claire Emson asked me about building a trailer for the new British Gliding Association simulator – or rather, asked my company, Shirenewton, to sponsor it by building a trailer. Somehow (but I don't quite know how) I got talked into building not just the trailer but the whole simulator. The aim was to provide an interactive simulator – the "virtual glider" or "cyberglide" for use at exhibitions to demonstrate, in as real an environment as possible, what gliding is like.

What materials did you start off with?

Gliding simulator software was investigated and it was felt that the S4PC software was the most suitable for the job, because the aircraft controls are more realistic than comparable products. This was donated to the project by *Glidingshop.com* along with a set of computer rudder pedals and joystick. Ted Norman from the GSA organised the donation of the wreck of a Grob 103 for the project. This gave us a two-seater, and more possibilities in terms of training.

Initially we planned a computer screen mounted in the front and rear cockpits but it very quickly became apparent that this wouldn't be practical. After investigation, we decided to use a digital projector and a secondhand 3M 3750 was duly bought.

Around Christmas 2002 Claire announced that the simulator would be booked in at an exhibition in March 2003 at the NEC. This put a certain amount of pressure on us to get it advanced enough to be up and running as a trial run at the BGA conference. We decided that during the first week in February a team of volunteers (and press-ganged men) would knock it into shape.

What needed doing to build it?

On Friday night we dragged the wreckage into the Shirenewton workshop and panic set in. The volume of work to be carried out in the next nine days was a little worrying – shades of *Scrapheap Challenge*! On Saturday morning, Eddie Humphries and Rose Johnson set to work cutting up the steelwork for Iain to start welding the chassis and then set about bodging up the fuselage. (Eddie said it only had to look pretty but Rose modestly said that the repair was good enough to fly... until someone pointed out we'd chopped off half the fuselage!)

Meanwhile, John Tanner and Brian Birlison began sawing the tips off the wings with a 9in diamond circular saw. (They said they felt like murderers, especially since Brian remembers flying that glider prior to its unfortunate demise. No, we don't know what happened to it – perhaps someone could enlighten us?). They then replaced the airbrake over-centre mechanism with bungees. Before we stopped for our much-needed Indian takeaway, we had to get a coat of paint on the steelwork for the housing so that it would be dry enough to continue work on the Sunday. The framework was clad on Sunday and the rest of the day was spent getting the fuselage ready for spraying on Monday. Paul Shuttleworth got to work on fitting rudder pedals out of a Kestrel in the front cockpit – the original ones were missing. After a lot of brainstorming we came up with a solution to convert the control movements into electrical signals that the computer would understand. This was eventually done with pulleys, toothed belts and potentiometers, giving full three-axis control, plus airbrakes. After we'd painted the fuselage, the upholstery looked



A front view of the virtual glider, with a wing on the right



Rose, Brian, Iain and Paul get to work on the doors



The sim runs on castors and simply rolls off this trailer





Above left: a view from the back of the simulator, looking towards the screen (the rear cockpit is empty). Above right: The simulator team, from left, were: Jon Hall (graphics and controls); Iain Evans (design, engineering and boss); Paul Shuttleworth (computing and controls); John Tanner (wiring, trailer wiring, clipping and chief Penguin muncher); Claire Emson (driving force, general dogsbody and teasmaid); Cris Emson (wiring and aerobatic test pilot); Brian Birlison (airbrake and trimmer controls); and Eddie Humphries (fuselage repairs, cladding and chief-mastic-gunker). Rose Johnson (chief painter, upholsterer and cake baker) couldn't make the photoshoot at the BGA weekend

pretty shabby, so we bought some new fabric to make the cosmetic job complete.

Cris and Claire Emson arrived at six o'clock on Friday and within 15 minutes were put to work. On Saturday, eight people were back to work flat out – time was running out. Rose had set a deadline of 6pm Sunday for work time to become playtime. Iain began building the trailer, with help from Paul on welding duties, while Cris sorted out mains wiring. As darkness fell Rose was outside spraying matt black paint on the inside of the panels – have you ever tried spraying matt black paint in the dark? Once again we had to get the trailer chassis painted on the Saturday, so all eight of us set to work and painted it in 10 minutes flat, before sending out for yet another curry. As always, the fiddly bits, like fitting the aluminium trim and the carpet, eliminating play in the controls and wiring the trailer, take forever but by 18.00 on Sunday we had the glider in its box, a screen up and the computer simulator running. Beers all round (for the non-teetotallers) and everyone had a flight (with Rose making the first successful landing).The whole thing took about 320hrs, including faffing time.

How much did it cost?
The BGA put up £3,700 for materials and the GSA donated Grob 103 wreckage. It was sponsored by me – *www.shirenewton.co.uk* – and by *www.glidingshop.com*

What were the biggest technical problems?
One of the biggest was to build something that would still fit through a standard double door so that it could be taken into exhibition halls. This restricted the width to 4ft and the height to 6ft, but this was smaller than the image size we wanted. So we built an 8ft by 6ft removable screen. This worked well but we couldn't fit it and the wings in the unit for transport. We decided to buy a roll-up screen – unfortunately this added to the cost. The principal reason for a large image is to help create the impression that your horizon is on the screen, not the floor.

We also found that we needed to block peripheral vision as movement here is distracting. The fold-out doors create this screen. Another technical hurdle was to interface the computer with the Grob's controls. We also needed to get the gearing correct. The control movement is geared up with a ratio of three to one to allow a large enough movement of the potentiometer, so the computer recognises control surface inputs correctly. Fine tuning of this was completed in the software.

Any other difficulties/lessons learned?
This is still very much a prototype and development will continue. Eventually we hope to make the computer-generated instruments feed through a D to A converter to drive servos inside a real instrument panel. A thorough test run at the BGA conference helped to identify other teething problems and potential improvements.

How "realistic" is it?
Obviously, the major disadvantage is that the "pilot" can only see straight ahead. Other than that, the controls feel much like a normal glider. It is even approved for aerobatics – though, as yet, no-one has successfully flown it inverted.

What would you say to anyone planning one?
Don't do it! Unless of course you have a team of willing helpers, a fully-kitted workshop 2,500ft square and you're insane ... or being paid lots of money!



Cris Emson at work on the half-built simulator



Paul, Iain and Jon watch the simulator being used



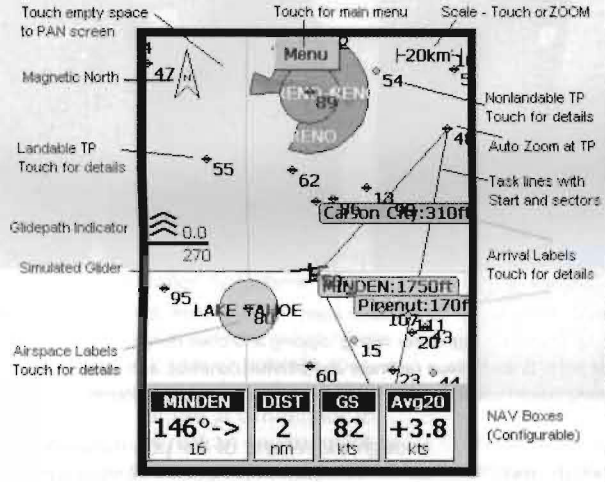
Jon Hall tries the sim out from the back seat

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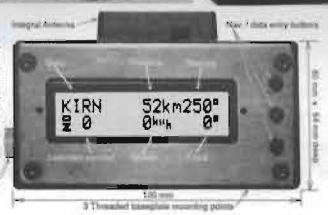
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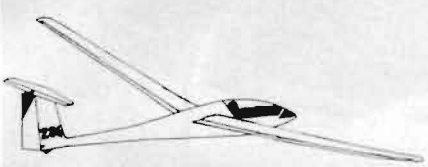
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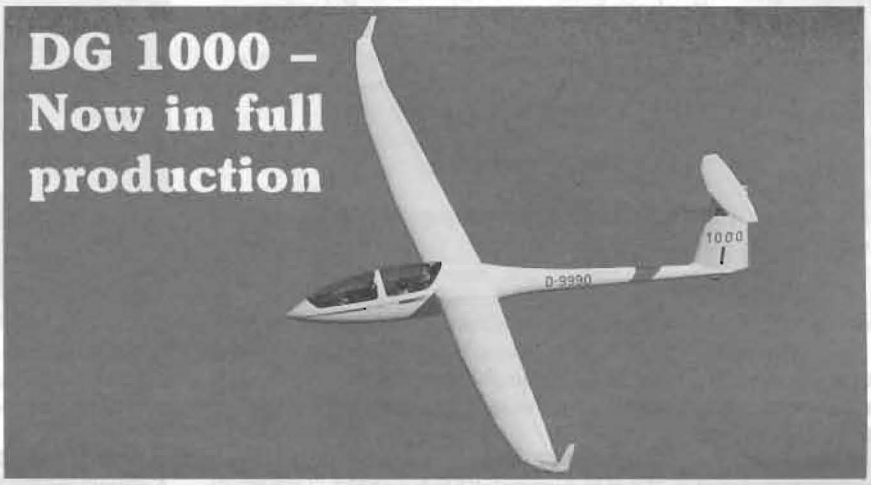
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Record breaking

In the second of two articles inspired by the Helli Lasch Challenge, Women's World Champion Gillian Spreckley offers tips on breaking records and a description (far right) of a recent record flight

THE environment at Tswalu, in South Africa, for The Helli Lasch Challenge was absolutely perfect to inspire adventurous flying – both the flying and domestic arrangements were well organised and were centred around the flying.

The task area was a bit daunting but we soon became accustomed to the lack of landing possibilities. Since gliding records are flown in good weather this was not a hindrance for record attempts.

Having read about Helli Lasch's exploits and enthusiasm for our sport (see *Unlike Anything Else*, Brian Spreckley's article on p33 of the last *S&G*) I was certainly keen to make a goal flight – Helli's favourite type of cross-country flying. This was, however, our first visit and it took us most of the first week to get the hang of flying in the desert region. Not to mention the hours repairing the trailers severely rattled by the two hours of dirt roads approaching Tswalu, no crews and... well, Tswalu was just too comfortable to want to drift off downwind on a one-way flight to a hot, dusty field and a night-long retrieve. No, I decided to concentrate on some speedy "goldfish bowl" tasks and sundowners back home at Tswalu each evening. Helli Lasch, after whom the Challenge was named, was never a believer in what he called "goldfish bowl" soaring; the challenge for him was always to "go somewhere". Sorry, Helli!

Flying to break records is almost as exciting and demanding as competition flying. It lacks the battle against other competitors, which is so stimulating, but this can be replaced to a certain extent by looking at your watch as much as possible during the flight. The challenge is to make the most of the weather – the drive is the race against the clock.

So, what are the necessary ingredients for successful record flying?

1. A suitably prepared glider

For my latest record, this was an LS8. No use waiting until the cumulus start popping before getting it ready, so we were at the airstrip most mornings at 7am to clean and ballast the gliders. I used Winpilot – perfect for ensuring quickly that one is in sector for the start, finish and turnpoints.

2. Preparation

We had planned 300km, 500km, 750km and 1000km flights before arriving at Tswalu – in most cases having to invent some turnpoints to make suitable distances. I find it also helps in a barren area like South Africa to have some good landing options on the last leg where one may be pushing harder to make a record speed.

One also needs to brush up on the rules – many a record cannot be claimed due to a slip-up in the paperwork. Requirements for record flights can be found in the Sporting Code Section 3 on the FAI website at *www.fai.org*

Checking current World and National records is easy on FAI and BGA websites, and you can keep right up to date with World Records as they are filed if you subscribe to the FAI discussion group *www.fai.org/general/subscribe.asp?list=igc-discuss*

Always make a paper declaration. The electronic declarations have a habit of being unusable.



Don't wait until the sky is booming before preparing your glider for a badge or record flight. The bowser in the background is for tug fuel, by the way, not water

3. Length of task?

Normally at the beginning of each season I check out the distances with the lowest speeds, to see if there are any "easier" ones to go for. But in reality the weather dictates the length of task. Declare a 1,000km at 9am, 750km at 10am, 500km at 11am and so on until the cumulus do pop! If no cumulus appeared by midday then we just declared a 300km and flew around carefully in the blue trying to stay at least 3,000ft above the non-existent fields. Without these preparatory flights more adventurous record flights would not have been possible when the weather was suitable.

4. Weather

Surprisingly, it does not need to be mega weather. In fact, if you waited for the perfect day you would die very disappointed. It's more important that the conditions line up for you and the flight has no bad bits. In South Africa the best weather normally brings overdevelopment in the afternoon. It



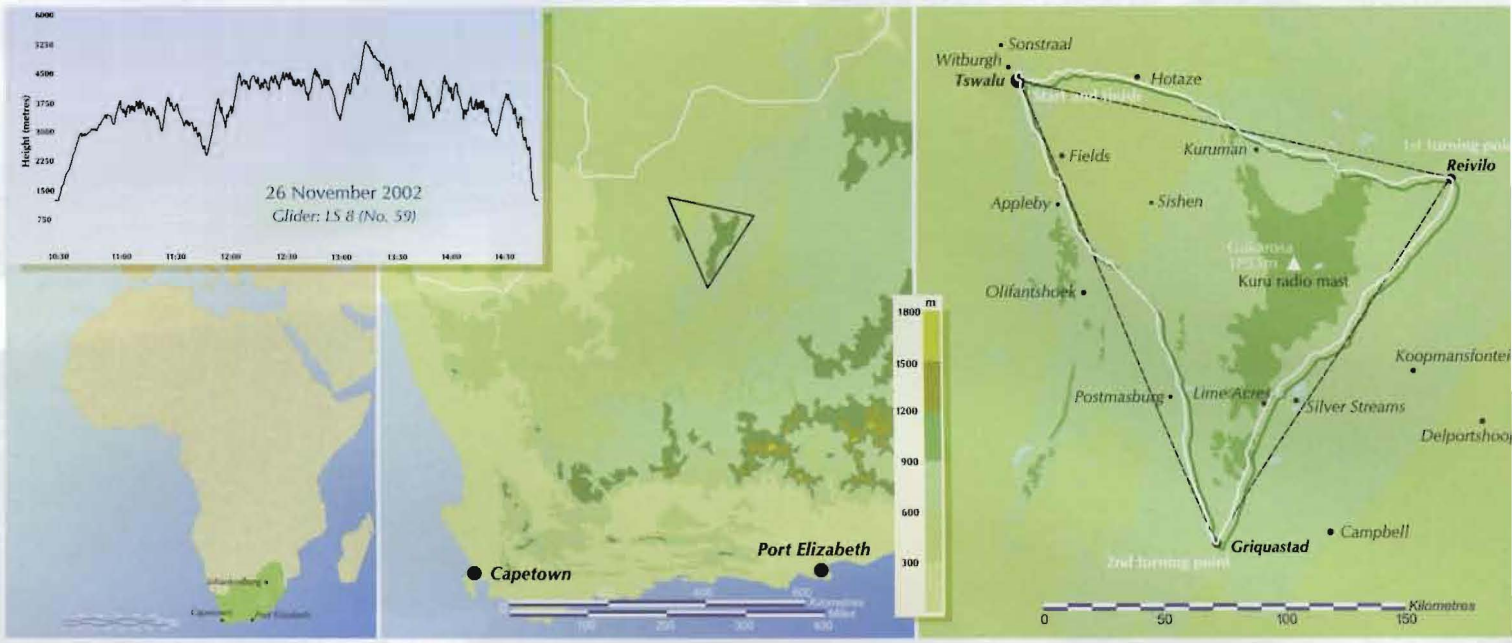
Declare a 1,000km at 9am, 750km at 10am, 500km at 11am and so on until the cumulus do pop...



The barren terrain in Gill's task area necessitated the invention of some turnpoints at suitable distances



Once the cu get going, it's time you did, too. Gill took off on her latest record to beat the launch queue...



Gillian's flight last November, which gained both the British National and World Women's 15-Metre Class 500km triangle speed record – 141.69km/h around 536km (Map: Steve Longland. Photographs: Laurens Goudriaan)

is best, therefore, to plan the last leg to be in the area with the least likelihood of storms. For the same reason it is nice to have some good landing possibilities on this last leg in case of storms. In the area near Tswalu there were times when there were *no* fields for 50-70km; this would make continuing risky if there were storms in the vicinity.

5. Mental approach and luck

Normally a record flight would not contain any "bad spots" – but of course this term is relative. There will invariably be times when one feels disappointed: parts of the flight when the clouds do not line up well, for example. One needs to be positive about all parts of the flight in order to be in there at the end with a chance of a record speed. I have never flown a record flight where it was obvious at the beginning that this was the day of days. One just has to be positive all the way round, keeping focused on the sky immediately ahead and not thinking about the overall goal. If you attempt record flights enough you finally get lucky, and that's the last little bit of speed needed to break a record.



It's better to give it a go than to wait for the day of days – everyone needs a little help from Lady Luck

Where to go for that record?

Most gliders pilots are always in search of that place where the conditions are *so* good that even they can fly that elusive 1,000km, 750km or 500km. Record flying may appear to also need extraordinary conditions. In fact the weather is almost never perfect. Perhaps Klaus Ohlmann experiences perfect wave in Argentina to make the fantastic flights he achieved last winter – but the rest of us need to make do with rather less.

During my flight (see right) I experienced continually changing conditions and it was not until I made the last climb for final glide that I realised a record time was *almost* in the bag. But there is many a slip...

For a record flight one has to finish within 1,000m of the start height. The better the conditions, the quicker you can lose height in the glide, especially at lower altitudes – a trap that has caught me out before.

Your own flying

Look back over the five points above and you'll recognise the requisite ingredients for your first 300km, 500km or 750km flight. The challenge of flying a record is the same as for a badge flight and it is more important to approach your flying in a positive way than to wait for the day of days. At every badge level you'll need to improve your speed to achieve your new goal, so shorter preparatory flights are an important part of the process. Plan some tasks ahead of the day, prepare the glider and its instruments well ahead of time. Wait for a half-decent day and trust to Lady Luck!

At the time of breaking this record, Gillian held seven other British national and feminine records

THE morning of my record flight from Tswalu, *writes Gill Spreckley*, was one of the poorest during our 10 days, with thick cirrus and a poor soaring forecast. As cumulus was forming at 11am I declared a 500km, more to make an early start and avoid the launch queue of six gliders than because I thought it was a mega day.

The cumulus was ragged and it was difficult to get to cloudbase – eventually I started and decided to get high as soon as possible after the start. The cloudbase was by no means high at this stage, 11,000ft, but the first leg was moderately fast (138km/h) because there were good lines of energy and I did not need to stop much to climb.

At the first turnpoint I could see that there was much less cu on the second leg, and indeed it looked blue at the second turn.

As I progressed along the second leg the climbs were now stronger – 8-10kt average – and the cloudbase higher at 15,000ft. This was lucky for me because I was flying over totally inhospitable terrain – no fields, no roads, no farms. As I approached Lime Acres (a welcome mine with airfield) it was obvious that the last 60-70km to Griquastad, the second turn, was in the blue.

I was still averaging a reasonable speed so I continued but slowed down a little in the glide. The first climb was 8kt to 12,000ft but soon after, as I was busy calculating how much height I needed to make it to the turn and back to a solitary field I had spotted, I hit a monster thermal – 13kt to 17,000ft. Now that's what I call luck! This was enough to take me round the turn and back to the cumulus 130km from home. The last leg was different again with a heavier sky and the threat of light rain to the left of track over the high ground. I lost some speed having to take a weaker climb to be sure of a comfortable final glide, but made it home on the last leg at 156km/h.

It meant an average of 141.6km/h around 536km and a new British and World Record in the 15-Metre Class.



The mind's the limit

Three years ago, Klaus Ohlmann impressed glider pilots when he broke the world distance record by 400km. Now he's done it again. Helen Evans talked to him about the longest-ever sailplane flight

WHEN you ask the world distance record holder about his recent mind-blowing 3,000km flight, you think you know what you'll hear: weeks of waiting for the right weather; the awesome beauty of speeding along wave bars for hour after hour; the fierce cold; the desolate terrain; and a heart-stopping race against the sunset...

The answer you don't expect is that it was one of his easiest flights of the season.

But Klaus Ohlmann, the former German dentist turned soaring hero, doesn't offer this information in a spirit of false modesty. Conditions were excellent over a wide area and, he points out, there's a difference between a free-distance three-turnpoint task and an out-and-return or a goal record. In the former, you choose your route in flight, cherry-picking the best conditions; in the latter, you are flying against the limits of the weather system, 850km or more from your starting point. That, he says, is far harder.

Still, size does matter, especially when you consider what Klaus has done with the Open Class free distance three-TP record in the last three years. The 2,000km barrier itself was breached only in 1994, when Terry Delore exploited New Zealand wave to claim 2,049.44km. Klaus' spectacular 2,463.7km flight in November 2000, up and down the spine of the Andes in a Stemme S10VT, seemed at that time to brush against the limits of possibility. Yet this winter, in a Nimbus 4DM, he broke that record not once, but twice: the first time, on November 12, with 2,624km, the second, on January 21, with 3008.8km. (The actual flight was 10km longer, but not all that distance counts for



In parts of the Andes, the air charts say: "unreliable information about the terrain"



Evening over Lake Lacar near San Martin de los Andes

Left: Klaus Ohlmann flying over Argentina last winter

Right: Laguno Diamante, the high mountain lake that was one of Klaus' three TPs on his 3,000km flight (all photos courtesy of Aerokurier: Gerhard Marzinzik)



the FAI record claim, which is currently awaiting ratification.) So, in less than a decade, he has increased the record by half.

What, then, was the world's longest sailplane flight like – apart from "easy"?

It began, as did his year 2000 flight, with a launch from San Martin de los Andes, near Chapelco in Argentina, on a failed attempt to do something else; in this case, a 2,000km out-and-return (O/R) to the north. The weather forecasts – he usually uses two or three – were good. "I didn't realise that it was a 3,000km day," Klaus says, "but I did know that it would be a good one."

He changed his task to the 3,000km, though, early in the flight. "The first leg had been very fast but 2,000km O/R was looking a bit difficult," he says. "There were snow showers south of Mendoza and there was wet, low cloud in the area. Conditions didn't look very encouraging. Of course, I didn't know if 3,000km would be possible, either. These things are so far from normality."

But Klaus' decision to go south made the flight. He and his Austrian co-pilot Karl Rabeder turned just north of Malargue, his landing place in November 2000, west of El Juncalito, a "virtual" TP.

Then they headed south down the Andes – the longest mountain chain in the world – to another TP near El Maiten. Then they turned again, going north to a third TP at Laguno Diamante. This lake, east of the majestic ancient volcano of Maipu, is high in the mountains not far from Santiago de Chile, where Walter Georgii once had a weather observation station. The flight ended where it began, at Chapelco.

At an average speed of more than 200km/h over the 15hr 8 min flight, Klaus aimed to use a height band between 4,000m and 7,500m (13,000ft-24,600ft). The logger trace shows just 25 thermals in the entire flight. That averages out at one every 120km or so. The final glide was 290km.

Was 3,018km (the full actual distance) the best he could have made of the conditions? Klaus doesn't think so. He reckons that 3,200km was on, and that he could have made 3,120km on the day had he not opted to following his homing instinct back to Chapelco instead of landing out at a strip. "It's so nice to come back to your airfield,"

'It is very interesting at 5pm to realise that you still have 1,000km to do'

he explains, "so I decided not to continue and not to take the risk of being a minute too late for the record". (If you land after official night starts, your claim is invalid.) "Besides," he adds disarmingly, "15 hours is enough!"

To try to put his achieved distance into some kind of perspective, think back to your own last cross-country. How far did you still have to go at 17.00hrs? Did that feel realistic? Now consider Klaus' flight. At 17.00hrs he still had one thousand kilometres to do. His response to that scenario illustrates the reason why he is a record-breaker: his positive mental attitude. "It was very interesting at five o'clock in the afternoon," he says wryly, "to realise that you have to fly 1,000km. That makes a big impression. I made the calculation. I said: okay, if we land at nine o'clock and we want something in reserve... we need four hours, and we have four hours. You know that it is possible, but you have to believe it, too."

What distances might be possible, then, one day? Klaus, who has about 1,200hrs experience of soaring the Andes during five winters, thinks 3,500km is certainly feasible in South America, using production models of current gliders and in daylight. The Nimbus he used was unballasted and wasn't modified for wave flying. Indeed, he has



Klaus with Gerhard Marzinzik in the Nimbus 4DM that flew more than 3,000km



One of many volcanoes – dormant and active – in the world's longest mountain range



Over the Cordillera: fascinating but frightening terrain



Klaus and Gerhard in Nimbus 4DM D-KAHG over Argentina. In the background is the peak of the Lanin volcano

➢ even flown 1,260km in his two-seater Calif from his base in the southern French Alps, and believes that a sailplane like the Nimbus 4DM could have done 2,000km in Europe on that particular day. (Press for more detail and he starts talking about Corsica, Sardinia, Sicily, Greece...) Nor can he see any valid argument against allowing night flying, which would make longer flights a possibility. Custom-built sailplanes, say with 1,000kg (2,200lb) AUW or a VNE of 400km/h (215kt), could also roll back the boundaries.

In fact, the eternally-enthusiastic Klaus believes that the real limitations are in our heads: the knowledge that we do or don't have about the extent and behaviour of the weather systems we exploit, and the confines of our own imaginations. "The problem is always motivation," he says. "You have to be an optimist. Of course, you need the weather conditions, but you need the right conditions in your own mind as well. Don't limit your mind: think about more and more and more kilometres."

He clearly practises what he preaches. When *S&G* last interviewed him (*How I flew 2,463km*, February-March 2001, p40) he told us of his long-held ambition to break Tom Knauff's pre-declared 1983 O/R distance record of 1,646.68km. On December 20, 2002, he did it, with a 1708.4km O/R from Chapelco. He's also claiming this year (all

'Don't limit your mind: think about more and more and more kilometres'

from Chapelco in the Open Class Nimbus 4DM D-KAHG) a free O/R distance of 1715.5km and a speed of 136.8km/h over a 1,500km course.

So, what challenges remain?

For a start, it is his enduring dream to win the $3,000-dollar prize offered by wave pioneer Joachim Küttner for a 2,000km one-way flight. He thinks that it would be possible if you were prepared to wait weeks in the south of the continent, say in the Calafate area, for the right conditions. Will he do that next year? "Perhaps..."

He would also like to return to the north of the continent, where the mountains are massive (6,000m-plus) to investigate and measure wave turbulence at height. That, like all his South American flying, would be done under the auspices of the OSTIV Mountain Wave Project. The idea would be to gather information to help passenger jets avoid wave-generated turbulence.

If gliding can be useful to commercial aviation in this way, he argues, then the general public will develop more sympathy for and understanding of the sport.

Finally, believe it or not, he still doesn't have his FAI 2,000km badge; for that, you need to fly solo, and all his 2,000km-plus flights have involved co-pilots. Incidentally, he points out that if you intend to come to South America to fly long distances alone – perhaps to get that 2,000km badge – you must speak good Spanish. Argentina is a big country but there are also large areas of

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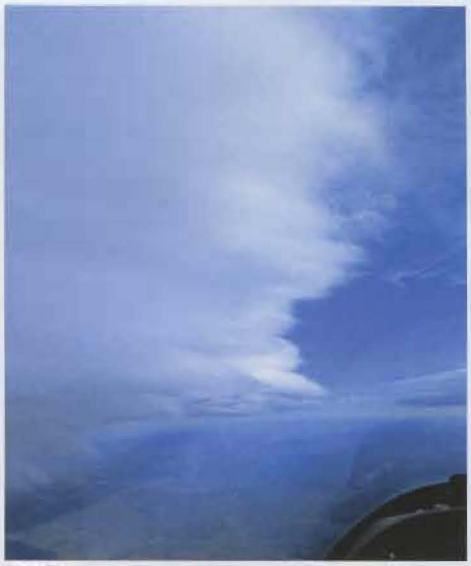
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controlled airspace ... and you can get into a lot of trouble if you don't understand the controllers or they don't understand you.

Klaus doesn't hesitate when asked what he will remember from this winter's flying. His voice is warm with enthusiasm for a flight over the glacier fields of Patagonia – the third biggest in the world. "I have been walking in that area with my wife, Sidonie," he explains. "I had always dreamed of seeing these glaciers from above. This winter I had a seven-hour flight with a friend, which was really amazing and wonderful. All those glaciers that I saw from the ground I now saw from upstairs. It was incredible. That was really the greatest. It was the day before I did a 1,500km goal and free flight to the north, breaking Hans Werner Grosse's 30-year-old Lübeck-Biarritz record. I really wanted to land sooner to prepare for that, but it was so nice that we couldn't! Records are the result of the pleasure flights; and for me what is important is this wonderful country and range of mountains."

Now that's probably more what you expected to hear...

Above left: this lenticular gave groundspeeds of 300km/h
Above: The map of Klaus' epic flight (Steve Longland)
Right: Klaus provided this self-portrait taken as he flew around the Lanin volcano
All other photos in this feature are courtesy of Aerokurier *and Gerhard Marzinzik – S&G's thanks to them*

For information on Klaus' 2,463.7km flight, see S&G, *February-March 2001, p40; For more information on the Mountain Wave Project, see* S&G, *April-May 2001, p34-5 and p38, or* www.mountain-wave-project.de *For accounts of the Alpine soaring courses that Klaus runs from Serres in the summer, see p40 of the last* S&G



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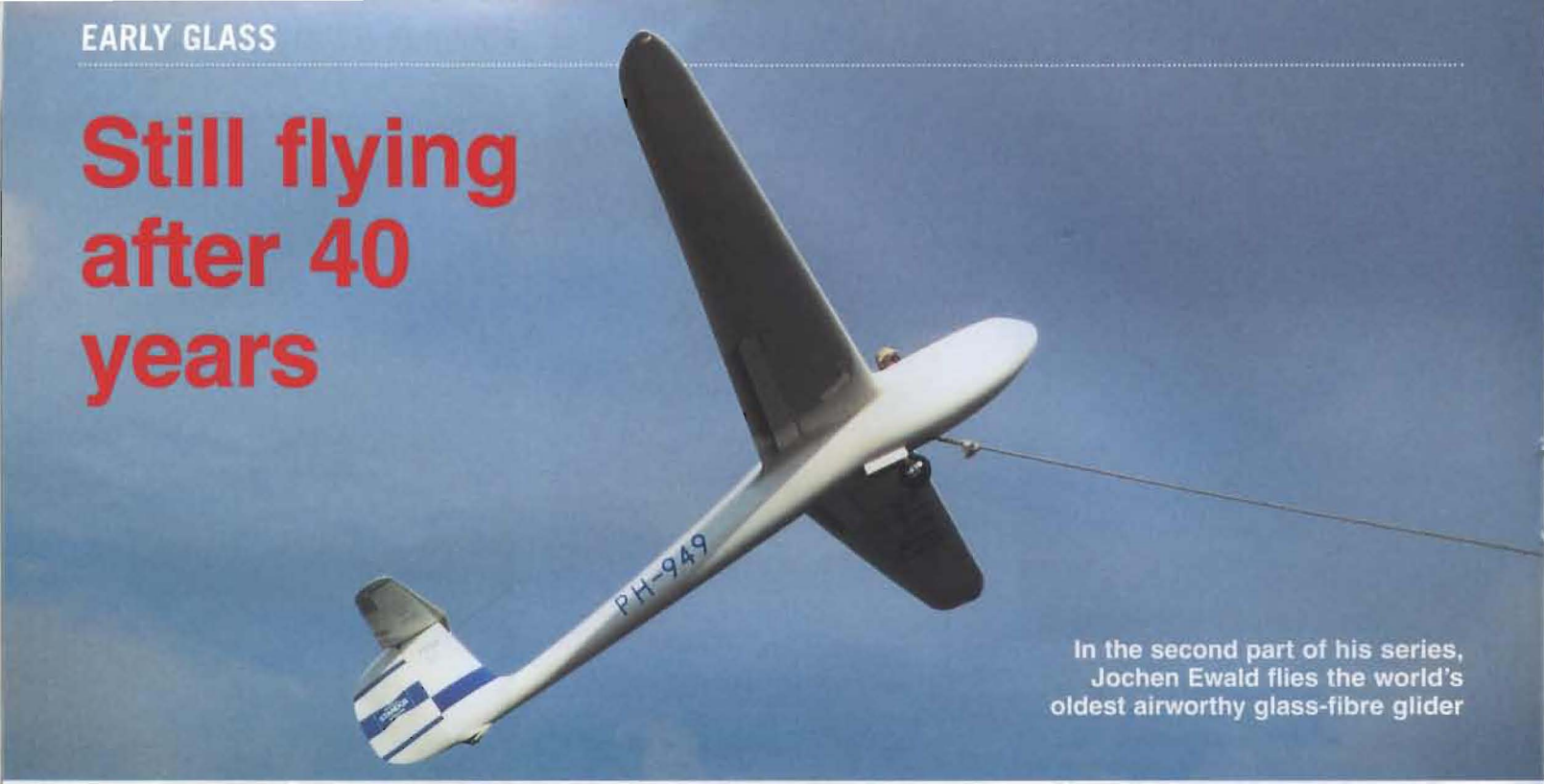
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Still flying after 40 years



In the second part of his series, Jochen Ewald flies the world's oldest airworthy glass-fibre glider

IN 1960, the Boelkow factory at Nabern-Teck began serial production of the world's first fibre-glass glider. The prototype fs-24 "Phoenix", which first flew in 1957, had been revolutionary. Designed by Akaflieg Stuttgart's Richard Eppler (later the famous professor) and Hermann Nägele, it was made from polyester resin. Its sparless wing relied on the wing shells to carry the whole load, supported by a system of ribs and stringers forming internal boxes. The wing and fuselage shells consist, as was usual, of a fibre-glass/balsa wood sandwich. For serial production of seven "Phoenix T" sailplanes, epoxy raisin was used and a T-tail and a retractable mainwheel were added.

The prototype fs-24 is now in the German Museum at Munich, and the first serial Phoenix T is at the Wasserkuppe Gliding Museum. That makes the 1960-built No. 3, owned by retired KLM captain Hans Disma, the oldest airworthy fibre-glass glider in the world. (He also owns No. 8, in which Rudi Lindner did a world record, 875km, in 1963.)

At the VGC Rally at Tibenham, Hans let me fly his precious, beautifully-restored piece of gliding history. Its logbook lists five callsigns from four countries: D-8354, HB-746, D-0738 and OO-ZQD and now PH-949. Its empty weight, once 182kg (400lb), is now 222kg (488lb) due to repairs and mods.

As with the Hütter 30 GfK (*Still flying after 40 years*, February-March 2003, p22), pilots taller than 1.80m (5ft 11in) will find the cockpit uncomfortable. A panel in the wall gives outside access to the canopy levers (or noisy fresh air if used in flight). The airbrake system uses under-wing spoilers relatively far aft, acting as brakes and flaps. Operated by a crank on the left, with a red position indicator, several rotations are needed to get them fully out at 90°. For launches, the handbook recommends 20-30°. This increases lift, and the braking is effective, letting the pilot react faster to a cable break. On landing, fewer turns of the crank are needed, and in circuit they can be adjusted quickly. Your hand soon gets used to it.

I aerotowed the Phoenix T: its relatively small ailerons, far outboard, are not very effective on the ground: be careful in cross-winds not to drop a wing. The well-sprung, fragile-looking undercarriage is raised by a strong pull at the blue lever on the right. In flight, the low wingloading (about 20kg/m² 4.1lb/ft²) makes it ideal in weak thermals: slow, small turns at just over 60km/h (32kt) with the flaps at about 10°. When more flap is set, even slower speeds are possible, but the braking effect can also be felt. Control forces are comfortably low, and the ailerons, although not very effective, cause significant drag requiring some work with the rudder when centring. Once centred, the Phoenix T outsoars most of the famous old wooden vintage gliders. Its efficient laminar wing – best glide 1:40 – keeps losses during the cruise lower than I expected.

The undercarriage is lowered by unlocking the lever and letting gravity slide it forwards until it automatically locks down. I need to concentrate to approach at the recommended low speeds – 70-80 km/h (38-43kt) – to avoid a long float. I set the approach angle by operating the brakes. Closing them abruptly at low speed will cause the lift will decrease. Because the nose comes down as the flap-spoilers extend, the view of the landing area improves. Sensitive coordination of crank and elevator is needed. Sideslipping is possible. The flaps can be wound out completely just before touchdown, resulting in a very slow two-point landing. The wheelbrake, a lever on the stick, is effective.

The Phoenix T led to the popular Boelkow Phoebus, which with the Glasflügel Libelle began gliding's conversion to glass-fibre. It is an interesting design mix: low wingloading for thermalling and a modern laminar airfoil for cruising; it avoids higher wingloadings that began dominating the scene at this time. The Phoenix's unusual flap-spoiler system and sparless wing design (probably the only way to fit airbrakes) is quite unusual and requires thoughtful operation, but can allow experienced pilots very short, safe landings. Hans' Phoenix is in excellent condition, which should mean many more years of happy flying.

Text and photos by Jochen Ewald



Top: Phoenix T winching. Above: one of the flap-spoilers



The Phoenix T cockpit (photos Jochen Ewald)

How to find a gliding club in the UK

If you want to go gliding – or sample a new site – the map overleaf and the list below can help you. Services clubs, which may restrict civilian entry, are shown in green. British Gliding Association club details are updated at *www.gliding.co.uk*, where affiliated university clubs are also listed

ANDREAS GC (10):
Andreas Airfield, Braust Farm, Lezayre, Isle of Man
secretary@manxgliding.flyer.co.uk
http://www.manxgliding.flyer.co.uk

ANGLIA GC (11): *stephenmynott@hotmail.com*
http://www.geocities.com/angliaglidingclub

ANGUS GC (1): Drumshade Farm, Roundyhill, Glamis, By Forfar
01575 572994/*eve47_mands@yahoo.com*
http://www.angusglidingclub.ukf.net

AQUILA GC (10):
Hinton-in-the Hedges Airfield, Steane, Brackley NN13 5NS
01295 811056/*info@aquilagliding.com*
http://www.aquilagliding.com

BANNERDOWN GC (13): *info@bannerdown.screaming.net*
http://www.bannerdowngc.co.uk

BATH WILTS & NORTH DORSET GC (14):
The Park, Kingston Deverill, Warminster BA12 7HF
01985 844095/*info@bwnd.co.uk*
http://www.bwnd.co.uk

RAFGSA BICESTER (15): http://www.rafgsa.org
01869 252493/*manager@rafgsa.org*

BIDFORD GLIDING CENTRE (16):
Bidford Airfield, Bidford on Avon B50 4PD
01789 772606/*office@bidfordgliding.co.uk*
http://www.bidfordgliding.co.uk

BLACK MOUNTAINS GC (86):
The Airfield, Talgarth, Powys LD3 0EJ
01874 711463/*blackmountainsglidingclub@hotmail.com*
http://www.talgarthgc.co.uk

BOOKER GC (17): Wycombe Air Park, Marlow SL7 3DR
01494 442501/*office@bookergc.nildram.co.uk*
http://www.bookergliding.co.uk

BORDERS GC (18): The Airfield, Milfield Wooler NE71 6HD
01668 216284/*help@bordersgliding.co.uk*
http://www.bordersgliding.co.uk

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01995 61267/*enquiries@bfgc.co.uk*
http://www.bfgc.co.uk

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Nympsfield, Stonehouse GL10 3TX
01453 860342/*secretary@bggc.co.uk*
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BUCKMINSTER GC (21):
Saltby Airfield, Sproxton Road, Skillington, Grantham NG33 5HL
01476 860385/*office@buckminstergc.co.uk*
http://www.buckminstergc.co.uk

BURN GC (22): The Airfield, Park La, Burn, Selby YO8 8LW
01757 270296/*burnglidingclub@bigfoot.com*
http://www.burnglidingclub.co.uk

CAIRNGORM GC (2):
Blackmill Airstrip, Feshiebridge, Kincraig, Inverness-shire
01540 651317/*gliding@feshiebridge.freeserve.co.uk*
http://www.gliding.org

CAMBRIDGE GC (23): Gransden Lodge Airfield, Lodge Farm, Longstowe Road, Little Gransden, Sandy, Beds SG19 3EB
01767 677077/*office@glide.co.uk*
http://www.glide.co.uk

CARLTON MOOR GC (24):
Carlton Moor, Nr Stokesley, North Yorkshire
01642 778234 (w/e)/*enquiries@carltonmoorglidingclub.org.uk*
http://www.carltonmoorglidingclub.org.uk

CHANNEL GC (25):
Waldershare Park, Nr. Whitfield, Dover, Kent CT15 5NH
01304 824888/*NicBearcraft@aol.com*

CHILTERNS GC (26): http://www.chilternsgc.fsnet.co.uk
01296 623535 x7002 mailbox 5198
info@chilternsgc.fsnet.co.uk

CLEVELANDS GC (27):
http://www.dishforthairfield.freeserve.co.uk
Clubhouse 01423 321642/Mobile 07779 454124

CONNEL GC (3):
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http://members.aol.com/corngliде/page1.htm

COTSWOLD GC (29): The Control Tower, Aston Down Airfield, Nr Minchinhampton, Stroud, Glos GL6 8HT
01285 760415/*pat@cotswoldgliding.co.uk*
http://www.cotswoldgliding.co.uk

CRANWELL GC (30):
http://www.cranwellgc.freeserve.co.uk
Ian@Fitzpatrick.co.uk

CROWN SERVICE GC (31):
Lasham Airfield, Alton GU34 5SS
01252 325666/*membership@csgc.org.uk*
http://www.csgc.org.uk

DARTMOOR GLIDING SOCIETY (32):
Burnford Common, Brentor, Tavistock, Devon
01822 810712/*mark.cooper5@ntlworld.com*
http://homepage.ntlworld.com/mark.cooper5/

DEESIDE GC (4):
Aboyne Airfield, Dinnet, Aboyne, Aberdeen AB34 5LB
01339 885339/*deeside@glidingclub.co.uk*
http://www.richardcaw.freeserve.co.uk

DENBIGH GC (87): Mold Road, Denbigh, Clwyd
01745 813774/*denbighglidingclub@welshnet.co.uk*
http://www.denbighglidingclub.welshnet.co.uk

DERBYSHIRE & LANCASHIRE GC (33):
Camphill, Great Hucklow, Tideswell SK17 8RQ
01298 871270/*dlgc@gliding.u-net.com*
http://www.dlgc.org.uk

DEVON & SOMERSET GC (34):
North Hill Airfield, Broadhembury, Honiton EX14 3LP
01404 841386/*dsgc@ fly.to*
http://www.dsgc.co.uk/

DORSET GC (35): Eyres Field, Puddletown Road, Hyde, Wareham BH20 7NG
01929 405599
http://www.dorsetglidingclub.freeserve.co.uk

DUKERIES GC (36):
Gamston Airfield, Gamston, East Retford (Not a postal address)
01909 731436/*adele@swannack60.freeserve.co.uk*

DUMFRIES & DISTRICT GC (5):
Falgunzeon, By Dalbeattie, Dumfries & Galloway
01387 760601/*kaz@paszki.freeserve.co.uk*
http://www.paszki.freeserve.co.uk/ddgc.htm

EAST SUSSEX GC (37):
Kitson Field, The Broyle, Ringmer, East Sussex BN8 5AP
01825 840347/*stewforst@aol.com*
http://members.lycos.co.uk/eastsussexgliding/

ESSEX GC (38): North Weald Airfield, Merlin Way, North Weald CM16 6AA (01992 522222); Ridgewell Airfield, Pannells Ash, Ashen, Ridgewell CO10 8JU (01440 785103)
egc@glidingclub.co.uk/http://www.essexgliding.org

ESSEX & SUFFOLK GC (39): Wormingford Airfield, Fordham Road, Wormingford, Colchester, CO6 3AQ
01206 242596/*Glide@esgc.flyer.co.uk*
http://www.esgc.co.uk

FENLAND GC (40): http://www.glidingclub.freeserve.co.uk/
delboy@glidingclub.freeserve.co.uk

FOUR COUNTIES (41):
http://www.fourcountiesglidingc.freewire.co.uk
01636 525300 (w/e)/*suearmstrong1@btinternet.com*

FULMAR (6): Easterton Airfield, Birnie, Elgin, Morayshire
Post: David Brown, 10 Mannachie Rise, Forres, Moray, IV36 2US
01309 676660/*0108808B@student.gla.ac.uk*

HEREFORDSHIRE GC (42):
Shobdon Airfield, Shobdon HR6 9NR
01568 708908/*gliding@shobdon.com*
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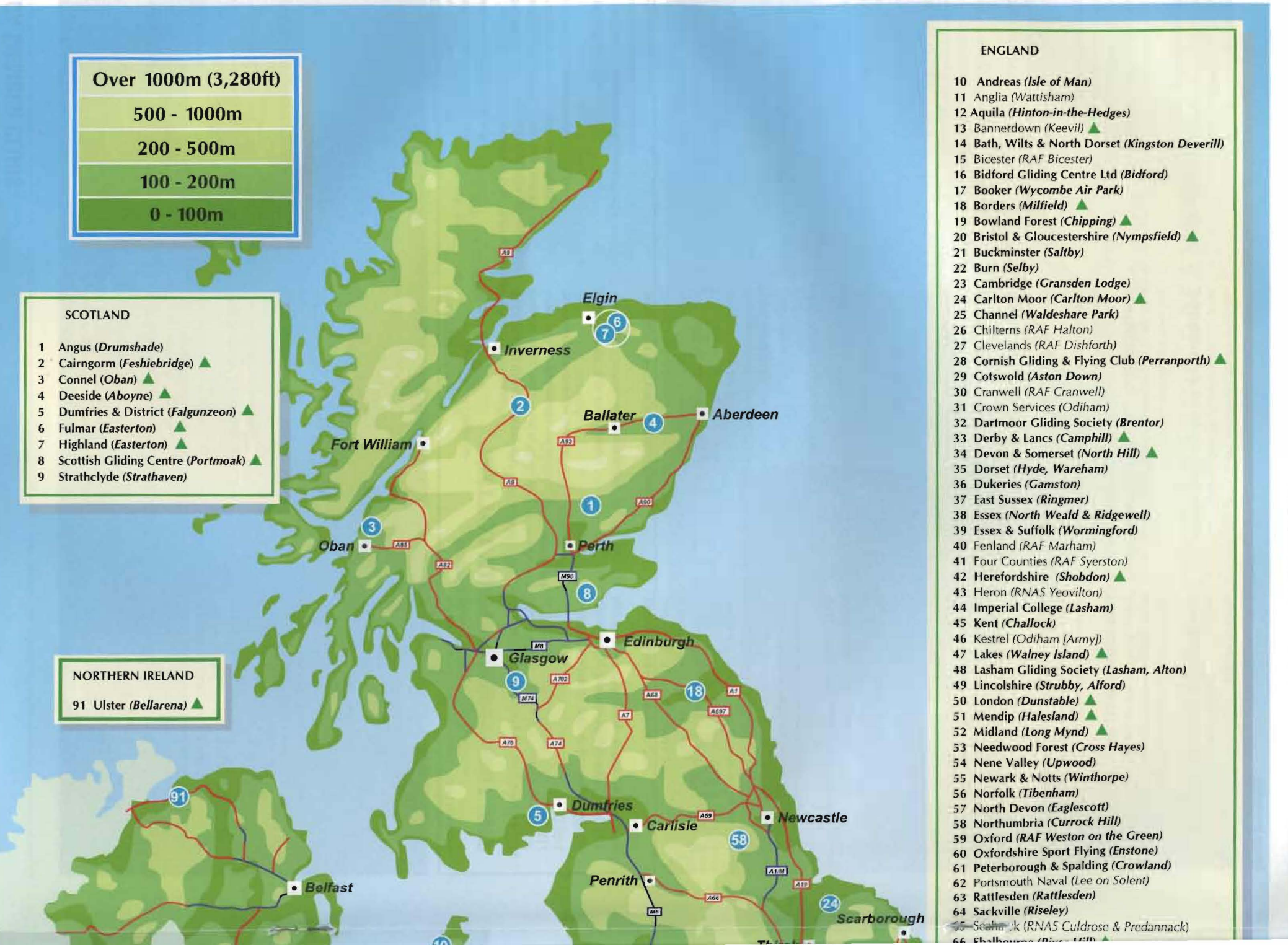
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01343 860272/*admin@highglide.co.uk*
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Bournemouth
Plymouth
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2003
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65 Scamp..k (*RNAS Culdrose & Predannack*)
66 **Shalbourne** (*River Hill*) ▲

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http://www.kent-gliding-club.co.uk/

KESTREL GC (46):
01372 458579/*chriswick85@hotmail.com*

LAKES GC (47):
Walney Airfield, Barrow In Furness LA14 3YJ
01229 471458/*peter.seddon@telco4u.net*
http://www.lakesgc.force9.co.uk

LASHAM GLIDING SOCIETY (48):
Lasham Airfield, Alton GU34 5SS
01256 384900/*office@lasham.org.uk*
http://www.lasham.org.uk

LINCOLNSHIRE GC (49):
Strubby A/F, Alford LN13 1AA
01507 450698/http://www.cix.co.uk/~lgc

LONDON GC (50):
Tring Road, Dunstable LU6 2JP
01582 663419/*info@gliding.powernet.co.uk*
http://www.londonglidingclub.co.uk

MENDIP GC (51):
Halesland Airfield, New Rd, Priddy, Wells, BA5 3BX
01749 870312 (Thurs+w/e only)/*haxell@clara.net*
http://www.mendipglidingclub.co.uk

MIDLAND GC (52):
The Long Mynd, Church Stretton, Shropshire SY6 6TA
01588 650206/*office@longmynd.com*
http://www.longmynd.com

NEEDWOOD FOREST GC (53): Cross Hayes Field, Maker Lane, Hoar Cross, Burton upon Trent DE13 8QR
01283 575578/*nfgc@gogliding.co.uk*
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NENE VALLEY GC (54):
Marshals Paddock, Ramsey Road, Upwood PE26 2PH
07761 478417/*jbhatfield@ntlworld.com*
http://website.lineone.net/~gpnuttall/nvgc/

NEWARK & NOTTS GC (55):
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01636 707151/*newarkgc@hotmail.com*
http://www.newarknottsglidingclub.freeserve.co.uk/

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http://www.nwgc.org.uk

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01207 561286/*Info@northumbria.flyer.co.uk*
http://www.northumbria-gliding-club.co.uk

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http://www.ratair.co.uk

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01234 708877

SCOTTISH GLIDING CENTRE (8):
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01592 840543 /*office@scottishglidingcentre.co.uk*
http://www.scottishglidingcentre.co.uk/

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Secretary/PRO: michael.vean@btinternet.com

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01264 731204/*Datac@compuserve.com*
http://www.shalbournegliding.co.uk

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01295 688121 or 680008/*Gliding.club@virgin.net*
http://freespace.virgin.net/fisher.m/sgc/

SHROPSHIRE SOARING GROUP (68):
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http://www.welshwave.co.uk

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01903 746706/*Southdown@sephton30.freeserve.co.uk*
http://www.southdown-gc.demon.co.uk

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01291 690536/*Dave.jeffries@btinternet.com*
http://www.users.globalnet.co.uk/~tonyho

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01785 282575/*office@staffordshiregliding.co.uk*
http://www.staffordshiregliding.co.uk

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01357 520235/*mail@strathclydeglidingclub.co.uk*
http://www.strathclydeglidingclub.co.uk

STRATFORD ON AVON GC (72): Snitterfield airfield, Bearley Road, Snitterfield, Stratford on Avon CV37 0EG
01789 731095/*geoff@gbutler.demon.co.uk*
http://www.gbutler.demon.co.uk/soagc/index.htm

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See **Lasham** or *www.surreyandhants.org.uk*

THE MOTOR GLIDER CLUB (74):
Hinton-in-the-Hedges Airfield, Steane, Brackley NN13 6LX
01295 812775/*Tompit@aol.com*

THE SOARING CENTRE (75):
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01858 880521/880429/*office@thesoaringcentre.co.uk*
http://www.thesoaringcentre.co.uk

TRENT VALLEY GC (76):
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01652 648777/*pwdewick@hotmail.com*
http://www.tvgc.freeserve.co.uk

ULSTER GC (91):
Bellarena, Seacoast Road, Nr Limavady, County Londonderry
028 7775 0301/*tom.snoddy@nireland.com*
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UPWARD BOUND TRUST GC (77): Aylesbury/Thame Airfield, Haddenham, Bucks (Not a postal address)
david@aromatic.fsnet.co.uk

VALE OF NEATH GC (90): Rhigos Airfield, Mount Road, Cefn Rhigos, Nr Glynneath, Mid-Glamorgan
http://hometown.aol.co.uk/rhigosgliding/myhomepage/flying.html

VALE OF WHITE HORSE GC (78):
Sandhill Farm, Shrivenham, Swindon SN6
01793 783685/*vowhgc@email.com*
http://www.vowhgc.8m.com

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01983 883884/*j.c.leonard@btinternet.com*
http://www.btinternet.com/~vectis.gliding

WELLAND GC (80): Lyveden Airfield, Harley Way, Lyveden Road, Brigstock, Kettering, Northants
01832 205237/*suzanne.harris@lineone.net*
http://www.welland.skynet.co.uk

WOLDS GC (81): The Airfield, Pocklington, York YO42 1NP
01759 303579/*office@wolds-gliding.org*
http://www.wolds-gliding.org

WREKIN GC (82): RAF Cosford
Clubhouse: 01902 377255/mobile: 07719 732746 (Sat/Sun)
http://www.geocities.com/wrekingc/wrekin.html

WYVERN GC (83): *secretary@wyvernglidng.org.uk*
Secretary: 01264 782812/Hangar: 01980 615283
http://www.wyvernglidng.org.uk

YORK GLIDING CENTRE (84):
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http://www-users.york.ac.uk/~mdc1/ygc.html

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British Gliding Association

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WE CAN MAKE YOUR SOARING DREAMS COME TRUE

Spot your crop for the drop

The first of two articles by Mike Cuming and John ("Red") Staley looks at crop fields in March, April and May...



Under an uninspiring sky and above an area of arable fields, the L-shaped stubble field stands out like a beacon

MIKE and John originally wrote a series of articles that appeared in the spring and summer 1992 issues of *S&G*, illustrating the various crops in synchronisation with the countryside itself.

The original articles are still often referred to and so the lads have been persuaded to revise and update them, resulting in this two-part article which will cover the field situation from March to May and – in the next issue of *S&G* – June to September. Meanwhile, Adrian Hatton has produced an excellent website (*www.field-landings.co.uk*) which shows individual fields and their crops at various times of year; it is very well illustrated with photos and text.

"When visiting Bowland Forest GC some years ago for their task week," writes Mike, "I was once obliged to land in a field. I picked a nice big one, flat, grass surface, straight into wind, pub nearby (exactly as per the BGA codes of practice). There was even a nice little ridge alongside. In fact, I thought it would make quite a good gliding site. Of course, it is often quite hard to find the farmer these days since so much land is let and the owner often miles away; but this was 15 years ago and I followed all the usual protocols, shutting gates, etc, and easily located the farmer, who lived in the village (next to the pub, actually), to ask about retrieve permission.

I was surprised by his response. 'You're early, we weren't expecting you until Saturday,' he said. I went on to repeat – very carefully in view of his obvious difficulty comprehending – my explanation about a glider having landed in his field. He beamed: 'Yes, yes, I do understand and really it is no problem at all, however, you ARE early! Look, here is my diary and you will see we were expecting you on Saturday. I expect the weather is more suitable today but it is a shame that the vicar has missed you. He was so looking forward to seeing the glider.' It transpired that a nearby gliding club had arranged to use the field to try it out as a prospective expedition site. This is not the only field that I have landed in, nor been retrieved from, but it remains the only occasion when I ever arrived early!"

Now let's talk about some other fields...

April/May/June – overview

By Valentine's Day (that's February 14, for the true die-hard bachelor pilots) Steve or Paul Crabb will already have launched from Hus Bos and flown the first thermal 100km cross-country in England – and he will have had plenty of fields to choose from. Many fields will be brown, a few will be green permanent pasture or perhaps just showing a hint of colour as crop starts to show.

However, from mid-March things start to change as the days lengthen and the brown fields develop a thicker and thicker coating of crop. The green tinge swiftly becomes a solid colour as the crops grow and the soil is obscured from view. In later March or in April the "spring" crops are sown and for a short while these fields will be brown but they quickly turn green too, as the spring crops try to catch up with "winter" varieties, which were sown before Christmas.

Virtually all crop fields (with the exception of oilseed rape) can be landed in with safety and minimum crop damage – so long as the earth can be seen through the crop. This will especially apply during the spring months. Note, though, that there are still safety issues – soft soil and associated rapid deceleration is one of them, tractor wheelings (as always) are another. If the ground is wet then the wheelings or other ruts might show up nicely. There is always a severe risk of undercarriage damage or worse when landing across any sort of line feature; the usual rule is that ANY line feature (a change of colour, a shadow, wheel marks for example) should be assumed to be a ditch or deep wheelings and therefore not crossed unless positively identified as safe (see excellent photos on *www.field-landings.co.uk*). Tramlines – the wheel tracks used repeatedly by the farmer to gain access to his crops – are well worth avoiding. They are dangerous because they are "sacrificed" ground that is repeatedly driven on whatever the weather. Even modern low-pressure units can cause deep ruts, which can then dry rock-hard. Be aware that some crops – such as oilseed rape, linseed or peas – can obscure their tramlines as they grow.

Tramlines can be a useful indicator of crop height, the shadows they cast identifying crops that are too tall to land in with impunity (especially if you have a low tailplane or catch a wingtip). Wheelings also provide a clue about whether a green field contains crop or grass.

Any hint of a tramline merits close scrutiny and under no circumstances should you let your glider roll across them. Most are 12m (36ft) to 24m (80ft) from the centre of one pair to the centre of the next, which provides a useful gauge of field size.

What's new since '92? The biggest change is the quite widespread introduction of 'set-aside' fields (where the farmer is obliged under the terms of his subsidy not to do much with the field, apart from maintenance, for the bulk of the year). From the glider pilot's point of view these fall into two categories – good and bad. Set-aside fields will mostly have had cereals in them as the last crop and will therefore be little more than abandoned stubble fields for quite some time after their last harvest.

They are sprayed off with total herbicide in April-May or cultivated in July – see *www.field-landings.co.uk/setaside.html*

Good set-aside will be those fields that have not been set-aside for long and will in effect be stubble fields – albeit with a few weeds growing through. Bad set-aside – from our point of view – are those fields that have been set-aside for some time and which either through the passage of time, or perhaps little maintenance, have acquired an untidy appearance through the growth of tall weeds and other obstacles. The bottom line here is that a "good" set-aside field will look like a stubble field and be excellent to land in while a bad one will look untidy with irregular clumps, which are best avoided.

The cost of crop is worth knowing about. In the event that you do some damage to a farmer's crop then it might be a lot simpler to negotiate a cash settlement there and then in order to compensate him, rather than involve your insurance company over quite a small sum of money. A general rule is that the value of most crops (NB: not the profit which the farmer makes – which they will



Tramlines in use in late May (All photos: Diana King)

tell you is nil anyway – but the actual price he will get once the crop is successfully harvested) is likely to be somewhere around £200 per acre. It follows that you really have to trash a lot of crop to do more than £100-worth of damage, and a glider landing in a wheat field and been carefully removed is unlikely to do more than a few tens of pounds in crop damage. Notice that we are giving no guidance at all regarding the value of the farmer's goodwill, although as a sport we do rely very much on this. So – if in doubt – round the price up by the cost of an aerotow and keep everyone happy!

March – in detail

Lots of brown fields, turning green. Some permanent pasture, depending on where you live. Muddy. Quite good soaring conditions with first 50km and 300km attempts possible, especially 50km and 100km diploma on days with high cloudbases, particularly later in the month and especially following the passage of a cold front (although this may have left the ground wet). Good choice of fields. Stock will begin to live outdoors, depending on altitude and latitude.

Advice to instructors: stay high, don't get low, use only strong thermals if racing. Advice to all pilots: stay high, don't get low, use any thermals, especially later in the day when the sun dips rapidly and the moist ground stops producing lift quite abruptly.

April – in detail

Lots of green fields, a few brown ones, and still a good choice. Green fields are pasture, silage (grass grown for cattle feed then cut) or crop (beans, peas, barley, wheat, linseed, etc). Brown ones are late-planted "spring" crop or are being used for root crop, which is sensitive to frost (for example, sugar beet). Stock will definitely be outdoors by now so milking times and electric fences (remember our caution about line features) are a factor.

Lots of first 50km and 100km diploma flights as well as a scattering of 300km and maybe even 500km will take place in the excellent spring thermals. Soaring conditions will be super with good visibility and high cloudbases most of the time, longer days but still moist ground and sudden thermal cut-off later in the day. Advice to instructors: especially towards the end of the month, brief inexperienced pilots to take their time over field selection, to stay high and make their field choice while still at altitude so that there is plenty of time to choose a good one.

May – in detail

Everything is now growing fast – really fast – especially silage and barley. The difference is that the silage will start to be cut from early May (later at higher latitude or altitude), when the first of three or possibly four crops of grass will be harvested. This cut grass with either be taken away (to be stored in "clamps") or baled and possibly left in the field for a few weeks. Each silage cut takes place approximately six weeks after the previous one ("a bit like my lawn" – Red) although only the first cuts yield really heavy juicy grass and later cuts are a bit more like long lawn mowings. Tall silage grass can cause a severe groundloop if it catches a wingtip; there's also a risk of wheel-well overheating if it builds up in there; this problem sometimes occurs on airfields too, after grass-cutting operations.

The good news about silage is that, after cutting and bagging, the fields are perfect for landing in. The only snag is the rapid colour change from green to yellow (the day after cutting) and back to green again as the grass grows once more. This yellow period lasts for a few days but under a low sun the colour can look very similar to ripening barley or oilseed rape flowers, which are out during May. Do not land in a rape field! Silage tends to be grown in a number of adjacent fields and during cutting there will often be one with bags in it, one waiting to be cut, one half-cut, and one already re-growing, all very close together. Rape has a ragged untidy appearance and obvious wheelings during the early months. Rape always has a few plants that continue to flower much later than the bulk of the crop, especially in areas of poor soil and around field margins or gateways.

Advice to instructors; super conditions but the choice of fields reduces each day. From early May look out for cut silage fields. Make especially early field selections to check for tramlines and taller crops, and also to look out for other obstructions (water troughs, power lines, etc), which are easily concealed by the growing foliage. Gliders damaged now won't be repaired in time for the rest of the season unless you're lucky!

June – in detail

Look out for the next *S&G*. Top tip, however, is this is the worst month for field choice (and often for weather too) so think about airfield-hopping – staying high and in reach of a suitable area or known field – especially if inexperienced or uncurrent.

Next issue: June to September. Mike and Red's 1992 series, Get off my land, *ran in the April-May, June-July and August-September issues. Adrian Hatton has since created an excellent site (www.field-landings.co.uk). It shows individual fields and crops at various times of year; we suggest you look at it regularly*



Late-flowering rape on May 31 identifies this crop for us

CODE OF CONDUCT FOR GLIDER PILOTS

If glider pilots are to continue to enjoy their sport, it is vital that the goodwill of farmers and landowners is retained. A great deal is owed to many farmers who have given help and consideration to pilots who have arrived in fields as uninvited guests.

Most cross-country flights in gliders are planned to end at an airfield; however, it must be emphasised that if a glider pilot fails to reach his destination and has to make a forced landing in a field, he incurs certain responsibilities.

The following code has been agreed with the National Farmers' Union and is intended to be a reminder of the conduct expected of all pilots. It is essential that all pilots should be aware of this code before they are first cleared for cross-country flying and that they are reminded of it from time to time.

1. Select a field that is not only safe to land in but one which should cause least inconvenience to the farmer.
2. Particular care should be taken when standing grass and cereal crops cover large areas of the countryside, for landing in these will damage the crops as well as the glider.
3. Care should be taken to land as far away from livestock as possible.
4. Immediately after landing and securing the glider, endeavour to discourage onlookers from coming into the field. For this reason, it is preferable not to land in a field next to a housing estate.
5. Contact the farmer or his representative and explain the circumstances of the forced landing. Pay for any telephone calls. If unable to find him at the time, obtain his name, address and telephone number and contact him, without fail, as soon as possible.
6. Keep the retrieve vehicle off the field if it is likely to do any damage, unless permission is obtained; it may be better to manhandle the glider to the vehicle.
7. Ensure that no animals escape while the gate is open and ensure that all gates opened are properly closed before leaving.
8. If any damage has been done, exchange names and addresses with the farmer as well as giving the address of insurers covering the glider. All gliders should be adequately insured against third party risks.

Gold height in the flatlands

If you can't get to the Andes for your wave flying there's hope even over the English flatlands, as these three stories show

JULY 28, 2002, started well and was preceded by a good forecast, *writes Dave Prosolek*, so I was down at Hus Bos early (7.45am) getting the equipment out. That done, I hurriedly rigged the 22 and put in as much water as I dared, mindful I had to take a winch launch.

My planned task was around 400km: to the north first then back into the breezy southerly to take advantage of any cloud streets that might develop. The wind was 45° across the strip when I launched at around 11.30, the logger showing a 952ft launch and then remarkably only a 7ft loss until I connected to my first thermal. (The accuracy of these devices is truly amazing.) The next hour was spent wrestling with broken thermals – I wondered what on earth was the matter with me as I struggled to get to 3,000ft so I could make a start.

Conditions looked quite good, but the thermals felt as if they were being broken up – rather as if they were wave influenced, but in a southerly? I have contacted wave at Winthorpe (a flat site with the nearest hills to the north-west around 35 miles away) several times before but never in a southerly.

By now I was getting a little frustrated at not being able to start the task and even considered landing, but decided to dump the waterballast and just sniff around to see if there was in fact any wave about. Within 20 minutes I was climbing up the front of a cloud just north of Swinderby. This took me to 6,500ft and I radioed my position and height to Winthorpe in a bid to get others into the area; by now I was starting to get excited.

It was very satisfying to see the SF-27 with Rance Noon (an experienced pilot in his own right) aboard start to climb up to my level; we kept in touch on the radio and decided to jump upwind. This turned out to be a good move and I climbed up to 8,500ft at this point, Rance came over and I made another push forward up to the north-east edge of Cranwell airfield which took me over Gold height in a sustained burst of 4kt (thank you very much).

As I looked down at Cranwell I could see all the tiny gliders lined up at the launch-point taking it in turns to launch. They were so small but in the strong sunlight they were very easy to see. It did cross my mind to wonder why none of them were up here as the wave was smack over the site; nevertheless I did not see any other gliders at this level and without oxygen I had to break off the climb and call it a day.

It was a lengthy flight back down and I flew back over Winthorpe at something like 10,000ft then headed north and crossed Gamston at around 7,000ft, then west to Mansfield (where I live – just to see the house) then back on final glide to Winthorpe.

All in all. a remarkable flight and so unexpected. It just goes to show what a fantastic sport this is of ours and how much there is still to learn. The day's sat pics showed wave bars from the South Coast right up the centre of the country.

An extraordinary day

IT SEEMS that Andy Bardgett's day (July 28, 2002, see *Here was a challenge*, December-January 2003, p22) was rather more special than he knows, *writes Keith Nurcombe*. Bernard Burton's superb satellite pictures offer an explanation for some wonderful flights that day. His satpic for northern England at 13.30hrs shows the very clear interference pattern that Andy describes, with wave bars at right-angles to each other out over the North Sea.

But how about the astonishing events further south? The same pic shows a squirt of cloud rushing up the Cherbourg Peninsula, illuminating a wave train from Southampton to Skegness. This wave train was only about 40 miles wide, passing right over Husbands Bosworth on the second day of the Midland Regionals. A number of pilots contacted the wave from winch launches and low aerotows, and had some very interesting flying. Those few competitors who used it found it upset their task planning, as the Daventry airspace a few miles to the west gave them something to think about. Basil Fairston followed the airway south beyond Northampton before diving under it to the TP, but others reported throwing away many thousands of feet to avoid infringing airspace on a more direct route.

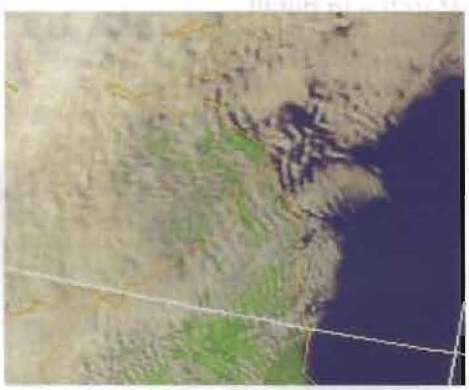
There was a large area of dry air with thin cumulus just a few miles out to the west, while eastwards the pronounced wave bars ran into a wall of large cumulus, cumulus calvus and cu-nim (with anvils forming from just after mid-day) barely 40 miles away.

I contacted the wave from thermal following a winch launch in my vintage Olympia 2B *sans* maps and camera, and spent four hours at FL105, with a climb rate exceeding 4kt at times. With no map or electrics or roadworthy trailer I was reluctant to go more than 20 miles from the site with the forecast wind at 25kt, but John Bevan and Peter Andrews, also at FL105, tracked along the wave to explore the line of cu to the east. Mike Costin, on the other hand, flew his Ventus below cloudbase in thermal out to the east just beyond Gransden, and explored the vigorous sea-breeze front clearly visible across East Anglia in the photograph.

Cloudbase was 3,600ft ASL early on, rising to 4,500ft; the tops of the lenticulars were at around 8,000ft ASL, with clear sky above. The wind at 10,000ft was rather less than the forecast, those pilots with GPS claiming 14-15kt.

The wave bars collapsed progressively from the south at around 17.00hrs, and as the wave collapsed, the wind aloft dropped dramatically. After this time at Hus Bos the train of wave bars could be seen receding steadily north-eastwards for some time afterwards as they evaporated one after the other.

Thermal activity below cloudbase continued unabated until late in the evening, to round off a most extraordinary day.





July 28, 2002: (above) Andy Bardgett's wave; (below) a jet of cloud from France illuminates wave over the UK

Wave over Gamston



LINDSAY sat in the front seat of Dukeries' Janus B for a trial lesson on a windy day that had started with showers, *writes Mike Terry*. The cloud at about 1,500ft showed evidence of wave: it was stationary despite the fresh wind and you could see the edges building as the body slipped back. A few seagulls were playing in the lift, flapping a bit, too. Several earlier flights had given some reduced sink with bursts of lift in the rotor; the circuit was noticeably rough.

The Janus launched to 1,150ft with rough air on the way up and a 70° crosswind, but to the right the ragged edge of the cloud looked distinctly firmer. Crabbing along its edge showed reduced sink and then, as we slowed to 45kts, 0.5kt up. Slowly the Janus climbed into the edge of the cloud, the ground only just visible. Turning more into wind moved us clear. As we headed towards Retford the vario indicated 1kt and then 2kt. We climbed in silky smooth lift on a beat from Retford to just north of Markham Moor roundabout on the A1. Checking the slot frequently, we settled to enjoy the view.

At 6,000ft the lift reduced to almost zero so I decided to push forward and at the same time give Lindsay her lesson. Alas, we were unable to find any secondary system. As she took hold of the stick she turned her head and asked: "Is this the normal length of a trial lesson?" Given that it was January 26 I had to reply: "Not at this time of year!".

Trying to teach turns was interesting: the patter prompts came perhaps a little too urgently at times. "Turn to the right using stick and rudder together – you can use a bit more control if you want – we need to turn a bit tighter," then as the wall of cloud seemed to be just too close for comfort and we were still facing downwind: "I have control!"

It was the most enjoyable wave flight that I have had: not a high one, but after the years of looking up at the wave, seemingly unreachable without aerotow, it was such a sweet experience to get in off the winch from a flatland site.

A sorry tale in the Alps

Our series on the Alps continues with a reminder from Bill Kronfeld that they have been a playground for soaring pilots for many years

IN 1965, Imperial College Gliding Club (ICGC) decided on Zell-am-See in Austria for its summer camp, taking the Eagle two-seater (96) and Skylark 4 (296).

About a week prior to departure, the Skylark, which had been loaned to the Finns for the Worlds at South Cerney, had met a Cotswold stone wall, resulting in the tail parting company with the rest of the glider. This necessitated a rather rapid visit to Kirbymoorside to achieve a happy reunion of the two bits. Thanks to a magnificent effort by Slingsby Sailplanes I was able to collect the glider and drive straight to Dover in time for our ferry booking.

On arrival at Zell-am-See, Frank Irving decided that I should test fly the Skylark. This I did, with a suitable number of stalls and spins, and deemed the glider to be fully serviceable.

However, on landing I was severely reprimanded for my "aerobatics", which were apparently verboten in Austria.

Unbeknown to me, Klaus, a newly-arrived German pilot, had also observed my flight. He decided this looked like good fun and took off in his V-tail SHKI glider. However, after about 10 turns the glider span into the lake – but not before Klaus had the presence of mind to abandon ship. His parachute opened at about 1,500ft and he descended gracefully on to a rowing boat containing a couple in a very passionate embrace! To say they were not best pleased by Klaus's arrival is a considerable understatement. The glider was eventually fished out of the lake with relatively minor damage and the parachute replaced the German flag on the airfield flagpole for the rest of Klaus's visit.

The next few days were very enjoyable, thanks to excellent facilities and beautiful mountain flying, especially over the Grossglokner glacier. The only problem was the severe thunderstorms, which started at about 5pm. These were quite spectacular and, indeed, frightening. The power would go off and the gods would continue to rant and rave well into the night, causing considerable destruction in the mountains.

After a week the humidity decreased and an excellent day was forecast. Clive Mingo decided on a 340km O/R to Landeck, west of Innsbruck. He launched around midday and as soon as he was on his way we departed for some serious swimming and sunbathing. At around 2.30 a message was brought to us that Clive had landed on a football field in the mountain village of Imst 20km short of Landeck: there was a bit of damage to the glider but he was OK. I rashly volunteered to organise the retrieve using my brand-new Ford Cortina GT (Impreza Turbo of its day). Three of us finally set off just after 3pm. The retrieve was a nightmare: trees down; 2ft floods; mud; but worst of all landslides had washed away many of the roads. At one stage we had to wait two hours whilst a bulldozer carved out a new road across the mountainside.

Not surprisingly, it was the early hours of the morning before we arrived at the village. It was pitch black and there was absolutely no-one around. After a while we eventually found the football pitch but, even using the car headlamps, no glider was visible. So we decided to walk round the field and with torches check the 15ft high chain-link fence. After some 10 minutes, we found a hole above a steep embankment – at the bottom of which was a garden containing the remains of the apparently destroyed Skylark. At this stage we were really alarmed: we couldn't believe anyone could have survived without serious injury. So we scrambled down looking for any signs of Clive. There weren't any. As we wondered what to do, a very jolly and remarkably undamaged Clive rolled up the road. We spent the next hour loading the remains into the trailer.

On the way back he explained what had happened. The weather had deteriorated and, the terrain being mountainous, he decided the football pitch looked the best place to land. It was only when he reached the centre line that he realised that Austrian mountain football pitches are much smaller than English ones and that there was also a chain-link fence looming!

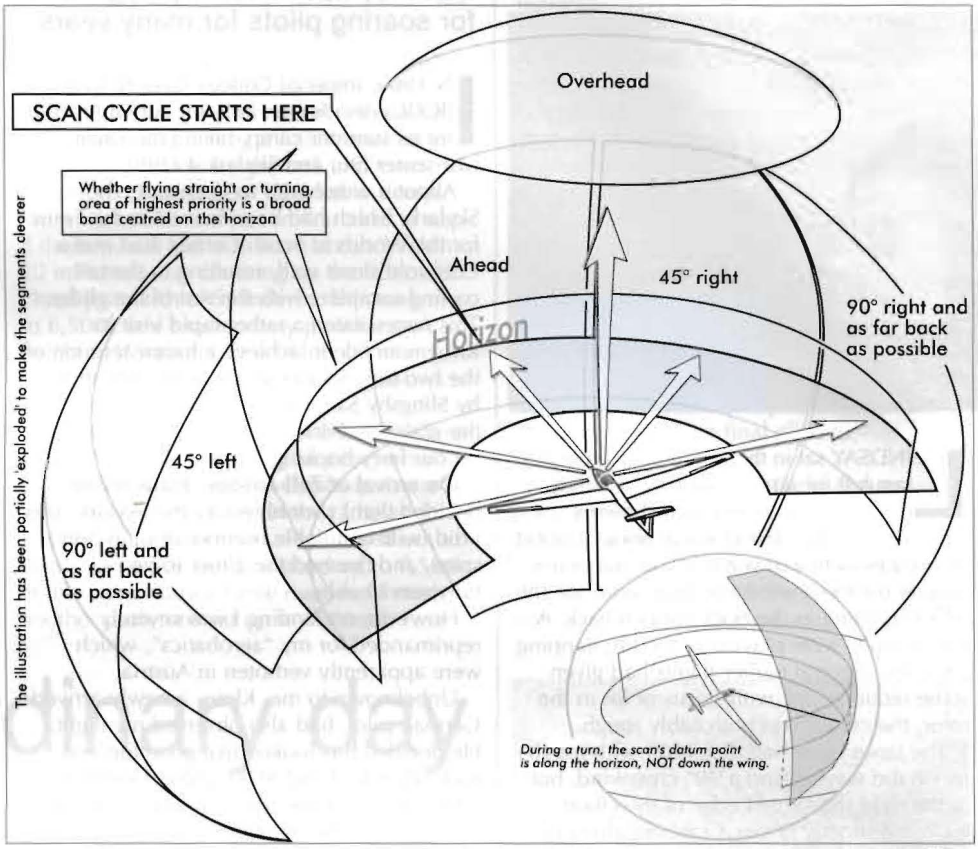
With considerable presence of mind he had applied full right rudder at the last minute so that the wing broke through the fence, absorbing much of the initial impact. The glider had disintegrated around him; he and a load of multicoloured matchwood had descended into the back garden of a very startled mother and child, who had been sunbathing there. Miraculously, the debris had missed the family by inches and Clive had stepped out of the remains. He had then been subject to copious Austrian liquid hospitality by the locals and offered a police cell to sleep in until we arrived.

We eventually got back the following morning. After a good sleep, I was despatched back to England with the remains of the glider. All went well until we arrived at Customs, who wished to inspect the carnet and the glider. The expression on the Customs officer's face, on opening the doors, had to be seen to be believed. It was only by rummaging about in the wreckage and producing a reasonably intact centre-section and tail that we were able to satisfy him that this indeed had been Skylark 296.

There is a sad sequel: once again she was restored to her former glory – only to finally succumb, in cloud, to an inexperienced pilot, who completely lost it; 296 broke up and was terminally destroyed.

Predator or prey?

Bob Pettifer, chairman of the Instructors Committee, explains how and why to use the new BGA-recommended scan cycle



Steve Longland

PREDATORY animals high in the food chain have the visual equipment that is appropriate for stalking – watch a cat as it hunts a bird or a mouse. In common with predators, humans, too, have their eyes in the front of their heads. This set-up gives a small, searchlight-shaped cone of good and accurate three-dimensional vision that is ideal for hunting, but our peripheral vision – which accounts for most of our field of view – is less acute, and at its extreme edges is in black and white, and capable only of bringing our attention to relative motion.

In other words, out of the corner of your eye you may see something move but you won't have the slightest idea what it is unless you look directly at it. The rabbit, in common with many prey animals, has its eyes on the sides of its head, and virtually 360°of vision. This allows it to keep an all-round watch for predators, and helps when it takes evasive action. Humans do not have the luxury of 360° vision (ours is about 200°), and in the air we have to go against the "lock-on" habits of the predator and, in effect, act unnaturally. In a lot of mid-air collisions, which incidentally are usually the result of one aircraft flying into another from the "target's" five or seven o'clock position (not from head on), it is obvious that we don't look out correctly, or enough.

In consultation with the Safety Committee, the Instructors Committee have introduced a more positive exercise to try to improve lookout in all areas of flight. As you would expect, most accidents happen in areas of high aircraft density and when the workload is high; such as in thermals or in circuit, and especially near or on the approach.

Because lookout should be as integral a part of the natural action of flying a glider as good co-ordination, we have introduced a "scan cycle" into the straight flight and turning exercises. The idea is that whatever the glider is doing, the pilot develops a natural scan cycle which is more or less continuous. The whole cycle – as described below – will take about 15-20 seconds. Any less than this and it won't be done thoroughly enough. Much longer than this and it will miss fast approaching aircraft. The military already teach this scan cycle, and if you watch film or video showing, say, the Red Arrows you will see pilots continuing the scan cycle whatever their aircraft are doing.

It goes without saying that if you aren't able to find time to look out whilst you are flying, then your skill level is not good enough, and you are a risk both to yourself and other pilots. The recommended scan cycle can be summarised as:

- **Lookout**
- **Attitude**
- **Instruments**

If you are flying straight, check your attitude whilst you are looking ahead at, and then above and below the horizon. Then look out to one side or the other, stopping every 45° to look along the horizon and then above and below it. At the 90° point you must remember to look as far back as you can. Next, look directly overhead, then go back to straight ahead, check your attitude and confirm it by checking the instruments. Repeat the cycle the other side of the aircraft.

While turning, centre your lookout scan on the horizon in the direction of the turn, and make sure that you keep up the general pattern of the scan; not forgetting to check underneath and above so that nobody climbs into you or you into someone else. By doing the scan in a cyclic fashion you are always aware of the attitude of the glider (and hence the speed) and of other aircraft. It is a busy time in an occupied thermal but if you can't hack it, get in some practice in less crowded skies.

Remember to look out carefully prior to entering or exiting turns. The scan cycle applies to all flying even when you think you are alone in the sky. If you're avoiding an aircraft, try not to concentrate exclusively on it. What about the other one (two, three...?) that you've forgotten to pay attention to?

When you decide to join the circuit, note all other aircraft in the vicinity, including those which may be behind you when you're on the circuit. While you are flying downwind, keep the scan cycle going, and don't become preoccupied with the landing area; surprising as it may seem, you can assess progress whilst you are looking out!

I hope you will have been flying regularly during the winter and staying current, but by the time you see this article spring will have arrived and the daffodil pilots will once again have emerged. The chances of a mid-air collision increase if non-current pilots are trying too hard to fly the glider, and so spend far less, perhaps almost no time at all, looking out. If you aren't current then no matter how good you think you are you'll have lost your edge and will need to take more care until you regain it.

There is always a risk of meeting another aircraft wherever and whenever you are flying, so you do need to look out all the time if you want to continue to be the predator and not become the prey.

Lookout – attitude – instruments!

Taming the turbo

Pete Freeman, the director of the Bidford turbo competition, offers some advice on field landings in a turbo sailplane

THE turbo competition at Bidford Gliding Centre has been running for six years now, and in that time we have experienced over 625 competition launches with 270 technical landouts. That's 270 pilots and gliders safe and home for tea without upsetting one farmer. Also in those launches we have had three actual landouts – and each one resulted in some aircraft damage.

Compared to the amount of field landing damage that occurs to pure gliders in competitions this is an outstanding record of safety. However, it could be even better.

Landing in a strange field is fraught enough but the additional workload of a failed start followed by a landing with the engine extended will entail an even higher workload. Even if the workload of the failed start and engine retraction is managed there is the always the additional risk of the extra weight of the engine and fuel increasing both the landing speed and ground run.

Most pilots in the turbo comp raise the engine and have it running by 1,000ft to 800ft, normally joining the circuit or starting downwind to a field. Now, if that engine doesn't start they are diving at about 70kt, distracted by engine start or retraction procedures, when concentration on the circuit and field is required – a very high workload – and most have not landed their glider in that configuration before!

How many pilots have landed their glider with the engine up but not running? In a small census of 12, I found two who had done so intentionally and six who had done so unintentionally; and of these six, three were in fields, the others at their home strip. The three in fields all sustained damage!

The first was a DG-400 that had engine-starting problems on the grid of the turbo comp. The pilot launched and started the task but landed out in a rough field, damaging the undercarriage. Cause not known!

The second was a Ventus 2CT flown by a very experienced cross-country competition pilot. The pilot had previously owned a self-launcher for a number of years but had owned this type only for a few months. Obviously getting low, he decided to deploy and start his engine.

Field selected, etc, all was fine but the engine wouldn't start! The pilot had the fuel ON control masked by a GPS and was actually pushing the canopy release closed instead of opening the fuel cock. Pilot error in a high workload situation. The result, a damaged glider – albeit an aileron, but...?

The third was in a DG-800B. The pilot launched on a 191km task but only managed 5.5km before making a field landing (five gliders completed the task and 14 did engine retrieves). The pilot stated that the engine fired then stopped! Subsequent enquiries indicate that the engine was completely functional. The pilot hit a hedge on approach into a field, causing very substantial damage, luckily only to the glider. Probable cause, high workload?

A Discus is a fine glider with a nice glide angle, but extend the engine and the undercarriage and you have a nice glider with a glide angle of about 14 to 1. A DG-400 engine up, undercarriage down ... don't even think what happens to the glide if you use airbrake.

Some of these pilots said: "I don't want to land my glider with the engine up because of the strain on the pylon". I now know that most of the agents and manufacturers recommend you do it. There might be some strain on the glider but not half as much as there is on the pilot in a stressed situation.

There are a lot of turbo pilots out there flying cross-country never having landed with the engine up and I believe one or two at your own field should be mandatory. The manufacturers should simplify engine start procedures but in the meantime rehearsal of engine start and stop procedures before every launch should be routine. A motorglider field landing exercise that includes workload to simulate engine start and stop procedures with increased drag for failed engine starts would be easy to develop.

I believe the Instructors Committee should be keeping up with the times and addressing these issues. I believe the Safety Committee should also take note. In the meantime, turbo pilots please think about these issues and if you would like to contact me with your thoughts and any news of any incidents that you have had you may email me on *pete-june@supanet.com* or write to me at Bidford. Fly safely!



the *White Planes* picture co.

This turbo DG-400 landed out safely after its engine failed to start. Are you prepared for a similar problem?

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Are you fit to fly?

In the second of his series on human factors in gliding, Ian Atherton looks at the effect of your health on your flying

THE mnemonic "IMSAFE" is known throughout the world of aviation as an easy way for you to work out whether or not you are fit to fly:

- **I** – Illness. Do not fly if you are ill. You will feel worse in the air.
- **M** – Medication. Make sure your doctor knows you are a pilot. Do not fly if you are taking medication or drugs, unless authorised by a doctor. In some cases the use of "illicit" drugs (even while not flying) has resulted in the pilot having his aviation medical withdrawn permanently.
- **S** – Sleep. Do not fly if you are tired or have not had enough sleep.
- **A** – Alcohol. Pilots should allow at least eight hours between consuming small quantities of alcohol and flying. The body processes just less than 1 unit of alcohol (half a pint of beer) per hour from the blood. Remember that alcohol can have delayed effects on blood sugar levels and the inner ear. In the latter case, the effects of alcohol (which changes the specific gravity of the fluids in the vestibular apparatus) can be prolonged (about 48hrs) and this increases susceptibility to motion sickness and disorientation. Following a heavy drinking session, the perception of motion and balance can be altered for quite some time, although this may not become apparent until the individual is airborne.
- **F** – Food. Make sure you've had enough to eat and drink before and during flying.
- **E** – Environment. Various environments need different clothing, for example, to protect from heat, cold, noise, and so on.

Visual defects and correcting them

It is essential for pilots to have good vision in order to spot other aircraft in sufficient time to avoid collision. Additionally, pilots need to be able to see close items such as maps and instrumentation accurately. Some defects of the eye must, therefore, be corrected. These include Myopia (short-sightedness) and Hypermetropia (long-sightedness). Spectacles can be used to correct both of these conditions.

Near vision correction

If the only correction required is for reading, pilots should not use full-lens spectacles while flying as this has led to accidents in the past. Instead, half-moon or lower segment spectacles should be worn.

Near and distant vision correction

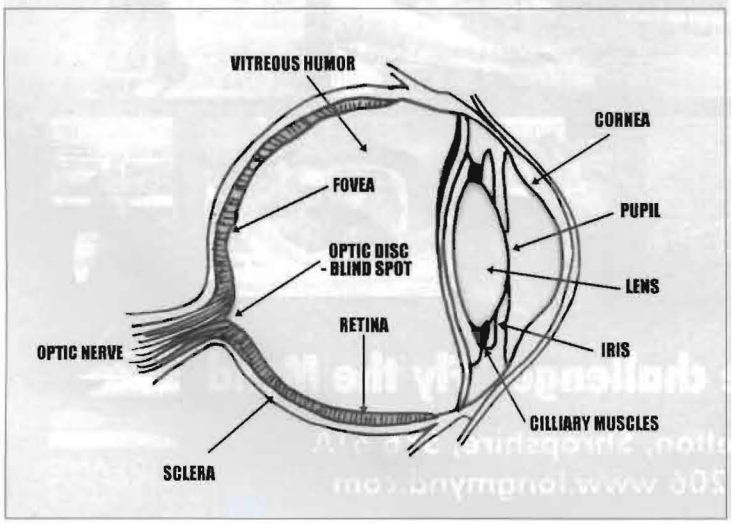
Here bifocal lenses are essential. The Civil Aviation Authority advises discussion with an appointed Aviation Medical Examiner so that the most suitable shape and size for each lens can be achieved.

Variable-focus lenses

This type of lens has a gradual merging of correction power that can cause severe lateral distortion in parts of the pilot's peripheral vision. This can sometimes be overcome by moving the head so that the required object comes into the centre of vision. However, this adaptation can prove difficult if suffering from hypoxia or fatigue. At present these types of lenses are advised against for general flying use.

Contact lenses

Many are suitable for use when flying. However, in aviation bifocal contact lenses are unsuitable for use in correcting Presbyopia – long-sightedness due to age – when reading glasses need to be used (typically post-40).



Left: the human eye. Some defects of the eye must, be corrected before you fly. These include Myopia (short-sightedness) and Hypermetropia (long-sightedness). These can be corrected by spectacles and, often but not always, contact lenses

Legal requirement

Whilst flying, pilots who use them must carry a spare pair of corrective spectacles.

Sunglasses

To give protection from cumulative damage by high levels of ultra-violet light over several years, good quality sunglasses should be worn. Brown (tan), grey, or green lenses are advised for aviation although this is partly down to personal choice. Many aviation sunglasses (particularly brown lenses) are also optimised for haze penetration and cloud definition, by filtering out scattered blue light allowing objects to be seen earlier than when viewed by the naked eye. Yellow or amber-coloured lenses also give good haze penetration but can cause severe colour distortion and are now generally out of favour for aviation use. The International Civil Aviation Organisation recommends grey for minimised colour distortion.

Polarised glasses are advised against for flying/gliding since they may filter or polarise out low-level wires and similar hazards (for example, during field landings) making them impossible to see.

Photosensitive lenses are not recommended since they may take a long time to clear. In any event, it is advised that pilots remove sunglasses before landing, especially when making an approach into a strange field.

There are several good quality makers of aviation sunglasses such as Cloudmaster (specifically designed for glider pilots), Randolph (US forces issue), and Ray-Ban. Many of these filters can be ordered to specific requirements for prescription spectacle users. It should be remembered that all spectacles restrict peripheral vision; especially those with thick frames, and increased head movements should be used to help with visual scanning (see also p42).

Empty Field Myopia

When flying at altitude (for example, in wave or in blue thermals) with nothing to focus on the eyes may revert to their resting focus point. This is quoted in the CAA document CAP 567 as 2m (6.5ft) but it may be shorter. This means that the pilot has to actively refocus frequently to avoid his eyes reverting to their focus resting point, thus allowing him to detect distant small objects such as aircraft. Clouds, the ground or even the wingtip of the glider can be used to help with refocusing.

Colour blindness

This is not a bar from flying gliders. However,

it is prudent to mention to your instructor that you are colour blind, especially when you are practising field landings.

Problems with binocular vision

Binocular vision only really works well up to about 40 feet ahead and does not play much part in judging distance when flying, even during the landing. It is not essential for flying. Thus, having the use of only one eye will not necessarily bar one from flying gliders. I know of a BGA Full Rated Instructor who is virtually blind in one eye, and my PPL Instructor also had only one eye! Obviously, medical advice may be required before learning to fly, but the gliding movement is usually pragmatic about such matters.

Physical disabilities

Several people with a variety of "disabilities" have learned to fly gliders and some have become instructors. Cases must be dealt with on an individual basis, but when modifications to gliders are required these must be officially approved by the BGA.

Blood donation

Pilots should not fly for 24 hours after giving blood. Glider pilots are also restricted to flight below 5,000ft for five days.

Diving and flying

Scuba diving is incompatible with flying and can result in pilot incapacitation (even death). This is due to nitrogen in the body coming out of solution; the nitrogen can form in bubbles, causing Decompression Sickness (DCS). This is sometimes referred to by other names including "the bends". Pilots must not fly for 12 hours after diving down to a depth of 30ft or less, 24 hours if deeper.

Fatigue

Fatigue can be cause by a number of factors, and often several combined. In addition to the factors mentioned in the "IMSAFE" section (*see opposite page*), the following factors should be considered as serious contributors to fatigue:

Stress: Most recreational pilots fly to relax and get away from the stresses imposed upon them during their everyday lives. However, flying itself can be stressful, and always demands one's full attention. If a pilot is highly stressed before a flight by personal pressures which he cannot control or block out while flying, he may lose concentration at a critical moment and, thus, he may well not be fit to fly. Such stressors may include a recent family bereavement, an impending house move or an approaching important deadline at work. Many pilots also put themselves under unnecessary pressure to perform well
while flying, often resulting in their underperforming, instead of concentrating on the tasks in hand in a relaxed and efficient manner. This may be in order to "please their instructor" or when trying to beat the competition, rather than working hard to fly at their best without worrying about what others will think.

Another important aspect of stress is the strain placed upon the body's natural physiological balance in responding to alarming or threatening situations. The response, or adaptation, to a physiological stressor (or threat) occurs in three phases and is known as the General Adaptation Syndrome. A sudden threat or alarm, such as suddenly finding yourself on a collision course with a previously unnoticed and rapidly approaching aircraft, produces an initial shock (The Alarm Reaction). After this, the sympathetic nervous system enables the body to adapt itself mentally and physically to cope with the problem (The Resistance Phase). During the alarm reaction phase adrenalin is released, the effect of which is an increased heart rate and an increased supply of blood to the muscles. Additionally, sugar is released from the liver, the digestion processes are suppressed and in extreme situations there is a possibility of bowel evacuation. This is known as the "Fight or Flight" response and is part of the survival instinct inherited from our ancestors. It will place a significant strain on the body's resources. If the threat continues the cycle can repeat itself, leading to exhaustion (the exhaustion phase) and, in extreme situations, even death.

Dehydration: This is a major hazard to flight safety and *must not* be under-estimated. Serious and even fatal crashes in gliders have been attributed to the pilot's becoming dehydrated. Wearing a hat when flying for long periods, and taking in fluids at regular intervals before, during and after the flight, can help pilots from dehydrating in hot weather. The rate at which dehydration can occur while flying should also not be underestimated. I have flown in hot, blue conditions where, despite being well hydrated before take-off and wearing a hat, I still needed to consume three litres of water during the five-hour flight. When flying for long periods over several days (say, during an expedition or competition) it is essential to keep well hydrated: failing to drink enough water can have a cumulative effect over a number of days.

Dehydration can also occur in cold weather, particularly during high-altitude flights where the air is very dry. This may occur in winter wave as well as summer thermals, although this presents other difficulties as drinks may freeze! Camelbak or similar systems are recommended for carrying drinking water. Sugary and flavoured drinks are best avoided as they attract insects and are messy if spilled. In addition, there is a lot of hype about "sports drinks". The problem with these is that a high concentration of glucose – above 3-4 per cent by weight (30-40g per litre) – actually exacerbates dehydration. If you feel thirsty, you are probably already significantly dehydrated.

Heat: As well as dehydration, sunburn can occur easily. Long-sleeved shirts, hats, and protective lotions can all help to prevent this problem. Lotions should not be applied to the forehead as they may run into the eyes and cause serious problems with vision.

Cold: Warm clothing including a warm hat and gloves, and taking in hot food and drink can help to avoid fatigue in cold conditions. Remember, conditions may be warm on the ground but below freezing at high altitudes

Noise and vibration: Flying a tug or driving a winch for long periods without a break can be very tiring, not least because of the concentration required. These are noisy environments and so ear defenders, earplug and so on can make valuable contributions in the battle against fatigue, as well as preventing longer-term damage to hearing.

Next issue: the ergonomics of cockpit design

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Grenville Croll of Rattlesden GC thinks the passage of time means it is probably now safe to describes one of his most memorable flights

THE barely-believable but true exploits of Gordon Rondel in his Oly over the North Sea in 1960 (*30,000ft in a cu-nim*, June-July 2002, p49) reminded me of some adventures of mine that took place in the same area half a dozen years ago. Some of the reasons these have not previously come to light will become clear as you read on, but the main reason is the statute of limitations.

It all started with the not inconsiderable arguments at Rattlesden GC about whether or not to replace our old winches with a new Skylaunch. On the one hand, the two existing winches did a perfectly good job but, on the other hand, a new winch could use LPG at a much lower cost-per-launch and almost eliminate the greasy, messy maintenance of each 60-year-old Eagle chassis. The debate was eventually settled a while back and the new winch was purchased.

There was one advantage to the new winch we had not foreseen – it was road legal. It could, in principle, go cross-country. There were a few debates in the bar about the various possibilities, but nobody took the idea that seriously. Well, nobody except me.

One of our previous CFIs had joined Rattlesden after some unpleasant experiences hang-gliding over the cliffs near Cromer on the north Norfolk coast. This irrelevant fact had lain dormant in my febrile mind until the day we made a family visit to the coastal village of West Runton, a few miles to the west of Cromer, in pursuit of Woolly Mammoth fossils for my young son. It was a sunny day, with a brisk on-shore wind. Seagulls were soaring the vertical, sandy



Leaving Rattlesden Gliding Club, destination the north Norfolk coast, for a winch cross-country in the half-light of a windy April morning

A day at the seaside

cliffs, annoying the picnickers by swooping down, picking up scraps and diving over the edge into the rising air.

These cliffs, I realised, were 200-300ft high and ran fairly straight for about four miles (west-north-west/east-south-east). A plan was hatched. Land was covertly surveyed. Launch and landing options were evaluated. Risks – of various sorts – were considered. The wind direction and strength required were obvious: just east of northerly – and pretty strong.

The day came one April, the kind of day when the late Alf Warminger might have done a record-breaking downwind dash in 44 from Tibenham to Cornwall, had the wind been more easterly. Rising in the middle of the night after an uncharacteristically alcohol-free evening, the three of us hitched the Nimbus behind the Renault Espace and the Skylaunch behind the Range Rover. We sought no permission, hoping for forgiveness only if we were caught. Working our way carefully through the dark country lanes near the club we picked up speed on the A-roads through Thetford, Mundford and Fakenham, arriving on the north Norfolk coast about half an hour before sunrise.

'Fairly low, I could see the top of the church tower above me. I was too busy to notice who was top of the bill at the pier-end theatre'

Two of us rigged the Nimbus at the edge of a field close to the church at West Runton. With the strong wind, poor light and more than a few nerves, this was quite difficult. The Range Rover dragged the Skylaunch diagonally across that field and the next, positioning it at the top of a sandy headland a hundred yards or so from the main caravan site. This gave us a launch run of about 2,950ft (900m) with a wind nearly 45° cross at about 20kts.

Leaving the other two to finish rigging and checks, I wandered over to the beach carpark. The cliffs are not high at that point, but I had a good view up and down the ridge and could just see the pier at Cromer. The sea was white, blowing off a huge spray, which I could smell. The tide was on the way out, as expected (I had checked the previous evening). There were no landing options west of where I was standing. Beach options to the east were awkward because of the strong crosswind, and also depended upon the state of the tide.

Carefully considering the exit options, I launched a few minutes after sun up, to about 1,200ft (365m). As soon as the cable was off, the winch packed up and headed home immediately. This was a one-off. The hooked-up trailer awaited instructions.

It was rough. Crabbing along firstly to the west, there was only evens, to the east, sink. I descended. I sweated that cold sweat that tells you that you really shouldn't be here. Turning Cromer pier at around 600ft I could see the still street-lit town rather too close below – but the audio was beeping! As expected the cliffs were working lower down, and better to the west, where I could climb back to around 800ft. It was a strange sensation, beating back and forth over Cromer, with the views of the pier, funfair, caravans, railway, a few ships and the old lifeboat station marking the end of the line of lift. After about 20 minutes, I relaxed a little, but decided that it was about time I cleared the airspace before anyone noticed. I radioed the trailer for a beach rendezvous.

Overhead Cromer at 700ft I turned west, this time accelerating to 120kts; I was still in strong hill lift. Weaving in and out of the cliffs, much as one does on a good day at Sutton Bank, I pulled up hard to the right at West Runton and chandelled round to make a final low pass to the east. If anyone at the bizarrely-named Hotel de Paris, overlooking Cromer pier, was having an early breakfast that day, I do not know what they would have made of the white flash that streaked past. Fairly low, I could see the top of the church tower above me out of the corner of my eye. I was too busy to notice who was top of the bill at the pier-end theatre.

Pulling up and turning into wind, I could see the tide was fully out. Undercarriage down, flaps down. Turning finals, I unlocked the safety catch on the drogue chute, which is handy in strong crosswinds. Diving at well over 70kts under the wind gradient a mile to the east of Cromer, I crabbed across the glistening beach, carefully avoiding the groynes. Sea spray drenched the right hand side of the canopy, making things more difficult than they already were. Down to the last couple of knots above the stall I yanked the drogue deploy, pulled full brake and pushed full rudder. A second later there was the reassuring deceleration caused by the chute deployment followed by the rapid deceleration of a wet nose-down plunge into the sand.

At once unstrapped and out of the glider, I took the wet drogue chute off the bottom of the rudder and flung it into the cockpit. Hauling the glider by the tail back up the beach to avoid the incoming tide left me breathless. We de-rigged on the wet sand quickly and in silence. A few dog walkers quizzically looked on. As we towed the trailer towards the ramp by the old lifeboat house, a fishing boat came ashore ahead of us with the latest catch. We waved and set off on our journey home. Back at the club, nobody had noticed that the winch had been on an East Anglian awayday: in the strong crosswind, nobody had turned up to fly. Next time we rigged the Nimbus, however, someone did ask about a fishy smell. We searched around in the cockpit for a minute or two. I'd caught a red herring in the drogue chute.



The run from Beeston Hill (170ft) to Cromer. West Runton church is on the right just above the nose; Cromer church tower is just visible on the horizon

Grenville flies a Nimbus 2, has 750 hours, Gold and two Diamonds. A freelance management consultant specialising in quantitative methods, he can be reached at www.grenvillecroll.com



Grenville's landing area on the beach at Cromer. Note the groynes, which he carefully avoided

(Photos, Grenville Croll and Mark Taylor)

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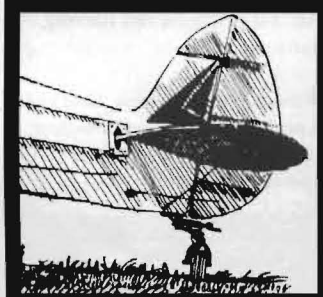
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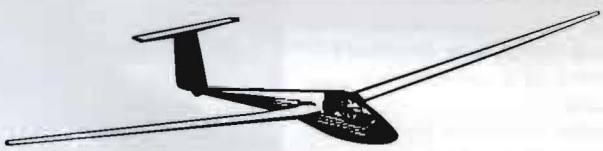


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Update on UK airspace

Carr Withall, chairman of the BGA Airspace Committee, reports on the previous year and outlines recommended practices for glider pilots

THE YEAR 2002 was without doubt my *annus horriblis*. My parents died – and the BGA was presented with massive airspace change proposals covering a vast area of the country, affecting many clubs, with no consultation until the major players, Ministry of Defence (MoD) and National Air Traffic Services (NATS), had decided on what they needed. See p5 of the February-March *S&G* for more details.

When we were finally allowed to put our case we were told that it was far too late to change anything. We have been assured that this lack of consultation will not happen in the future.

There are plans to re-design the controlled airspace in the South East and South West.

Bruce Cooper and I are still pursuing the move of the P600 airway, between Aberdeen and Glasgow, and the raising of a large area of unused Class A airspace south of Manchester (the Daventry CTA).

Ongoing proposals from East Midlands, Newcastle, Bristol and Cardiff for increases to controlled airspace are being looked at and clubs affected by these proposals are being informed so that they can provide details of their airspace needs for cross-country flying.

I am very aware that although Class D is available with an ATC "clearance" it is far too much hassle for 99 per cent of pilots. Cross-country flying is a very high workload activity for all of us and therefore we strive to obtain simple access agreements with ATC units where we regularly wish to use controlled airspace.

On the European front the "One Sky" project has agreed in principle that the upper controlled airspace level will be above FL195 throughout Europe. This will be a reduction from FL245 in UK but a raising for Germany. This will NOT occur this year. There are still procedures and discussions within the MoD and NATS. Gliding will continue to have our wave areas above FL195.

The next Eurocontrol plan is for controlled airspace down as low as FL95 covering the whole of Europe. In the UK there is total opposition to this by all of general aviation and the MoD. These views and a request for a full cost-benefit analysis to justify their case have been sent to Eurocontrol.

This *S&G* does not therefore include the full description of all types of airspace. See *Gliding and UK airspace* (April-May 2002 p42) for full details and descriptions of airspace. Nothing has changed. What is important is that we follow recommended practices that will assist our safety and other users of airspace.

Code of Conduct for glider flights through Class D airspace.

Remember you must obtain ATC "clearance" to fly through any Class D airspace. Tell the controller that you are a 15-Metre/Standard or Open Class glider. Keep the controller informed of any change of your planned route, due to massive sink, for example.

Do not circle on the extended centreline of the airfield's runway. Be prepared to initiate avoiding action notwithstanding your right of way priority. You are flying VFR rules and therefore separation is not provided from other aircraft.

An R/T licence is required. However, safety and common sense take priority over whether or not you have a licence when unavoidably drifting into Class D airspace.

If cloudbase is so high that it is possible to soar over the top of Lyneham or Brize Norton zones please give them a call. They will see you on radar and will assume that you are in their zone and so divert their military traffic five miles from the radar target. They are very helpful.

Parachuting drop zone procedures

The list of parachute sites and appropriate contact ATC frequency is on the aviation maps as a block of information. Contact the ATC unit and they will be able to say if the site is active. The glider pilot can then request the drop zone (DZ) frequency to obtain the current activity. By talking directly to the parachute site one may either be allowed to cross safely, if they are having a break, or fly around the zone if they are busy.

However, most importantly, in the event of a nil response from the parachute site frequency the glider should act on the strategic information given by the ATC unit and remain clear of the site.

YOU WILL NEVER SEE A FREE FALL PARACHUTIST IN TIME TO TAKE AVOIDING ACTION. IF IN DOUBT KEEP OUT.

The major parachuting sites at Langar, Peterborough/Sibson, Weston on the Green and Hinton-in-the-Hedges are very busy.

Be sure to make in-flight R/T calls to ascertain actual status of DZs on your route. An R/T licence is NOT required.

Airspace infringements

Once again we have had a good record. Flying on the QFE altimeter setting, which is our normal practice, can however more easily lead to an infringement. The airspace committee suggests that the airfield QNH be written down on the map before take-off. When flying close to the base of controlled airspace this QNH setting or 1013 as appropriate should be set on the altimeter. It is bad practice to add the airfield height to the altimeter reading during flight.

Airproxes

Despite the new symbol for gliding sites on aviation maps, an article in *Today's Pilot*, and the clear cable warning given on the leaflet with every new map, there were several airprox reports involving gliders, at less than winch launch height. Both military and civil aircraft disregarding the symbol on the map caused these. There were also very many other incursions over gliding sites well below winch launch height.

There is a simple form to fill in and send to the Civil Aviation Authority's Safety Regulation Group when this happens.

The BGA is sending out a large poster with a piece of cable to every flying club to highlight the need for aircraft to fly above the cable launching height when flying very close to a gliding site.

If considering filing an Airprox – or if you suspect an Airprox may be filed against you – then please contact:

Bruce Cooper – 01628 521360
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as soon as possible. If carrying a logger please keep the trace. The use of traces may well provide evidence against exaggerated claims.

Maps

There is much useful information at the bottom and side of the map that can greatly assist on cross-country flights: for example, parachute site contact frequencies, ATZ frequencies, Danger area activity, and so on. With ever-increasing numbers of light aircraft and gliders flying in our congested skies it is essential to use every bit of airspace possible. This can only be done if the correct frequency is immediately to hand when you wish to inform airfields that you are likely to fly close to or over fly. Always fly with the current map. New half-mil maps available: Southern England, March 20; Northern England, May 15; Scotland, June 12.

Finally, if you're lost...

Remember if you are truly lost and you are worried about infringing controlled airspace call on the distress frequency 121.50. This service can very quickly find you as long as you are above 2,000ft and south of Manchester.

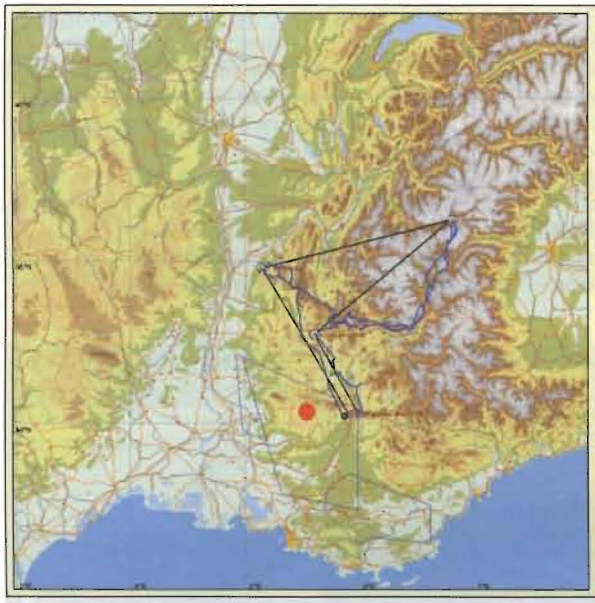
If you missed the outline of UK airspace in April-May 2002 S&G, back issues may be bought from the BGA on 0116 253 1051 or at www.gliding.co.uk



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Above: Give me a clue – what does the last "B" in "CB SIFT CB E" stand for? Come to that, what does the "E" mean? (photo courtesy of Jon Knight)

Left: That's more like it! The Ulster club launches its K-13 from the beach at Dingle last autumn

Below left: the tug seen through the hangar doors at Aeroclub Ingolstadt in Germany (Luitpold Staudigl)

Below: Southdown pilot (and European traveller) Guy Westgate was photographed doing aerobatics during the Shoreham Air Display last August





Club news

Aquila (Hinton-in-the-Hedges)

AS the spring creeps over the horizon preparations for the coming season are in full swing. We are actively pursuing more this year: more club members, more mid-week flying and more cross-country training. This, combined with organised retrieve syndicates, R/T courses and John Giddins leading our Inter-club League challenge, means that 2003 promises to be an exciting year. I have picked up the baton as *Aquila Flyer* editor after two years of excellent work by Hugh Gascoyne.
Barry Woodman

Bannerdown (Keevil)

FOUR gliders went to Talgarth last autumn and enjoyed ridge and wave flights. Carl Peters had an exciting dash back to site in the Discus when the tug's engine erupted in smoke. At Keevil, Merve Ridout's home-built winch stands alongside the Skylaunch. Megan Montgomery soloed in November. January brought northerlies and lots of ridge soaring west of the White Horse. At the AGM, Richie Arnall's resignation as CFI due to service commitments was announced; Ken Read is to take over. The following trophies were awarded: Hog of the year, Jon Arnold; Bannerdown Cup for overall merit, Julian Cooke; Colerne Cup for comp successes, Carl Peters; Keevil Trophy (presented by Ken Bryer) for best flight, Alan Stacey; Bannerdown Bowl (presented by Ian Smith) for most progress, Brendan Worley; CFI's Cup, Peter Brownlie; and John Burn Trophy for best behind-the-scenes work, Mike Smith/Mike Knell.
Derek Findlay

Bath, Wilts & North Dorset (The Park)

CONGRATULATIONS to our youngest pilot, Cynthia Makin, a cadet member, who was the first person this year to be sent solo soon after her 16th birthday. She has been flying with us since she was 14. A few weeks later it was the turn of John McLennan to solo. In spite of some very wet weather flying has continued but it is very encouraging to see how many members continue to turn up on dismal weekends to lend a hand with the multiplicity of maintenance jobs necessary during the winter. Mike Edwards and Steve Wareham are making a super job of modifying the Bocian trailer to take the Puchacz and our new Astir will soon take its place on the field looking as smart as the rest of the fleet.
Joy Lynch

Please send entries to *helen@sandg.dircon.co.uk* or Helen Evans, 7 Ollney Road, Minchinhampton, Stroud GL6 9BX to arrive by **April 15** for the next issue (June 10 and August 12 for the following two)

Bidford Gliding Centre (Bidford)

WE'VE had a busy if not muddy winter season, with many members taking advantage of our 2,500ft tow for the price of a 2,000ft tow offer. Congratulations to Colin Hussell and Richard Chapman, who achieved their Diamond heights at Portmoak. We had a visit from Andy Cunningham with the Fox aerobatic glider, providing aerobatic instruction and giving members the chance of an inverted experience! We are now gearing up for our full-time operation: our Pawnee tug has a new engine and by the time this goes to print we will be open seven days a week, so do come to fly with us. We are again running our turbo regionals this year, from June 14-22.
James Ward

Black Mountains (Talgarth)

TREASURER Charles Bake, reported excellent financial results for 2002 – with launches, membership, hours flown and turnover all well above plan. In fact we did almost half as many flights again as we did in 2001 … and the average soaring time per launch is still well over an hour, including training flights. It will be hard to match this in 2003 but with a full-time instructor-manager to promote midweek flying, we look forward to trying. Steve Moss, our tugmaster, decided it was time for our Pawnee, Papa Alpha, to have some TLC and so out came Charles's cheque book to pay for a thorough upgrade, including a new radio and high-visibility strobes. After a great day's wave soaring to 13,000ft-plus, we followed a committee meeting in the evening with a traditional Burns Night supper complete with haggis, tatties, neaps and, of course, a fine selection of malt whiskies. A great fun evening. The following morning was a slightly different story, though!
Robbie Robertson

Booker (Wycombe Air Park)

WELCOME to our new tug pilots: Gavin Draper, Chris Ryan and Richard Westbrook; they will have the chance to tow with two 260bhp Pawnees, two 180bhp Robins and a 180bhp Super Cub. The new K-21 is on site, and further upgrades to the fleet are under consideration. Ed Garner and Andy Perkins have left the staff to join the airline world. We wish them every success and hope to see them back regularly. Recent first solos include Francesco Bertoni, Martin Holland (BBC) and Lea Pickering. The recent lecture by George Moffat and briefing and check flight weekend with Jacques Noel were well supported. The airfield has been much less wet this winter thanks to the spiking in the late autumn;



Cadet Cynthia Makin, at 16 the club's youngest pilot, prepares to go solo at ***Bath, Wilts & North Dorset GC***

further work is scheduled to improve the surface. Plans are progressing well for our two-class regionals in June and the 15-metre Nationals in August.
Roger Neal

Borders (Milfield)

WORK continues on our private members' hangar project. We are organising our wave weeks for 2003, see *www.bordersgliding.co.uk*. We had some stunning wave vistas in January, but unfortunately, with 60kt winds, we couldn't find any takers to try them out! We continue to attract new full and country members. Our recently-acquired "youth glider", a Pirat, is being re-furbished by Dave Wilsin, and Leon Adamsom, Bill Steven, our CFI, and his brother Ian. It will be available to pilots aged 16 to 25 with no soaring charges. Congratulations to Dave Key on going solo.
Bob Cassidy

Bowland Forest (Chipping)

CONGRATULATIONS to Tony Levitt on his first solo. Several budding Bronze pilots are attending a course of Saturday evening lectures given by Bob Pettifer, in preparation for the Bronze exam and tasks later in the year. A group of soon-to-be Full Rated instructors is supporting this venture by giving some of the lectures. The workshop is full of pilots renovating aircraft and doing Cs of A in preparation for the coming season.
Eileen Littler

Bristol & Gloucestershire (Nympsfield)

THE BGA statistics in the last issue claimed we had only three women members. If that's true the CFI thinks there are a lot of blokes in drag! We have at least 10 women solo pilots and more associates. Private members have been asked if they want to pay for a power line to the trailers. Plans are afoot to upgrade *www.bggc.co.uk* – where we post news updates as well as give club details. Graham Morris, Deputy CFI, will tell about his bale-out from a AC5-T in the next club magazine. A social evening was held to tell members

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Alistair Hill (front) and Andy Cunningham in the latter's Fox when it visited ***Bidford*** *for some aerobatics*

about the annual DG-505 exped to Gap-Tallard for Alpine flying. A Fournier fly-in is provisionally planned for 4-6 July – contact Dave Bland at Roger Targett's.
Bernard Smyth

Buckminster (Saltby)

ANY rumours arising from our absence from club news are unfounded. We are still here, open seven days a week year-round – something which really helps make the most of what few flyable days we have over the winter. Looking forward, we will host two aerobatic contests: the National Glider Aerobatic Championships from May 29- June 1 and The Saltby Spectacular from September 6-7. Why not come and watch?
Paul Rodwell

Burn (Burn)

THE Christmas dinner was well attended, with cups going to Bob Baines for his third Diamond and Rod Salmon for his Gold distance. Dick Noble is our most recent solo pilot. The winter months have been cold, wet, foggy and windy but have given us many good flying days with wave to 8,000ft. Since the Falke's return to service with its new engine it has worked hard on annual field landing checks as we all look forward to a good summer. The annual pantomime was a great success thanks to author/producer Alison Jepson. Based on a James Bond theme, it concentrated on the threat to our airfield of the potential development of the site as a Nuclear Spallation research centre for Europe. Very little can be done to secure an alternative site until the decision is made on which of the four sites being considered in Bonn will get the project. So far the test boreholes have apparently shown Burn to be suitable.
Bill Thorp

Cairngorm (Feshiebridge)

SPRING is finally here, all is C of A'd, scrubbed, cleaned, polished, and ready to take to the air, and that's just the members! Following last year's success, CFI Andy Carter is again running another of his popular courses (April 14-18), so if anyone is looking to solo, needing a Bronze flying test, winch or aerotow practice, or even BI training, then this is the place to be (phone for details). Mayfest runs from April 26 to May 11. The soaring at this time is always superb with many first 300kms up for grabs (Nick Norman flew two 300s on the same day at last year's). It's never too early to think about Octoberfest, which will run for three weeks, dates to be confirmed. Check out *www.gliding.org* or call Ruth on 01667 493459 or the club on 01540 651317.
Chris Fiorentini

Cambridge (Gransden Lodge)

FLYING has picked up recently after the washout at the end of last year. Plans are being developed to improve the balance of club training and trial lessons to keep current students interested and making progress as well as attracting new members. January's recruitment drive, with a Junior rigged in Cambridge's Grafton shopping centre, generated a lot of interest. Thanks to everyone who helped out. Our regular winter guest lectures, organised by Colin Smithers, are as popular as ever. A series on gliding basics and Bronze exam-orientated lectures are also running. Neil Goudie and associates prowled the Highlands hunting wild haggis to be served up with incomprehensible poetry for some Burns Night silliness. By the time you read this the AGM and a Sutton Bank expedition will have happened (appropriate wind conditions have been booked).
Gavin Deane

Chilterns (RAF Halton)

TERRY Akerman and Luke Hornsey noticeably dented Gallic pride last summer by winning the Two-Seat Competition at the French Military Championships at Romorantin. November's AGM provided no great surprises - other than to the recipients of the various awards. January turned out to be the best for a good number of years with the airfield useable for much of the month, and sufficient north-westerlies on the ridge (with the north-east ridge also working). Not only is our treasurer, Bernie, smiling at the income derived, but also at that from additional midweek flying (can we persuade more Full Cats to retire early?). The K-6CR has reappeared after refurbishment with a new paint-scheme, thanks to Don Knight. Our Falke, Zulu Alpha, has also reappeared after some intensive engineering work required to integrate a new Sauer engine *et al*; thanks to Mick Wilshere, Al James and, principally, Terry Lacey. We said goodbye to Dave Sale and his sons; they were with us more than a decade and we wish them well at Cosford,
Andy Hyslop

Cleveland (RAF Dishforth)

SANTA'S sack was fresh out of Diamond heights this year. However, we did manage to fly for nine days during the long Christmas break. In keeping with recent tradition, Christmas Day dawned with a foggy start, but



David Key (left) is congratulated on his first solo by instructor Michael Charlton at ***Borders GC***

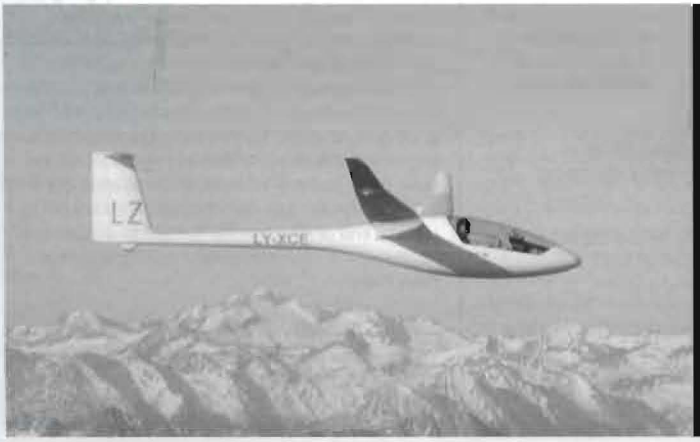
then cleared in time to allow us all to fly. In the evening, 26 members, visitors and friends sat down to a splendid five-course dinner. Frustratingly, the best wave has been in evidence mid-week, but the first weekend in February brought a taste of what we hope is to come, with relatively easy climbs to 11,000ft. Congratulations to young Ben Dorrington, who has persevered through the cold winter months and soloed (in a glider – he has already soloed in a Cessna, but we told him that didn't count). Also to Jim Donald, who completed his Bronze.
Polly Whitehead

Cotswold (Aston Down)

DESPITE seasonal wind and rain we have been flying most weekends and Oliver Ward reached about 11,000ft in wave. Our privately-owned tug has returned to site and is providing very welcome winter tows. Two of our younger members joined the Portmoak festivities while some mature members visited Australia and New Zealand. Graham Davies and Jon Gammage are both congratulated on first solos. Our annual dinner dance was a great success with cups being awarded to Gary Fryer for height gain and Helena Brogden and Geoff Dixon for best two-seat flight. The Pre-silver cup was awarded jointly to Chris Huck and Richard Siery. Paul Gray won the best young pilot award. Tony Parker won the best flight cup for his 500km. The jury is still debating the Ladder cup and the infamous "white stick" award; there are a few candidates this year, and we are anxious to make the right choice. The unfortunate syndicate with the inflammable K-6 (see last issue) have replaced it with a Discus. It is with regret that we announce the death of Richard Bunt (see obituary, p59).
Frank Birlison

Cranwell (RAF Cranwell)

DESPITE the worst of the winter weather lying in wait for the weekends we have managed to get some flying done. Notably, James Walker, who has supported the club from knee-high to K-21, finally reached the magic age and went solo. Most members have qualified on the



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Wyvern



THE Wyvern Gliding Club, based at Upavon in Wiltshire, was originally formed in 1959 from the Army Soaring Club at Lasham, when a T-21 ("Rudolf") was moved to RAF Netheravon. The Southern Command Gliding Club, as it was then known, operated from Netheravon until early 1971 when forced to move from Netheravon to Watchfield. After a short time at Watchfield, the club then moved to RAF Upavon in early 1972. Changes in the Army's Command structure has seen the name change to the South West District (Wyvern) Gliding Club, (the name 'Wyvern' coming from the SW District's Insignia), and then to Wyvern (SW Dist) Gliding Club, and more recently the Wyvern Gliding Club.

Upavon as a site began its association with flying in June 1912 when the Central Flying School of the Royal Flying Corps was formed there. As a matter of interest, the first ever night landing of an aircraft was carried out at Upavon in 1913. The RAF's association with Upavon finally ended in August 1993, when the site was returned to the Army.

The site is located inside the Danger Area D128, and therefore close co-operation takes place between the club and Salisbury Ops (122.75 Mhz) to deconflict airspace requirements. While this rarely affects flying at weekends, weekday flying can occasionally be interrupted by parachute drops on the nearby Everleigh DZ, or when the airfield is used for C130 Hercules Short Take Off and Landing practice.

Wyvern GC is one of three member clubs of the Army Gliding Association. The others are Kestrel, at RAF Odiham, and the newly-established Kondor GC at Bruggen in Germany. The Army Gliding Association exists to promote gliding as both an adventurous training activity and as a sport within the Army. As such, membership is open to all members of the Armed Forces, Regular and Reserve, MOD-employed civilians and their dependants. There is also a very limited capacity for civilians to join. Launching is almost exclusively by winch (we have two), although there is a limited aerotow facility available.

Our fleet consists of three two-seaters (two K-21s and a K-13), three single-seaters (a Junior for early solo pilots and two LS4s) and a T-61 motorglider used for both gliding training and for annual field landing checks.

The airfield, which we share with 622 VGS, is set in some 130 acres. It is surrounded on three sides by rolling chalk hills and, to the west, the sparse expanse of Salisbury Plain. The area is an excellent source of thermals, and flights in excess of one hour are routine. Over 7,000km cross-country were flown by members in 2002, and the club has seen numerous 300s and 500s. The Wansdyke Ridge (west-east) is nine miles north-north-west of the site and works well in a decent southerly; although returning to Upavon is often courtesy of a retrieve crew and trailer! On rare occasions, even wave can grace the site.

Although a service club, we are used to visiting gliders "dropping in", especially during the competition season! Visitors can be assured of a warm welcome – and a cup of tea!

Brian Penfold

At a glance

Launch type and cost:
winch, £2.50
aerotow, £14.00 to 2,000ft

Club fleet: K-13, K-21 (2), Junior, LS4a, LS4b

Types of lift: Thermal, ridge, occasional wave

Operates:
Every weekend throughout the year.
Bank Holidays and Wednesday afternoons

Contact:
Secretary: Brian Penfold 01264 782812
Hangar/office: 01980 615283
www.wyverngliding.org.uk

Radio frequency: 129.975

51º17'00"N 01º46'00"W

computer logging system, which will greatly assist operations. Surprisingly, given the weather, we have found a few potential pilots. By the time you read this we will have had our AGM.

Paul Skiera

Crown Service (Lasham)

THE Crown Service GC has now completed its first year at Lasham. We had mixed feelings about leaving RAF Odiham and our friends in the Kestrel club but since the move we have done much more flying. Now that we have settled in at Lasham we have started the process of updating our gliders to match our new circumstances. The K-13 has been sold and we are buying a DG-300. In the longer term we hope acquire a modern two-seater. However, we need more members to allow us to achieve this goal. The club is open to civil servants and other crown servants (including the police and fire service). We also welcome people who were civil servants before their organisations moved into the private sector. We can offer very attractive membership conditions to eligible people. If you are interested in joining us please contact the membership secretary Brian Stevens on 01252 325666.

Tony Newbery

Deeside (Aboyne)

CONGRATULATIONS to Mike Whyment and Dave Hallsworth, who have successfully completed the BI course. Lyn Ferguson-Dalling has taken over from Graham Holloway as CFI. The New Year has provided us with some enjoyable flying, especially on February 8, which produced several flights in wave to more than 19,000ft. Thanks mainly to the untiring efforts of our tugmaster, Roy Wilson, working on FWE and negotiating for a third trainer, we have a third Puchacz to join the fleet. Ian Donnelly has been working on a Cub to provide an additional tug. As usual we are running courses for all levels of pilots: contact Roy Ferguson-Dalling on 013398 85339. We look forward to welcoming old and new friends to the club.

Sue Heard

Dartmoor Gliding Society (Brentor)

OUR Christmas dinner and dance was a great success thanks to Rick Morris. Thanks are due also to Frans Lodze and John Bolt and their all-weather gang for the very thorough refurbishment, inside and out, of the clubhouse and the clearance of scrap from around the hangar. Members will now look even shabbier. Flying (now and then) has also got off to a good start in 2003. Ian Woolley and Gerald Nevinsky have completed Bronze and new member Chris Long has resoloed after a six-year gap. Congratulations to all three.

Phil Brett

Essex (North Weald/Ridgewell)

WHILST flying has been somewhat interrupted by high winds, snow and the all-too-familiar rain, nevertheless, like the ducklings, there is a lot of activity going on under the surface. Watch this space! Meanwhile, training continues and some members have flown with familiar landmarks hidden by snow ("I know the airfield is here somewhere: my GPS says so!"). Peter Manley is working on another K-8 to add to our fleet, good news to all our non-syndicated solo members, and to Tony Brook our treasurer! Peter Gill's talk on wave flying had to be cancelled due to appalling weather, and has been re-scheduled; the club dinner is at the end of February. We are due to re-open our Ridgewell site on April 1 for the soaring season.

Peter Perry

Essex & Suffolk (Wormingford)

WHAT with short winter days and the continuing non-glider-friendly weather, I decided not to submit any news last issue. The flak I've had! Nice to know I have some readers. Tried blaming the editor, of course, but



*James Walker being congratulated after his first solo by instructor Ian Mountain at **Cranwell***

I don't think it worked. The weather is consistent (consistently bad, that is). I can, though, report a first solo: congratulations to Richard Gormley. Two of our number have decamped to Oz. Dennis Heslop has yet to report but Phil Duffin already has two 500kms. Lastly, we have lost Robb Lockett, who has had to leave us due to work commitments. He will be sorely missed. Fortunately he's not leaving gliding so some other club's gain is our loss. I see more flak coming, as I'm sure I should know where he's gone. Oh, well.
Steve Jones

Fenland (RAF Marham)

AS your erstwhile reporter is sunning himself in the desert, it is understood that members left behind are beavering away at non-flying jobs due to the weather. On the Christmas exped to Dishforth, all site checks were duly carried out and the word from the locals was for a good wave forecast the next day. This shall henceforth be known as a Treasurer's Forecast, as the poor misguided souls launched into – not a lot and were soon back on the ground, eager to take another launch into the wave that was just starting ... yeah, right! Anyway, launch again we did and – lo and behold! – there was something, not a lot, but just enough for me to have a wavetastic two hours! Thanks to Dishcloth for their hospitality and to Timmy for arranging everything.
Graham French

Four Counties (Syerston)

WE have managed to keep flying despite the airfield grass being in poor condition from the rain. We have put in our order for a Ventus 2CT to replace the LS8 and are looking forward to lots of soaring, not to mention all those conversion beers! Dave Bromley, Huw Williams and Dave Hatton have just bought themselves a Cirrus, which they are busy fettling. Andy Langton and Dave Bromley have just become Basic Instructors and the club's younger element are planning several competitions in the coming year.
Sue Armstrong

Fulmar (Easterton)

THE weather has improved slightly since the last issue, allowing us to actually do some gliding! We have had several days when the ridge has been working and even got our first few broken thermals of the year. Well done to Pete Smith for finally completing his five hours on the ridge, then taking the next five hours to thaw out! Also our thanks go to Rick Jones, our departing CFI, who is moving to Cranwell. Thanks, Rick, for all your hard work over the past five years.
Mark Brown

Herefordshire (Shobdon)

BIG thanks to John Warbey and Roy Palmer, not only because our tug has made it unscathed through another annual, but also because the very same team are now laboriously going back through the accounts in an attempt to reclaim a further three years' worth of VAT! We are enjoying some good wave flying. Following his first solo late last year, and subsequent award of the 2002 club trophy, Neil Layton is now fighting his way into the club Junior, presumably with a view to hogging the first thermals of the season. A bit late for that though, as Mike Dodd had already soared for an hour in thermal on January 4, returning to gleefully report a 0.4kt average! With the recruitment of the very locally based David Johnstone as a new tug pilot, it is hoped that more midweek flying can take place this year, sometimes even at short notice. Our website has had something of a makeover – *www.shobdon.com*
Mike Hayes

Highland (Easterton)

AFTER a disappointing Christmas with poor flying things are starting to look up. We have had some good ridge soaring days with wave being contacted. Heavy snowfalls created some beautiful views of the Scottish countryside. Congratulations to Peter Smith (Fulmar) on his five hours and to Dave Kelly on going solo. Steve Young is very busy doing Cs of A on fleet and private gliders, a task he does each year mostly unseen as he carries this work out through the week when the rest of us are at work. So I shall say thanks on everybody's behalf. The days are getting longer: thermals and distance claims on the way, I hope.
Roy Scothern

Imperial College (Lasham)

MEMBERS new and old recently came together in style for the annual dinner, held in South Kensington. Many thanks to vice-captain Luke Cooper-Berry for organising such a successful event. Spring is traditionally a busy period for icGC – in addition to the annual dinner, we shall soon be scrubbing trailers to raise money for charity, holding a week-long intensive Easter course at Lasham and electing a new committee to replace my team and me when we stand down in August. Finally, I gather that a number of students are skipping lectures in order to get ahead in this year's race to solo first. Obviously, this is not to be encouraged, but I hope to have some good news to report next time!
Alan Bamford

Kent (Challock)

WE have now taken delivery of the first of our brand-new K-21s and are looking forward to the imminent delivery of the next. At our AGM, Grahame Underwood retired after five years as chairman: we thank him for all his hard work. He announced that we are "bucking the trend" by attracting an increasing number of younger members. Stefan Bort is our new chairman, with our best wishes and sympathies! A new five-year plan was endorsed and the committee was asked to arrange flying events to encourage local people to try gliding. We look forward to reporting on this and our ongoing development programme. On a much sadder note, we are all very sorry to lose Cliff Middleton, who died after a long and brave fight against cancer. Cliff, one of our two registered disabled pilots, was at the club regularly almost until the end. We will all miss him.
Caroline Whitbread

Lakes (Walney Island)

WE now have a new webmaster and our site is now running smoother and looking slicker than it has in the past few months. By the time you read this all the singing and dancing at the club dinner will be well and truly over. Here are a few of the memorable moments from last year. Peter Lewis was awarded the Duddon trophy for his outstanding service to the club as CFI for the last 11 years; best gain of height went to Neil Braithwaite, who managed to clock up 9,000ft. The best flight in a two-seater went again to Neil who, accompanied by John Martindale, notched up 222km from Pocklington – a club record for a pre-declared flight. I seem to say something about the weather each issue so I don't see the need to break the habit of a lifetime: YUCK.
Peter Seddon



*Jon Woodforth took this atmospheric winter picture at Strubby airfield, the home of **Lincolnshire** GC*

Lasham Gliding Society (Lasham)

WE send our sympathy to the family of Ann Welch, one of the founders of Lasham Gliding Society. Ann continued to meet her many friends at Lasham every week until just before her death. We join in the congratulations to Derek Piggott on his 80th birthday. As CFI during our formative years, his enthusiasm still inspires Lasham. Our present CFI, Graham McAndrew, has resigned to take up a new career as a commercial pilot with Channel Express. During his eight years of service he greatly supported the improvement of cross-country flying. We wish him great success in his new profession. Gordon MacDonald, deputy CFI, has agreed to be acting CFI. The social committee has arranged a series of meetings, including talks by George Moffat, Peter Claiden and Platypus. Nine lectures for pre-Bronze pilots are being held. We thank group leaders and their hard-working members who run the weekend launchpoints in turn: Patrick Naegeli, David Williams, Colin Short, Bob Pirie, John Caton and Derek Tagg.
Tony Segal

Lincolnshire (Strubby)

THE annual Christmas bash and prizegiving was held on December 14. Trophies were awarded to the following: John Brooks (two), Pete Carrington (two), Derek Woodforth, Dick Skerry, Ian Butler and Alan Pratt. We then danced the night away to the sounds of Three Parts Cut, an appropriately named band led by an ex-glider pilot. We are back flying after the winch breakdown and would like to thank Trent Valley GC for the offer of use of their facilities. Dave Ruttle has taken over as chairman following a recent EGM.
Dick Skerry

London (Dunstable)

SOME good days soaring our hill have kept us busy and gentle wave was found under the right south-easterly conditions, which also made the club fleet extremely popular. Thanks to Vicky Grayson, who has repainted and serviced our six-drum winch to high standards during the winter. Work continues on the new hard-surfaced perimeter track. We thank our cadets who redecorated the briefing room. We are recruiting new cadets for the coming season: if you would like to know more, please contact the CFI. Our entrance is now guarded by a barrier pole to deter unwanted visitors, so sleepless nights should be no more. Thanks to George Moffat, who gave an interesting talk to a large audience in our programme of weekend evening events. We send our condolences to the family of Betty Smith, who passed away in February. She was the wife of Dan Smith, our late president.
Geoff Moore

Club news

Mendip (Halesland)

THE club continues to develop and we are all looking forward to the delivery of a Rotax-powered Falke (G-KWAK) equipped for aerotows. Congratulations to Gwyn Thomas for going solo on Thursday, February 13. We were all pleased for you – well done! Thanks to members' hard work and generosity, we have a hard surface MT-building entrance and car park (saves all that winter mud) and we have a diesel LWB Land Rover for cable retrieves. Brilliant! Congratulations to Simon Withey for completing his Silver. One evening we visited RC Simulations, in Bristol, who specialise in flight simulators. We were stunned by what can be done even with a "home" computer and a video projector – you needed a virtual sick bag when some pilots were at the controls! The point was to think about further training aids for those days when "real" gliding is impossible!
J Patrick N Haxell

Midland (The Long Mynd)

WE were devastated to hear, as *Club News* went to press, of Martin Moss's death in a motorglider accident at Bowland Forest. He was a highly-valued instructor at the Mynd. We plan a fuller tribute to him next issue. If you watched *Scrapheap Challenge* you might not have recognised Mynd member Iain Evans in the British team. They soundly trounced the French and Americans in a craft largely put together by Iain. We say a *partial* farewell to Paul Garnham, ex-chairman, long-standing instructor, tuggie and aerobatic guru. He wants the best of both worlds, settling near Limoges and scuttling back to the Mynd in a motorhome when the weather is right. We welcome Dave Crowson to the staff. By the time this appears we hope our regular Dutch visitors will have again enjoyed extraordinary luck by getting bungy-into-wave flights every day while the poor natives, dragging up from London through the jams, will have had another flightless winter. What's new?
Roland Bailey

Needwood Forest (Cross Hayes)

MEMBERS have been kept busy during the winter months with a varied programme of talks, presentations and social events. The Wednesday evening Bronze lectures have seen a record attendance and the clubroom has been filled to capacity for many of our weekend talks, which have covered topics as diverse as trailer towing, thermalling techniques and glider design. Our January club development workshop, which was aimed at giving all members the opportunity to contribute to the future planning and development of the club, was so successful that a follow-up session was held in February to develop the ideas further. We've also enjoyed a number of varied visits, including to Duxford Air Museum, a highly informative tour of the ATC facility at East Midlands Airport and a karting evening. Keep in touch via *www.GoGliding.co.uk*
Val Roberts



*Visitors from **Needwood Forest GC** at the Air Traffic Control centre at East Midlands Airport*

Nene Valley (Upwood)

THE last two months have seen rain, work on the compound, snow and more rain, but by the time this comes out we should be basking in early spring sun, the field will be dry again and we will all have blown the cobwebs away. Despite this, Mick Clarke managed to solo at the beginning of February. The annual dinner dance was held in January and prizewinners included Paul Daly (two awards), Pete Seymour (two awards), John Bennett, and Dave Braham for tireless efforts on the club's behalf. The "Clutching hand" trophy for the most embarrassing landout went to Roger Emms.
Stephen Flowitt-Hill ("Mr Broccoli")

Norfolk (Tibenham)

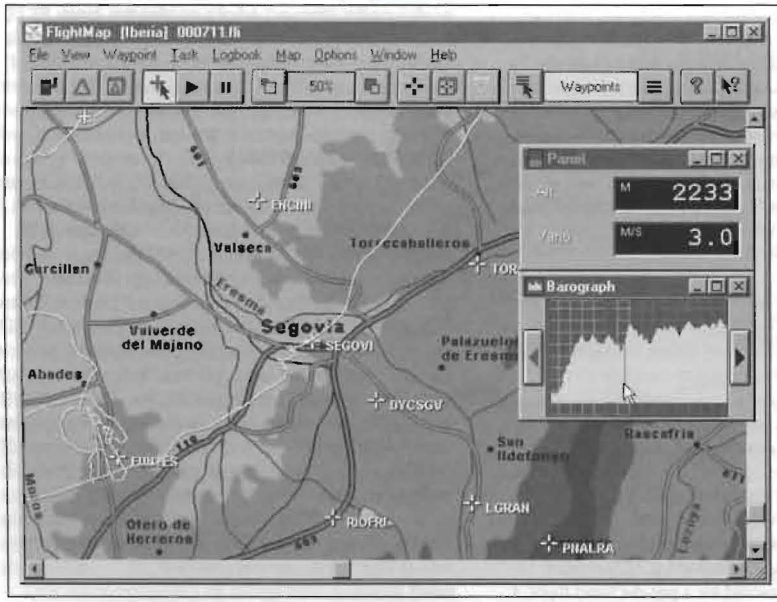
ENCOURAGED by the success of our trips to Highland GC last year, more visits are being planned. Terry Slater has booked three weeks at Easterton. Led by CFI Dave Munro, our instructors' committee is pushing to increase the number of instructors. We have lost instructors for a variety of reasons over the last few years and are anxious to increase our team overall. The pressure on this hard-working group is greater than ever with the number of courses scheduled. We are running a stalling and spinning course, for which we are planning to borrow a Puchacz. Chris Pollard is to run the course in aerobatics. There has been much clearing, tidying and renovating of hangar and workshop areas, with the objective of upgrading these to M3 status. This would let us service our two Robin tugs and motorgliders on site. The club has submitted applications for grants and planning permission for a new hangar, to be based on the southern hemisphere designs seen in recent issues of *S&G*. This will enable us to house the club's fleet and a limited number of syndicate aircraft.
Alan Harber

North Wales (Llantisilio)

WELL, it has been pretty quiet up here in the north-west corner of Wales, unless you count the amount of soil that has been moved to allow us a better location for the clubhouse and equipment. It's amazing just how much space just a few gliders take up. Now all we are waiting for is for it to b----y stop raining! You kind of know when it has reached the sogginess limit, when you set off in your car across the field and the only movement is sideways as you drift down the hill towards a parked glider. Hmmm! Great fun. Still we have now put our Bergfalke 4 back in the air for training and everyone appreciates its superior performance over our other training machine, the L13. Mind you, we do wonder what the Germans were on when they designed the cockpit. Comfort levels are not exactly Discus-like. Still, mustn't grumble. At least we have had some spectacular views of the mountains in winter.
David Trotter

Northumbria (Currock Hill)

ON the few days when there has been a frost-firmed surface, we have had some excellent high Skylaunches and even a little slope-soaring on our short-beat mini ridge at Stocksfield. Wave has been entered from the winch but high climbs have usually been prevented by low cloud. The broken tug has at last become an insurance write-off and we may have found a replacement. A considerable problem is imminent with the establishment of P18 airway, which will be at FL55 over the site, albeit as Class D airspace and FL75 until Barnard Castle and, of course FL125 thereafter. Apart from the effect over Currock, our happy wave-hunting ground to the south is seriously affected. Negotiations with Newcastle Airport are in progress. A new role of Instructor's Assistant has been introduced to improve airfield operating efficiency. This is an extended- responsibility replacement for Duty Pilot and it seems to be working well. The clubhouse refurbishment is cracking on apace, but not without incident. Part of the



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Illustration shows the new map for Spain. Data is supplied by Bartholomew Digital Data.

roof was being recovered and a burner was being used for drying out. It caused a small insulation fire, which was put out by members. The fire brigade was called as a back-up. At the recent AGM Don Welsh succeeded Steve Fairley as chairman. Steve has become vice chairman. Roy Mitchison succeeds Don as Hon Sec.
Len Dent

Oxford (RAF Weston on the Green)

SO dear reader, you may recall before the alcoholic haze that was Christmas, we had an AGM. A tired and emotional Pete Brooks handed out awards to all the over-achievers, as well as thanking all the individuals who had put so much time and effort into running the club, especially those who helped out on Friday nights. Andy Butterfield, Martin Hastings and Howard Stone received special awards for their contributions towards saving wear on undercarriage mechanisms; the big-bright-spark award went to Barry Taylor and Dave Weekes. As if that wasn't enough, Dave, Maz Makari and Simon Walker, got their half-cat ratings. With little left but a long winter, a team of "dope" fiends is recovering a club K-13. Roll-out is confidently expected when we get it out of the workshop.
Steve McCurdy

Peterborough & Spalding (Crowland)

CROWLAND is 10ft AMSL and we have suffered the consequences this winter. As I write, the airfield is still badly waterlogged and we thank Buckminster for their hospitality during these difficult times. We look forward to our annual dinner dance on April 5. Our AGM is set for April 11. Our "Flying Fortnight", normally the first two weeks in August, has changed: we will be having two separate weeks of flying, the first being May 24, when a BGA Soaring Course will take place. Simon Adlard will bring the Duo Discus and our CFI has arranged to have the BGA Discus and DG-500 available for the week. The second flying week is scheduled for August 23. During these weeks many of our members take annual holiday; we also welcome members from other clubs who wish to join us, or just fly in.
Joan Pybus

Portsmouth Naval (Lee-on-Solent)

K-21 E7 continues to be flown relentlessly, as operations continue by aerotow due to the boggy field conditions. Indeed a successful attempt on the local aerotow height record was achieved with a tow to just under the local airspace of FL105! The C of A programme is well under way and another of the K-13's has been sent away to be made as new. K-8 N11 flew for the first time in four years after a major in-house rebuild. A successful dinner dance was held in HMS Collingwood.
Pete Smith



*Cathy Page with her instructor Mark Taylor after she went solo at **Rattlesden***

Rattlesden (Rattlesden)

ALTHOUGH the "dark" months are the time of least activity I am pleased to report some achievements. Paul O'Leary and Helen Varley have completed their Bronze Badges. Cathy Page has gone solo and Andy Howels will take over from Mark Manning as our next CFI on March 1. Thanks to Mark for his hard work over the last three years and good luck to Andy for the future.
Pat Gold

Scottish (Portmoak)

THE Scottish Tourist Board has awarded the Scottish Gliding Centre a Three-Star award as an activity centre. We are well and truly on the tourist map now! Dave Bullock has very kindly agreed to bring the BGA Rotax Falke to Portmoak in July. We will be interested to see its aerotowing performance from our site, as well as its abilities as a glider trainer. As mentioned in the last *S&G*, I am writing a book on the history of our club and am looking for all sorts of stories from our visitors over the last 70 years. If you have a story, please send it to me at *ian.easson@btinternet.com* or by postman Pat to: Ian Easson, Overhill, Ferntower Road, Crieff PH7 3DB.
Ian Easson

Shalbourne Soaring Society (Rivar Hill)

OUR CFI, Liz Sparrow, one of our instructors, Kay Draper, and Anna Wells (whom we lay claim to as she trained at Shalbourne as a member of Reading University Gliding Society) will be off to compete for Britain in the Women's World Championships in May. Best of luck! Congratulations to Colin Baines on his BI rating. The instructor team used the excuse that the field was very wet to reschedule their meetings to the Crown and Anchor, and we all benefit from the (probably more mellow!) decisions that they made there. We have painted the K-13, ready for lots of training, mutual flying and cross-country flights. We started a cross-country group to keep inspiration flowing through the winter. An excellent talk on how to spot a great soaring day was given by Steve Barber. Dave Roberts and Patrick Naegeli visited us for an interesting Q&A session. The AGM in February was the scene of heated debates and very lively discussions. Dave Morrow, former Safety Officer, is our new chairman. Colin Baines continues to promote us as Publicity Officer and Alan Sparrow, Treasurer, continues to return healthy profits on the balance sheet. We say thanks for all your hard work to our retiring committee members.
Wendy Coome

Shenington (Shenington)

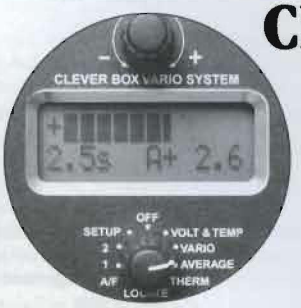
CONGRATULATIONS to Steve Roberts, who has just gone solo. Out winter maintenance programme is well under way and this year the clubhouse has had a facelift as well as the gliders. Thanks are due to the many members and midweek crew who have pitched in to help. We have had a very social winter, with Christmas and New Year parties plus (a break with tradition) flying on Christmas Day. Our annual dinner is just around the corner, and there will be further events advertised in spring. The AGM is at the end of March. Otherwise we hope for a good summer, and our intensive midweek courses start once again in March – call the office for details. Keep in touch with our social calendar and news at *www.gliding-club.co.uk*
Tess Whiting

Shropshire Soaring Society (Sleap)

AFTER a somewhat lacklustre 2002, this year has started with a bang. Alistair Gillson has re-syndicated our Twin Astir and it is now insured for all club use. We have arranged reduced rates for junior members and some have experienced their first wave flights with us. There have been several good wave days and flights up to over 14,000ft and still with 2kt up but with the sun going down even faster. The Twin Astir has also made its first cross-country land-out. We are laying plans for a soaring course, a task week and several expeditions. Our Aeroclub restaurant has been reorganised with a new



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caterer providing a splendid range of snacks, drinks and meals. Charles Webb has decided to retire as Treasurer in his sixtieth year of gliding. He and Ella, his wife, have meticulously kept the logs and collected the cheques for so long that we shall find it a hard act to follow. We hope to see them regularly in the future.
Keith Field

South Wales (Usk)

THE year has started with marvellous wave on almost every weekend day, with the entire club fleet at more than 10,000ft, and several gliders between 15,000-18,000ft. In addition there has been good ridge flying and even some strong thermal flights, with five landouts in January alone. Congratulations to Steve Stokes on achieving Gold height and to Martin Pingle on doing his Bronze. Thanks to Simon France for recovering the third K-8. Harold Armitage has stood down after years of sterling service as site and premises rep. Eddie King and Andrew James have joined the committee.
Maureen Weaver

Southdown (Parham)

SOUTHDOWN non-gliding club has rarely logged so many non-flying days during the winter season. Normally, winter provides us with ample opportunity to contest the 'Harry Harting trophy'. This award goes to the pilot who records the fastest run from Parham to South Harting to Mount Harry and return to base. When the northerly winds did finally arrive, they were accompanied by fog, sleet and then rain. Three 'T' hangars have now been installed on the airfield. The wonders of having a permanently rigged glider so near the launch point have awakened envy in the minds of many of our superannuated members. If we are permitted to extend this facility their will be no shortage of applicants. A DG-500 syndicate has been formed. However, it is unlikely to supplant the T-21 in the affections of the Parham gliding fraternity.
Peter Holloway

South London (Kenley)

AS one door opens, another... well, you know the rest. We have been fortunate enough to obtain the full-time services of John Northern as instructor, as we are losing those of one of our BIs, Simon Smith, who is returning to Brum to give his new son a proper upbringing, so he tells us! We'll miss you. Club finances are definitely on the up, with a good increase in trial flights – thanks to our secretary, Jill Oake, for her valiant efforts.
The excursion to Jaca will be in mid-April. Thanks to our tireless chairman, Steven Skinner and his cousin Philip for maintaining our fleet of club vehicles, and to our oldest member, Dennis, for nursing the winches when they need it! The club social is planned: any outrageous behaviour will be reported in the next *S&G*.
Alan Seear

Stratford on Avon (Snitterfield)

THE figure from the BGA Annual Statistics of more than 24,500km flown last year is a record since moving to Snitterfield more than 15 years ago. Having maintained the flying equipment to a high standard we are now concentrating on the ground services, with a new double-decker bus for control and two very good toilet blocks to replace our Portakabin type buildings. Our two large steel containers are really excellent for storing the tractors and Land Rovers, giving us much greater flexibility plus more room in the hangar for our aircraft and the Skylaunch. Full-time flying should start in May and run through to August or early September.
Harry Williams

Surrey & Hampshire (Lasham)

IT'S that time of year when there isn't very much to report; the C of A programme is mostly complete, with no nasty surprises. Most of the fleet has now been given new tail numbers, the SH-x series, so you will know us when you meet us in a thermal. Club chairman Graham Garnett distinguished himself with the first landout of the year, on January 4, in Lasham's Duo, at a soggy Parham – a landing described by Al Nunn from the back seat as a "splut". We are now concentrating on getting all the "odds-and-ends" jobs done in time for the spring. The AGM is on Saturday, May 10 at 6pm.
Graham Prophet

The Soaring Centre (Hus Bos)

CONGRATULATIONS to Alex Buxton, James Hiley and Ian Willows on becoming Basic Instructors, and to Keith Scott on completing his Bronze Badge. We are very pleased to welcome students from Warwick and Coventry University, who are now actively flying with us again. Tony Scragg is our new deputy CFI. Many thanks to Mike Till, our previous DCFI, for all his hard work. The club will be holding its AGM in the clubhouse at 8pm on Saturday, April 26. Our weekday and evening courses start again in April. The first leg of this year's Inter-club League will be at Husbands Bosworth on May 3-5. The other dates and venues are: June 7-8, Saltby; June 21-22, Syerston; and July 12-13, Dunstable. If you are interested in flying for the club, or helping out with crewing, please contact Rolf Tietema. Many thanks to all those members who are helping to refurbish the club trailers in preparation for the soaring season.
Siobhan Hindley

Ulster (Bellarena)

THE new committee are pursuing adding a single-seater Astir to our fleet and several possibilities are under active consideration. Gliding vouchers increase from £35 to £40 from March 1 but still represent excellent value as the price includes two months' free club membership. Our open day this year has been set for Saturday, May 24. Despite the recent inclement weather our field looks well and ready for the new season although some necessary repair work is planned for our clubhouse roof. The club is looking into facilitating the visit of a group in early May under the Walking On Air programme, which is designed to make our sport accessible to the disabled and something which we all in gliding must encourage and support.
Seamus Doran

Vale of White Horse (Sandhill Farm)

AFTER a rather wet winter, but one where we managed to fly a lot more than in previous years thanks to our tug, we are busy preparing for the summer. We shall be holding an open week at the end of May for the four days following the Bank Holiday, and any visitors then, as well as at weekends or Bank Holidays, will be very welcome. Our summer preparations include the usual pre-season field landing checks, but this year as an added bonus Jane Nash is giving a couple of talks on cross-country flying, to be followed by Cliff Beveridge's excellent food, all of which is eagerly anticipated.
Graham Turner

Vintage Glider Club

THE growth of our movement in Poland seems to centre on Gliwice, where Muchas, Lis, Fokas and a Jaskolka (recently bought in Belgium) are being restored or already fly. We understand that a 1936 Salamandra is being worked upon. Of 140 Jaskolkas built, only six exist and just one is airworthy (this one is in Britain). In the UK, work has continued over the winter on a Kite 2 at Wycombe Air Park. A Dagling is being restored by LGC member Peter Underwood, and the Scud 2 is being repaired by Laurie Woodage after a heavy landing due to a failed winch launch. Peter is working on a new canopy surround for the famous Dunstable Minimoa. In 2002, he finished a magnificent recovering and repainting of Brian Middleton's Sky. At Husbands Bosworth, Keith Nurcombe has made an EoN Olympia airworthy. Next July, the 31st International Rally will be in Finland.
Chris Wills

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Obituaries

Welland (Lyveden)

DREAMS of a second runway and under-soil drainage and heating have given way to reality-based refurbishment of winches, tractors and aircraft. Pete Pearson is invariably immersed in some or all of this essential equipment. We are pursuing various options for our first club glass-fibre single-seater. Werner Leutfeld has found out that while in the UK Foot-and-Mouth hampered 500km attempts, in Australia forest fires do the same. Thanks to Nigel Perry for three years as CFI – the last completely incident-free. Perhaps now he can fly for himself a little more, as Chris Hatton takes over the task.
Strzeb

Wyvern (Upavon)

WINTER weather may have slowed down the flying, but there is still plenty of activity. David Ockleton has taken over as chairman from Jamie Sage. Graham Sharpe has assumed the CFI's role from Pat Farrelly, who retires shortly. Our best wishes to Pat and Sarah for their move to Devon. Mark Wilson and Judith Parkinson have moved to New Zealand. Roy Gaunt takes up the reins of DCFI. Tom Muncaster, our technical member, has been as busy as ever co-coordinating Cs of A, and our thanks to all who helped. John Collins has been carrying out some minor refurbishment and the C of A of the Motor Falke, while Roy "Red" Gaunt has been busy with the spray gun! Well done to Paul Wright, who managed an early Bronze leg, and to Carol Jenkins for passing her Bronze paper. Visit us at *www.wyverngliding.org.uk*
Brian Penfold

York (Rufforth)

THE annual dinner was a great success, with awards presented as follows: Longest flight, Jonathan Smith (419km O/R); Senior Ladder trophy and height gain award (10,700ft), Tom Stoker; Best Silver distance (110km O/R) and Junior Ladder to Anthony Hollings; Most Promising Young Pilot Award, Helen Moffat; Bill Tyers Trophy, Roy Ingamells for his commitment to refurbishing the clubhouse; Chairman's award, Paul Hepworth for many years' dedication as treasurer; Spanner Award, Bill Emery and Richard Stembrowicz (for a flight in the Twin Astir taking a 7,000ft aerotow followed by their landing out after a search for wave!). The committee was delighted to ask Lynne Hepworth to present the new Peter Ramsden Cross-Country Scholarship to Anthony Hollings, giving him a soaring course with the national coach. The club had a superb half-hour of publicity on BBC North Yorkshire with a wave flight. The DG-505 went to Barnard Castle and back via Scotch Corner in wave on February 8.
Mike Cohler

Yorkshire (Sutton Bank)

THE festive season brought Liz and Derek's leaving Christmas party, which was a great success, and the coming of new caterers, Jocelyn and David, and their superb cherry scones. New Year's Eve was celebrated in style at the club with their culinary skills at the forefront. After flying in blizzards and all varieties of winter weather, it was a relief to see wave bars returning to the skies above us in January. We achieved a club record of three solos in one day, so congratulations to (left, from left) Andy Wilson, Lena Jakuba, and John Marsh (and to all the instructors who chewed their fingernails and sent them off). The very next week 16-year-old Chris Day returned from Thailand to solo on his first day back at the club, with proud parents Dave and Susan looking on.



It is with great sadness, however, that I report the death of Bryan Boyes, a much-valued club member. He will be deeply missed (see *obituary, next column*).
Alex May

Bryan Boyes – Carlton Moor, Yorkshire

BRYAN Boyes (1934-2003) died suddenly at his home on January 18. Before his retirement he worked for ICI in Teeside and was for many years a member of our neighbouring club at Carlton Moor. He had a great interest in all things mechanical (and recently talked of looking for an old lathe so that he could build a steam engine from scratch). This interest was regularly put to good use at both his gliding clubs. If ever there was a problem with the winch back axle, the call was always: "Where's Boyesy?" As a committee member at Sutton Bank his hands-on approach was of great benefit to us all. As well as his gliding, he was an enthusiastic Falke and tug pilot. Bryan always enjoyed his time at the club and he was one of the most regular attenders. His smiling, helpful, friendly nature will be much missed by all who knew him.
David Chaplin

Richard Bunt – Cotswold

RICHARD, who died suddenly in November 2002, was a member at Cotswold GC for two years. He enjoyed his flying, and was one of our weekday fliers, taking part in several courses. Sadly, he did not live to achieve his first solo. We extend our sympathy to his widow, Jacqui.
Frank Birlison

Barbara Carrow – Surrey, Lasham

WE are sad to have to report the death of Barbara Carrow (1925-2003), after a long battle with cancer. Trained as a technician with Miles Aircraft, she learned to glide at Redhill and met her husband, David, in 1951. David, a great admirer of fortitude in adversity, says he first noticed her because she was still smiling after three-quarters of an hour of holding a wingtip on a glider that refused to be rigged. When David was the BGA's vice-chairman, Barbara made the association's presentation to Philip Wills upon his retirement as BGA chairman. Barbara used to crew for David in competitions and – as his call sign was "Piggy" and hers "Market" – one would hear radio calls starting: "Piggy to Market". We send our deepest sympathy to David, their children Richard and Julia and to the grandchildren. She will be greatly missed and long remembered.
Mike Gee

John Durman – Wolds

IT is with great sadness we have to report the sudden death of our friend John Durman (1924-2002). John was a stalwart of the Wolds GC. An aviation enthusiast since his young days, he was trained as an RAF navigator in South Africa. Later in civilian life his career culminated in setting up factories, of which he was director for the parent company. His business acumen was the club's good fortune when he was elected chairman from 1974 to 1980. His grip on the committee enabled the club to make great strides in its formative years – he was instrumental in introducing aerotowing and establishing the club as a limited company. John was also an instructor for many years. Much of his life was dedicated to the club and this earned him the privilege of life membership. In 1973 we formed the club's first private syndicate with a rebuilt K-6cR and when John ceased flying early in 2002 we were still his partners, having changed the flying machinery several times. We are proud to say that during 30 years flying together there was never a harsh word between us – friends forever. Deepest sympathy goes to his wife Dorothy and family Peter, Christine and Paul.
Eddie Room and Bob Kirbitson

John Melling – Islanders

ANDREAS GC is sorry to report that John Melling has died at the age of 67, having suffered poor health for some years. John was the secretary of the "Islanders GC" at Jurby and Hall Caine and a tireless worker for the club. He seldom flew himself but was always involved in everything we did. He was one of the most persuasive people I have ever met. If we needed an obscure part for the Auster, or anything else, John would search it out. He was definitely one of life's characters.
Brian Goodspeed

British Gliding Association Badges

Diamond distance

	Pilot	Club (place of flight if different)	Date
1-905	John Lynas	Yorkshire	13/7/02
1-906	Allan Barnes	Midland (Gawler)	23/11/02

Diamond goal

2-2888	Alun Jenkins	Booker (Aboyne)	29/9/02
2-2889	John Lynas	Yorkshire	13/7/02
2-2890	Stephen Barter	East Sussex (New Tempe)	11/1/03
2-2891	Randall Williams	East Sussex (New Tempe)	12/1/03
2-2892	John Hearn	(expatriate, in USA)	1/7/00
2-2893	Allan Barnes	Midland (Gawler)	21/11/02

Diamond height

3-1595	Daryl O'Flanigan	Southdown (Minden)	23/3/02
3-1596	Richard Chapman	Bidford (Portmoak)	5/10/02

GOLD BADGE

2263	Alun Jenkins	Booker (Aboyne)	29/9/02
2264	Richard Chapman	Bidford (Portmoak)	5/10/02
2265	Oliver Peters	Bicester (Sisteron)	27/4/02
2266	John Hearn	(expatriate, in USA)	30/8/97

Gold distance

John Lynas	Yorkshire	13/7/02
John Hearn	(expatriate, in USA)	30/8/97
Allan Barnes	Midland (Gawler)	21/11/02

Gold height

Pilot	Club (place of flight if different)	Date
James Clarke	Portsmouth Naval (Aboyne)	23/10/02
Ian Marshall	Bristol & Glos (Omarama)	6/11/02
Alun Jenkins	Booker (Aboyne)	29/9/02
Kevin Tarrant	Bristol & Glos (Aboyne)	26/10/02
Daryl O'Flanigan	Southdown (Minden)	23/3/02
Richard Chapman	Bidford (Portmoak)	5/10/02
Oliver Peters	Bicester (Sisteron)	27/4/02
John Lynas	Yorkshire	13/7/02
Roy Garden	Deeside	13/1/03

SILVER BADGE

11157	Kenneth Powell	Herefordshire	31/8/02
11158	Pierre Henny	Lasham	8/9/01
11159	Andrew Charters	Bristol & Glos	10/9/02
11160	Nigel Cooper	Booker	13/7/02
11161	Mark Shaw	Rattlesden	1/9/02
11162	John Lynas	Yorkshire	13/7/02
11163	Allan Barnes	Midland	22/11/02

UK CROSS-COUNTRY DIPLOMA

Pt 2	Gordon Howarth	Chilterns	1/9/02
Pt 2	Alison Mulder	Bristol & Glos	1/9/02
Pts 1&2	John Russell	Yorkshire	27/8/02
Pt 1	Phillip Burton	Norfolk	1/9/02

The terminal glide



the ***White Planes*** picture co.

I LOVE competitions! Swooping low over the finish line, showering the observers with copious amounts of water after a particularly difficult struggle makes my heart soar! It's one of the things that I find so rewarding about this sport. Occasionally, however, such exuberance could do with a little tempering.

It was the last day and one pilot was in a leading position. Not good conditions, weak and scrabbly, then nearly totally flat around the last turning point. Three gliders crept around the turn together then headed slowly for a convenient airfield close to track where another competition happened to be occurring. They hadn't even launched, all of the gliders were being dried off back at the hangar. Everything was soaking: it was very damp air – almost drizzle. It didn't help the wings of those airborne.

Two gliders called on the radio, and then just managed to scrape straight-in landings. One pilot had just squeezed that little bit more out of it and was able to fly on past the airfield for a GNSS outlanding then turn back. It was just enough!

The glider had plenty of energy and ran the whole length of the grid at two feet, the unexpected arrival surprising the crowd completely. A majestic pull up followed, and the glider rolled. Who knows what was in the pilot's mind? A barrel roll perhaps? Or was it just a particularly steep wingover? With all of that energy, did he change his mind spontaneously at the last minute? I also love aerobatics, therefore I also know it's all too easy to bury the nose when you were not intending to... A nearly-inverted glider was almost immediately above the site CFI and the Competition Director. They both froze on the spot when it started to pull through! It's awful when you see an aircraft mushing at high angles of attack as the ground looms, it's even worse when it's someone inside that you know. They braced for the impact – but it never came. Another lucky day, the glider pulled out with just inches to spare then with all of that copious energy now dumped in such an untidy fashion, completed a low, flat turn before landing in front of the crowd with hardly any use of airbrake. No one moved and nothing happened for a complete minute, then the canopy opened. The CFI walked over slowly for "a word". He didn't have to say much, the pilot knew.

I haven't got a fertile imagination, the events above actually happened at a contest not long ago. Competitions usually bring out the best in pilots, but not always. Normally-high standards of airmanship sometimes lapse. I'm not against having fun, but in the process of doing so it's hardly smart if you end up in a wooden box. Nor is it demonstrating a sensible example to fly intentionally at low level across a field next to the airfield because some "Rule Maker" has set a finish height on the airfield of 50ft (particularly if there's a public road in the way). There shouldn't be any cases of a crash across a finish line at all, but they continue to occur. A well planned and executed finish is a delight to behold, but it is a high work-load situation and it's pretty obvious when a "thinks" bubble appears out of the cockpit at the top of the pull up.

When is a "competition finish" a "beat up"? Never, I hope! There is no reason why such a manoeuvre shouldn't happen in a club environment – provided it is carried out sensibly, of course. By that I mean having a word with the CFI or duty instructor first, assessing the weather conditions of the day and the launch run in use, then announcing to everyone your intentions on the radio beforehand. It might also be prudent to have a good idea of your own limitations then stick to them. I was severely embarrassed once when I carried out the first launch on a longest day. The trouble on this occasion was that we towed a dry glider out of the hangar in the dark. By the time it was light enough to launch, I failed to notice a light coating of dew had formed on the wings.

All was well until I started running out of energy rapidly during my low, high-speed run. I'm not proud, I have a low speed "gate" for a pull up, so when it came early I pulled up and landed well down the airfield – to the delight of the onlookers! It cost me a lot of beers, but I would rather emerge intact with a hole in the wallet.

Let us not forget the low energy situation as well – potentially it's just as dangerous, if not more so. If the final glide is that marginal, the earlier the decision to field land comes, the better. It is impossible to eliminate all of the risks involved in a field landing, even when everything is going for you. With a late decision, there is less time: the workload increases dramatically. I know of one pilot in a wheelchair because of wires encountered in exactly these circumstances. He had no idea that he had hit wires until the damage was found on the wreckage and he was told this in his hospital bed. Getting bored before the start line opens? Have a close look at the fields on final glide; then, if low, use them as stepping-stones on the way in.

Probably the biggest factor of all, in either case, is the attitude of the pilot beforehand – which dictates his approach. Faced with a long marginal final glide into wind in flat conditions, I adopted lateral thinking and went well off track in a vain hope of finding lift, then landed out anyway. On return to the site I was faced with a normally extrovert pilot who looked rather quiet – he had been alongside me at the same height and decided to continue. Later, I learned that concern had risen on the airfield when a "shadow" passed low over the top of the caravans – it was so slow, it could hardly be heard! A bus full of visitors had to be stopped before it crossed the path of a glider dumping the wheel at the last minute before flopping in with no airbrake. This event does, in fact, pose a further question: although this article aims to remind pilots of their responsibilities, what of the role of the Competition Director? In these times of legal liability, "ambulance chasers" are becoming prolific. What if the pilot had hit the bus?

The next day, of course, the pilot was his usual self. There had been a lot of marginal finishes and one crash: I was involved in a group conversation where he asked the best tactic in such circumstances – stay as you are, or fly low over the last field and hop the hedge to use "ground effect"? A friend replied: "I really wouldn't know, I've never put myself in such a situation!"

Martin Durham

So near, yet so far...

WHEN Fred Slingsby built the Swallow, he endowed it with a number of likeable characteristics. Rugged, good looking (at least in the eye of this beholder), and superb handling can all be listed amongst them. As far as glide performance goes, though, the point is – at best – moot.

On a good day, any glider will remain airborne, skipping from thermal to thermal. When the thermals are far apart, or the wind is above the most gentle breeze, then a Swallow's generally not going anywhere other than down. Having only a 13-metre span doesn't bring much to the party either.

Today's flight started with a launch that would have had Victor Meldrew bleating: "I don't believe it".

Suffering a compromise hook rather than a centre-of-gravity one, the Swallow gets far less out of a winch launch than you might hope. Compensation comes from the aircraft's brick-built outhouse construction, bestowing a maximum winch speed of some 64kt.

The cable tightens, and at the command "all out" the tail goes down, the nose up and we leave the launchpoint doing a passable impression of a scalded cat. Once into the climb, however, all is not well. As part of its built-in stall resistance, the elevator has a restrictor to limit the amount of up the pilot can demand, which normally means flying at least the last third of the launch with the stick on the back-stop, hawkishly watching the Air Speed Indicator (ASI) lest the beast gets too close to that 64-knot limit.

Today, however, we've got 45kt and the climb rate of an old lady on a stairlift. The cable quietly back-releases at the top of the launch, all of 600ft. The dismay felt at such a poor launch is at once tempered by a bubble of lift. An instinctive turn towards the rising wing is followed by a rewarding nudge on the backside as we rise with the thermal. The first circle completed, a glance at the variometer suggests that we are, in fact, descending at something around 2kt. A puzzled tap on the altimeter confirms that the vario is as pessimistic as a Port Vale fan with a ticket to an away cup match at Manchester United.

Hang on, the dratted yaw-string's wrapped itself around the pitot, so everything's being done by feel. This wasn't what I imagined when I crawled out of my pit this morning. Gone are those imaginary cumulus clouds and 6kt thermals, replaced by the increasing realisation that this flight has well and truly gone to a can of worms, and it's time to do something positive to effect a remedy.

At least we're not too far away from the airfield, and flying down the tarmac stub of the old northerly runway, which now forms part of farmer Bill's private strip, I realise this is an approach I've never used before. It's directly into wind, which is good, and all that's required is to keep the thing pointing north until we're over the natty barbed-wire fence that denotes the boundary.

"Faced with the choice between floating into a barbed-wire fence at the kind of speed that would almost certainly see you banned from driving should you attempt it on a housing estate, or walking away to a little ribbing from one's colleagues, the decision makes itself..."



Hmmm... I'm not so sure. Can we float over the fence on to "our" side of the airfield? Perhaps.

Now, words like "perhaps" and "maybe" have never been the most attractive to me, and aircraft and fences most certainly do not mix.

A quick glance at the (lying but generally offering a hint) vario sees the needle at an angle usually associated with a fairly generous helping of airbrake. No further incentive is required. Faced with the choice between floating into a barbed-wire fence at the kind of speed that would almost certainly see you banned from driving should you attempt it on a housing estate, or walking away to a little ribbing from one's colleagues, the decision makes itself.

Opening the generous airbrakes provides an instant, Stuka-like, descent into the farmer's field. Once the mainwheel's safely on the ground, stick forward and the ash skid contacts terra firma, bringing us safely to a halt, short of that nasty wire. I say us, as wooden gliders have souls. Mine's the "Red Witch", carrying the Wicked Witch of the West on the tail. It glides like a broomstick, too...

It doesn't, of course, end there. Putting the trailer on to the car, a quick trip round the corner takes a whole hour, most of which is spent extricating the trailer from the farmyard, as the trailer beaches on the hump before the second gate, and requires a tractor and ropes to remove. Old rope. On a dairy farm. Ugh! Add a quarter-mile reverse along a very narrow tack, courtesy of an old electric fence, and the actual de-rig and installation into the trailer isn't too bad (with large slabs of foam rubber substituting for the rudder-lock left at the launchpoint).

So, what are the learning points? There are several.

Firstly, just because the winch doesn't burst into a fireball, or the cable depart with a bang as a weak link lets go, it doesn't mean that you haven't had a launch failure.

Secondly, whilst arguably it's okay to use a bit of lift that's in the direction you were going anyway, being close to the airfield and all that, in reality it was a distraction. On a three-minute flight, distractions are best avoided.

Thirdly, whilst the start of the approach down the old farmer's strip might have been okay, the margin for error was small. Just as the convection giveth, near the start of the strip, so it taketh away seconds later.

Fourthly, take control of the situation, before the situation controls you. A more abbreviated circuit initially would have been best, but just floating down towards the barbed wire would most certainly have been the worst. All the simulations done in motorgliders while you obtain your BGA Cross-country Endorsement come nowhere near simulating the mind-concentrating powers of barbed wire.

Finally, and most importantly, unless you are absolutely certain to make the airfield in the right place at the right height, then a precautionary landing in a suitable field is the better option.

I know of at least two glider pilots in the last ten years who've flown into barbed wire. One wrote off his glider, the other found himself in hospital.

Given the choice between that or a few "thank you" beers for the helpers, I'm sure which I prefer.

For the superstitious, a final thought. Cricketers believe that "Nelsons", any multiple of 111, is bad luck. Whenever the scoreboard shows such a figure, Umpire Shepherd does a little skip.

As I entered the flight in my logbook, it was number 333. Superstitious? Me? I hopped and skipped all the way home...

Accidents to gliders

Dave Wright takes a look at what we can learn from 2002's crop of accidents and incidents

OVER the past 16 years with the BGA Safety Committee I've read through more than 2,500 gliding accident and incident reports. I've been amazed at the number of different ways the average pilot can get into trouble, how often they, as a group, can make the same mistake, how they can dig themselves into a large hole and ignore the escape ladder. I've seen how the most experienced instructors can make mistakes that would embarrass a first solo pilot! I've also seen how early solo pilots can think their way out of tricky situations. One thing is for sure – sooner or later we all make mistakes! I hope that *Accidents to Gliders 2002* will be read by a cross-section of pilots: some interested in the statistical analysis, others who just want to browse. Either way, it should help anyone in gliding to learn from the recent mistakes of others.

Breakdown of all factors in gliding accidents 2002 (2001 figures in brackets)

Cat. No.	Category description	Substantial accidents	Minor accidents	Factors	Total	Ranking 2002 (2001)
05	Airmanship	3 (8)	8 (7)	16 (12)	27 (27)	1 (3)
07	**Field landing**	**8 (5)**	**14 (10)**	**5 (5)**	**27 (20)**	**2 (4)**
19	Technical (incl. DI)	4 (0)	4 (7)	15 (12)	23 (19)	3 (5)
08	**Circuit planning**	**4 (3)**	**4 (7)**	**13 (20)**	**21 (30)**	**4 (1)**
09	Approach control	3 (4)	5 (10)	11 (14)	19 (28)	5 (2)
01	**Failed launch (winch/auto)**	**4 (8)**	**5 (3)**	**8 (8)**	**17 (19)**	**6 (5)**
11	Undercarriage collapse	0 (0)	1 (1)	11 (3)	12 (4)	7 (16)
13	**Failed to level off**	**0 (1)**	**1 (0)**	**10 (16)**	**11 (17)**	**8 (7)**
02	Failed launch (aerotow)	1 (1)	2 (1)	7 (2)	10 (4)	9 (16)
18	**Airfield supervision**	**0 (0)**	**2 (1)**	**7 (3)**	**9 (4)**	**10 (16)**
16	Instructor slow to take over	4 (1)	4 (8)	0 (0)	8 (9)	11 (9)
04	**Inadvertent stall/spin**	**2 (1)**	**0 (0)**	**5 (7)**	**7 (8)**	**12 (10)**
15	Other landing faults	2 (1)	5 (3)	0 (2)	7 (6)	12 (13)
06	**Flight in unfavourable weather**	**0 (1)**	**1 (0)**	**5 (7)**	**6 (8)**	**14 (10)**
14	Failed to observe objects, etc	0 (1)	2 (1)	4 (5)	6 (7)	14 (12)
10	**Failed to extend undercarriage**	**2 (0)**	**2 (4)**	**2 (1)**	**6 (5)**	**14 (15)**
17	Solo supervision	1 (0)	2 (1)	1 (11)	4 (12)	17 (8)
12	**Levelled off too high**	**1 (1)**	**1 (0)**	**2 (2)**	**3 (3)**	**18 (19)**
03	Airbrakes opened unnoticed	1 (1)	1 (0)	0 (0)	2 (1)	19 (20)
20	**Other causes**	**1 (2)**	**1 (3)**	**0 (1)**	**2 (6)**	**19 (13)**

Analysis

During the last BGA year we received a total of 143 reports, of which 41 were classified as UK Reportable Accidents (due to crew being seriously/fatally injured or the glider being substantially damaged/written off). A further 65 were less serious incidents with minor/no injuries to crew and minor/no damage to the glider. Motorgliders accounted for eight more reports; while 29 incident reports covered a wide range of issues.

Injuries and damage

Last year saw a reduction from 2001's deplorable seven fatal accidents. However, there was still one fatal mid-air collision between a glider and a parachutist. Both died. The AAIB concluded: "The collision occurred between two individuals operating from the same airfield with each believing that he was within agreed operating limits. Unfortunately, these perceived limits were different for each organisation."

Five people were seriously injured in a further four accidents; 11 other crew had minor injuries and one person was injured during ground-handling. Against this, 108 crew members survived without injury, including 36 in accidents that substantially damaged 28 gliders. On superficial inspection there is very little to distinguish injury from non-injury accidents in terms of damage. Seven gliders were classed as write-offs while another 33 had substantial damage.

How we analyse accidents

To help us understand accident causes all BGA accident reports are allocated a Primary Accident Category (01 to 20 for glider accidents; 21 for motorgliders). Glider and motorglider *incidents* are in category 22, which is also used for tug reports and safety issues not directly concerned with flight (for example, cable or rigging incidents).

The breakdown of the main categories allocated to this year's 41 substantial glider accidents included: eight field landings resulting in damage or injury and four each of failed winch launches, circuit planning, instructors slow to take over, and technical accidents.

Each accident is then given a specific sub-category to enable common features in each category to be identified. If an accident has any indications of further relevant aspects beyond the primary accident category, then additional factors are also allocated. These form an overall guide to common features across a wide range of accidents: for example, common faults in circuit planning (both into fields and at airfields) or how often airmanship enters the causal chain of an accident.

Analysis of accidents by category

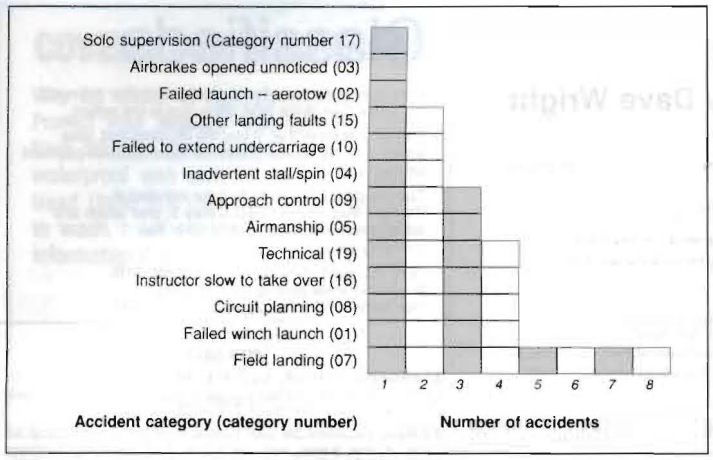
Factors from the incident reports were also added. In many cases the difference between an incident and an accident is merely whether injury or damage resulted. The table (above) shows how all categories and factors stack up. The substantial and minor accident columns are the primary accident category allocated while the factors are additional aspects of these and all other reports. Last year's rankings are given in the right-hand column so that changes in causal factor prevalence can be seen. The top five factors are the same as last year, although airmanship now heads the list followed by field landings, technical factors, circuit planning and approach control. Field landing is by far the highest-risk category (eight substantial and 14 minor accidents, plus another five where the field landing was a factor rather than a primary cause). Other aspects include:

- a worrying increase in substantial accidents following technical problems.
- The number of accidents where solo supervision was considered to be a factor has halved, but three accidents were still allocated to this category.
- Airfield supervision has moved from 16th to 10th place, with two accidents, plus another seven where it was a possible factor.

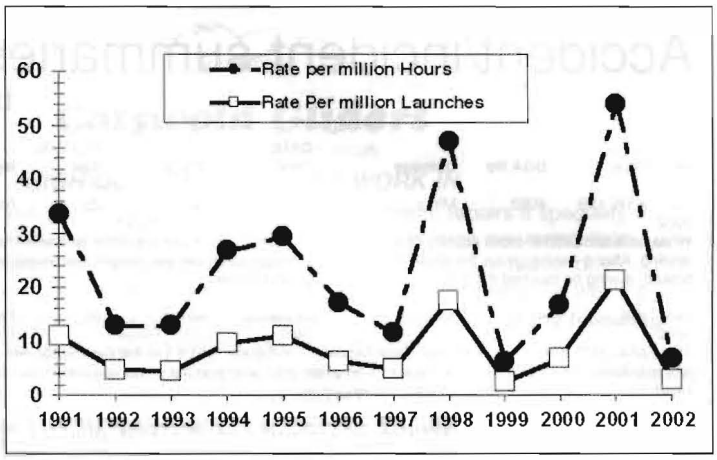
Let us now look at the top five factors.

Airmanship (category 05): This can be considered a contributory factor in 27 of the 106 glider accidents – it's often a subjective decision. When deciding, I differentiate between a simple mistake and a lack of basic good (that is, safe) airmanship.

There were three substantial accidents in this category: one poorly-judged final glide decision; a trial lesson that took place in poor weather and resulted in a downwind field landing; and an insecure canopy whose loss resulted in the pilot undershooting into a fence. One mid-air collision (after two gliders flew opposing circuits) fortunately caused only minor damage. Inadequate pre-flight checks are included. Unbelievably,



Accident categories for all substantial accidents (with category number in brackets)



Fatal accident rates 1991-2002 (comparing rates per million hours and launches)

ten canopies were reported lost, of which only two were probably due to technical problems. Three unreported heavy landings were detected only by the next DI; very late field landing decisions and launching into bad weather also featured.

Field Landing (category 07): There were eight substantial accidents, including one that seriously injured the pilot. He stalled in over trees when trying to make a late field landing choice during a competition. Seven gliders were substantially damaged.

Considering all the 27 accidents with a field landing factor – there were eight during flights declared as competition and a further six during cross-countries. Factors in these included late decision (3), rough/poor surface (3), Poor circuit (2), heavy landing (2) and one each of approach control, weather, wind error, and obstructions. Ten of the pilots who landed out did not appear to have intended leaving the local area at all: eight were during local soaring flights and two were during training flights.

Technical (category 19): Four substantial accidents were primarily attributed to technical causes. Of these, two related to control problems (plus another four minor accidents), while problems were found with rudder pedal link location, airbrake and undercarriage mechanisms, leaking water ballast system, and gear selection design. It is useful to hear of such issues, as accidents may be prevented by inspection.

Circuit Planning (category 08): There were four substantial accidents: two pilots became too low in the circuit and spun in while changing their landing area; one misjudged a "competition finish", ran out of height for a circuit and hit trees. The other extended his circuit to allow more time for the airfield to be cleared, realised he was too low then spun in during a turn to a field and overshot into another glider. Aspects of circuit planning that appeared on several occasions included: error in circuit when attempting a short landing (x4); basic error in circuit height, too high/low (x4); failure to recognise a change in the wind (x4); late/low circuits into a field (x3); a change in landing area choice (x3); and conflicting/non-standard circuits leading to collisions (x2).

Approach Control (category 09): Substantial accidents included one early solo pilot who changed his landing area and "set the landing brake" (if you don't understand why that's in quote marks, ask an instructor) then undershot. Another pilot, on his third flight on type, used the undercarriage lever instead of the airbrake. A third used the edge of a crop field as his "reference point" and succeeded in hitting it while the fourth overshot, failing to take into account the light crosswind.

A number of accidents also showed signs of poor approach control. The use of airbrake featured strongly. Too much or too little airbrake indicated a poor aiming point technique in at least 10 cases. Approaches in light/strong/cross wind conditions that may well have been recoverable seemed to create problems. Pilots also seemed to grope blindly for the airbrake and not realise they were operating the undercarriage, the flaps or the cable release – anything that came to hand. Three launch failure accident also featured because of poor final approach technique and in another incident the pilot kept opening the brakes when trying to release the cable!

Incident reports

While some reports non-assessable in the BGA system are reportable accidents, it is encouraging that a wide range of gliding incidents has also been submitted so that all can learn from them. After all: your near thing could be someone else's accident. A selection of these 29 reports included:

- Eight ground damage reports (five towing gliders, three damaged during high winds).
- Two incidents that could have been prevented by better pre-flight checks. One report was a good pre-flight detecting a stick jam by a displaced undercarriage rubber.
- Two near-collisions: one between a car and a glider being winched; the other between approaching and launching gliders.
- An instructor's seat support strap failed during spin training (the second case reported).

Seven reports involved tugs: two were damaged during taxiing, another's main-gear collapsed due to a component failure. One tug instructor attempted to demonstrate a glide approach then found the throttle cable broken and had to do it for real. Another tug pilot had an engine failure at 450ft on tow and was able to land back on the airfield.

Trends over the last 10 years

The number of assessable accident reports has averaged 46 substantial and 67 minor a year for the last decade. This year there were 106 reports (41 substantial and 65 minor).

There is considerable variation in numbers of injuries from year to year. The 10-year averages are: 3.5 fatal accidents, 4.8 serious injury and 14.1 minor injury accidents a year (this year's numbers are 1, 4 and 11 respectively). Using statistics from all BGA clubs this can be converted into a fatal accident rate per million hours or launches.

In gliding, where many of the flights are short, the take-off and landing phases of flight, which inevitably carry a higher risk, give increased significance to the launch rates. This year's fatal accident rate of 6.9 accidents per million hours or 2.86 per million launches is a significant reduction after last year's appallingly high figure.

Concluding comments

Good training, organisation and equipment design mean that the frequency of accidents is already low, but we need to investigate and address the causes of every preventable accident to reduce the rate still further. The frank and honest reporting of gliding clubs indicates what the aviation professional regards as a healthy "safety culture" and the Safety Committee thanks all those who have taken the trouble to complete these reports. Most of all we appreciate those pilots who have carefully considered the implications of their accidents and put in place remedial action that we can all learn from. Keep learning – and **keep reporting!**

We hope you found this summary interesting and if you'd like to read the full report ask your BGA club's CFI. Alternatively, contact the BGA office for a copy, or to comment

Accident/incident summaries

by Dave Wright

AIRCRAFT Ref	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
143 2002	ASW 19B	4063	Minor	29-Aug-02 1530	Near Framlingham	26	None	120

While on a competition cross-country flight the pilot had to land and chose a stubble field with tractor tracks in the direction of landing. After a normal circuit the glider landed along a tractor rut which was deeper than expected and very bumpy. As he braked, a wing tip touched the ground and the glider ground-looped.

144 2002	K-8	–	Write-off	01-Jun-02 1400	Hinton in the Hedges	69	Fatal Fatal, 3rd Party	–

This FATAL MID-AIR COLLISION took place between a K-8 glider and a free-fall parachutist near their base airfield. As a result of the collision the glider's wing was broken. The glider pilot, who was not wearing a parachute, and the parachutist were both killed. This accident is subject to an AAIB Investigation.

145 2002 -	SZD Junior	–	None	Sep-02	Incident Rpt	32	None	15

The early solo pilot was making his first flight in a Junior and was towed through a wave gap, which closed under him. The tug pilot assisted the pilot descend towards the airfield and then, with the cloudbase at only 1100ft, to a good field where a safe landing was made.

146 2002	DG-400 Motorglider	G-DGDG	Minor	30-Sep-02 1005	Aboyne	53	None	753

After the motorglider failed to get airborne the pilot aborted the attempt. He overran the runway and had to groundloop to avoid a stone wall and caused minor damage. He had tried to select positive flap by feel alone and it appears did not succeed.

001	K-23	–	Minor	Oct-02	Incident Rpt	–	None	–

A group of young members were moving a glider into line with an instructor on the wing tip. Seeing it was being pulled too far forward he called stop but they failed to hear him. The glider's left wing ran into the tail of another parked glider, damaging its rudder.

002	K-14 Motorglider	G-BKSP	Minor	19-Oct-02 1505	Bellarena	66	None	1950

The motorglider pilot was about to put the wheel down and turn on to finals when he decided to fly a 360 degree turn to allow a tug to take off. On lining up on to finals he forgot to lower the wheel and landed with the wheel up. As the engine was running, the propeller tips were broken off.

003	K-6CR	2636	Minor	31-Oct-02 1300	Saltby	–	None	–

The glider was landed across the hard runway onto the grass runway. It is believed that this landing dislodged the tailskid support block. The next pilot did his control checks and found no problem but the subsequent one found the rudder jammed. Moving the glider forward may have dislodged the loose block. Shows importance of pre-flight checks.

004	K-6CR	FGT??	Minor	05-Oct-02 1350	Perranporth	60	None	161

This pilot had returned to gliding after a five-year lay off and was given a series of check flights before flying solo. He was fully briefed before his first K-6 flight and told to stay in gliding range. After a normal launch he allowed the glider to drift too far downwind, stretched the glide back and groundlooped the glider in a low final turn.

005	SZD Puchacz	3949	Minor	07-Nov-02 1215	Camphill	64 41	None None	466 11

When the glider turned finals P1 prompted P2 to close the brakes to ensure they did not undershoot. The approach was flown at 70kt and the brakes were re-opened as the boundary was reached. Reducing the brake in the flare the glider touched down too fast and ballooned. P1 took over and groundlooped the glider to stop it running off the airfield.

006	DG-100	????	Substantial	04-Oct-02 1250	Moel-y-Park	74	None	276

The pilot was attempting to ridge soar a part of the hill that was unsoarable in the conditions. He flew very close to the ridge then found himself in heavy sink. As he tried to turn away the right wing hit the ground and the glider landed in the heather and sustained substantial damage.

007	K-6CR		Write-off	30-Oct-02 1217	Bishop Hill	62	Minor	37

The visiting pilot was flying very low on the ridge, within three-quarters of a wing span. Flying over a shoulder of the hill, the pilot initiated a steep turn and pull-up to the left to avoid a rocky outcrop. Due to insufficient speed the glider stalled and dropped 30ft onto the ground, stopping inverted with the nose against a rock.

008	SZD Puchacz	Minor	12-Dec-02	Pocklington	52	None	2470 None	60

This was the student's first flight on type and he carried out the pre-take-off checks including the canopy. After recovering from a practice spin the canopy flew open and the perspex smashed. P1 helped close the frame then prompted and encouraged P2 through to a safe landing.

009	AC5-T	5001	Write-off	19-Dec-03	Nympsfield	50	None	3972

This was a BGA acceptance test flight. In calm conditions the glider was accelerated to VNE when there was a violent lateral oscillation and loud noise. The pilot gently recovered to normal flight and found roll control impossible due to damaged ailerons. He decided to bale out and, after initial difficulties with the glider canopy, landed safely. Under BGA Investigation.

010	K-7	2158	Minor	21-Dec-02 1100	Denbigh	56 67	None None	307 46

P2 was flying the glider during a check flight and P1 twice prompted that the approach speed was too low, especially as full airbrake was being used. Finally, as P2 started the flare the instructor took control and pushed the stick forward to increase speed. This was too late and the glider landed heavily on the tarmac runway.

011	DR300 Tug	G-BVYM	None	19-Dec-02 1015	Dunstable	62	None	

The tug pilot became too low on final approach and this was made worse by a strong wind gradient. Finally, the longer than normal rope caught in four power cables, three of which broke.

012	Astir	3700	Minor	05-Oct-02	Aboyne	–	None	94

After failing to contact wave the pilot delayed his return to the airfield and flew a very low circuit, turning finals at around 200ft. Probably because of the high workload he forgot to lower the undercarriage and landed with the wheel up.

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 **May 5**, after which any adverts received will be published in the following issue.

Text: 80p/word, minimum twenty words (£16).
Black and white photographs: £6 extra
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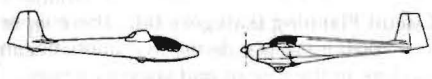
IS-29d, Complete outfit. 37:1 Beautiful condition. CofA March 04, XK10 vario and averager / GPS and wiring for logger / T.S./ parachute / one man tow out / Good trailer. £5500. View Parham, Contact Martin Smith 02392 648457 or email gillianmartin2@aol.com

SCHRODER TRAILER - recent GRP manufacture, fitted for LS8 with tips, or similar. Tows well. £2500 or ONO. Tel: 020 7274 6532, stefanbort@ntlworld.com

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