Sailplane & Gliding

From ASW to ASG

Jochen Ewald on Schleicher's new 29

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Emergency procedures for tug pilots

Plus: Simulator training BGA Duo X Airprox map

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IC6	3rd – 11th June
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picture courtesy of Mike Fox

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THE "W" in ASW has been replaced by a "G" – the initial letter of Schleicher's new designer's surname. Michael Greiner has taken over from the now-retired Gerhard Waibel, and his new 15/18-metre racer, the ASG 29, has flown. See p34 for more (Jochen Ewald)

Sailplane & Gliding

FAI

Member of the
Royal Aero Club
and the
Fédération Aéronautique Internationale

Bill Walker presents T-31 to Air Museum

BILL Walker, a BGA Vice President and the Honorary President of Air Cadets Gliding, has presented a Kirby Cadet glider to an Air Training Corps display at the RAF Museum Hendon officially opened in April by the then Secretary of State for Defence, John Reid.

"Cadets make a positive contribution to society and themselves at a formative age – and a youth who flies solo is rarely going to get involved in anti-social behaviour," John Reid said. "Cadet organisations are not vehicles for recruitment but a valuable way of instilling the values and benefits of leadership, courage, initiative and hard-work in young people. A great deal can be learned from the youth movement."

Cadet Flight Sergeant Daniel Azizian (18) from 78 (Wembley) Squadron flies solo in gliders and is pictured showing John Reid the controls of the Grob Viking TX 1 at the Museum as Bill Walker looks on.

Daniel said: "It was an honour to be asked to show the Secretary of State the ropes. I intend joining the RAF as a medical officer, but I hope to complete flying training as well now I have my glider wings." Representing the BGA at the event at Bill Walker's invitation were BGA Chairman Patrick Naegeli, Chief Executive Pete Stratten and Owain Walters.

(Photograph courtesy of Squadron Leader Alan Wiggins, Regional Media & Communications Officer for Central and East Region, Air Training Corps)

Dates for your diary

Overseas Champs	Ocaña, Spain	22/5–2/6
World Championships	Sweden	5/6–17/6
(in Standard, 15-Metre, 18-Metre & Open Classes)		
Aerobatic Nationals	Saltby	8/6-11/6
Booker Regionals	Booker	10/6–18/6
Regionals & Turbo Comp	Bidford	17/6–25/6
Standard Class Nationals	Bicester	8/7–16/7
Competition Enterprise	Aboyne	8/7–16/7
Worlds (Club Class)	Vinon, France	15/7–28/7
15 Metre Nationals	Aston Down	22/7–30/7
Junior Nationals	Dunstable	22/7–30/7
Midland Regionals	Husbands Bosworth	22/7–30/7
Northern Regionals	Sutton Bank	29/7–6/8
18 Metre Nationals	Lasham	5/8–13/8
Club Class Nationals	Nympsfield	5/8–13/8
Eastern Regionals	Tibenham	5/8–13/8
Bicester Regionals	Bicester	5/8–13/8
Dunstable Regionals	Dunstable	19/8–27/8
Gransden Regionals	Gransden Lodge	19/8–27/8
Open Class Nationals	Gransden Lodge	19/8–27/8
Lasham Regionals	Lasham	19/8–27/8
Inter-Services Regionals	Middle Wallop	26/8–3/9
UK Soaring Grand Prix	Gransden Lodge	3/9–9/9
Saltby Open (Aerobatics)	Saltby	8/9–10/9

BOB Fleuret's picture of aerotowing at Parham has been created for the Guild of Aviation Artists' 2006 exhibition, from July 24-30 at the Mall Galleries, London (*www.gava.org.uk*)

We still need to watch this space

THE threat to airfields from a change to planning guidelines that would apparently define entire airfields as brownfield sites is still real, despite some recent media coverage that suggested the deleted wording would be reinstated, according to members of the Parliamentary Aviation Group.

The Office of the Deputy Prime Minister (as it was known until early May) has issued this statement: "There has been absolutely no change in policy," it says, "this is purely an editing matter. This technical explanation was only ever part of an Annex document to PPG3 and could easily be included in further supplementary guidance. We have consulted on the draft PPS3 document and will consider clarifications to ensure that everyone understands the policy has not changed in this respect."

The BGA has been advised that it will be in our interests for individual glider pilots to write to their own MP, clearly describing the implications of the proposed changes and to point out that Gerald Howarth MP, Lembit Opik MP and Nigel Griffiths MP are raising their concerns and pressing the ODPM for clarity. See *www.gliding.co.uk/bgainfo/news.htm* for details and to find out how you can lobby your MP.

THE 29th FAI World Championships will be held in Sweden in June, and the British entry is, once again, very strong. For Standard Class World Champion Andy Davis, it is a return to the country where he won his first World title. Andy is joined by Jez Hood (former Junior World Champion) and Leigh Wells (2005 European Bronze). Russell Cheetham and Pete Harvey compete in the Open Class – a strong team, the two latest European Champions. In the 18-Metre Class, brothers Steve and Phil Jones aim to improve on their 2003 Silver and Bronze. Steve won the 18-Metre Worlds in 2001. In July, the Club Class Worlds takes place in the French Alps, with Richard Hood (twice Silver medalist in this class), Jay Rebbeck (former Junior World Champion, and 2004 Silver) and his brother, Luke, representing Britain. Richard narrowly missed Gold at the 2005 pre-Worlds (*www.glidingteam.co.uk*)

THE sporting code for gliders was, as usual, updated on October 1. Most important change for the 2006 season is that the IGC has introduced a 750km badge. This means 750km flights flown by British pilots abroad can be recognised by the BGA after being verified through the usual channels for flights abroad. Full details at *www.fai.org/sporting_code/sc3.asp*

THE AAIB report on the fatal accident involving a K-7 that experienced structural failure in flight said glider pilots should be reminded of the significance of the Maximum Manoeuvring Speed (VA). The BGA has published a document to this effect at *www.gliding.co.uk/bgainfo/instructors/documents/Va.pdf* – where there is a link to the accident report. The BGA strongly recommends that all glider pilots remind themselves of the meaning and significance of VA.

THE CAA will again this year check glider insurance policies for EC Regulation 785 compliance. Checking a sample of the total glider fleet at competitions proved to be a mutually acceptable method of meeting the enforcement requirement so the BGA urges all pilots to ensure they have their insurance policies available on site, particularly during competitions. Directors are asked to assist the CAA in this if asked.

The British Gliding Team has been awarded the Royal Aero Club's Prince of Wales Cup, given annually for the most meritorious performance, feat or event by a team or group. Its Bronze Medal went to *S&G* contributor David Wright for his work as a volunteer manager and developer of the BGA Accident and Incident Database and Hugh Browning has been awarded the RAeC Certificate of Merit for accident analysis work. *S&G* contributor and aviation photographer Neil Lawson, who died last year, has been posthumously awarded the RAeC Nexus Sport Aviation Journalist of the Year Trophy.

The BGA has published a code of practice for cross-country task-setters. We recommend all CFIs and task setters read it: *www.gliding.co.uk/forms/BGATaskSettingCodeofConduct.pdf*

The Royal Aero Club has elected Keith Negal of the British Microlight Aircraft Association as its chairman and the BGA's Regulatory Group Chairman David Roberts as vice-chairman.

THE winner of the BGA 1000 Club Lottery for April 2006 was L McKelvie (£33.50), with runners-up B Goodspeed and CP Bleaden (each £16.75). The May winner was R Mackie (£33.50), with runners-up B Morris and M King (each £16.75).

CORRECTIONS: the web address for Stratford on Avon GC is *www.stratfordgliding.co.uk* not the URL given in the last issue. And the BGA's Spitfire Trophy for the Junior Ladder Winner was in fact won by Shaun McLaughlin of London GC, with 5,835 points. Our apologies to all concerned.

Your letters

Coaching

THOSE who attended the BGA Conference were all impressed by the presentation on coaching given by Brian Spreckley. Spectacular success has been achieved in international contests. Yet there is no mention in *Laws & Rules for Glider Pilots* of the qualifications to be a coach. The new edition only removes the old requirement to hold a BGA instructor rating. Coaches would correspond to the Type Rating Instructor to be found in commercial aviation and the PFA has developed this concept. Many of their original coaches came from the BGA. A glance at our accident record shows that most mishaps arise from the lack of skill of post-solo pilots, yet those clubs that do own high-performance two-seaters misuse them for trial lessons. To be put back on dual is seen as a penalty, not an opportunity. As a one-time RAF student pilot, half the post-solo flying until about 200 hours was dual. Teaching oneself by trial and error is both slow and potentially dangerous. We need advanced instructors, perhaps to be called coaches. Qualified by having at least a Gold Badge and having flown in contests, but not required to regurgitate with word perfection the patter on stalling, they should be flying tasks at every opportunity.

Peter Saundby, *via email*

BGA Chief Executive Pete Stratten replies: Previously instructed, tested and qualified glider pilots make progress far more efficiently and are far more likely to achieve their goals if a bit of carefully targeted advice is provided on the way. Experience has demonstrated that this can be best achieved through personally tailored coaching by suitably skilled and experienced pilots. The BGA is beginning to map out what it is hoped will be a coaching standard – a vital early step – that in due course will help clubs to meet their members' needs following completion of individuals' pre and post solo BGA instruction. It is expected that the BGA will in due course match other successful sports and provide a continuous and accessible development pathway for all at club and national level

Ageing well

I READ, with considerable interest, *Old Age and Glider Pilots* in your most recent issue (April-May 2006, p20). Alistair Nunn and Gordon MacDonald are to be congratulated for providing this excellent and accessible summary of a complex and important subject. As they rightly point out, there is virtually no published data directly relating to glider pilots; there is, however, soon to be published (hopefully) demographic, health and performance data on American soaring pilots from a study undertaken at the 2005 SSA convention in Ontario, California.

In brief, the study evaluated flying history, health history and a measure of performance – Two-choice Visual Reaction-time (CRT). The results confirm the well-known fact that age and intelligence are significant predictors of CRT.

Further, although CRT is considerably better in glider pilots than in the general population, the age-related decline is at least as great. That glider pilots are, as a group, significantly better educated than the general population is also no surprise.

Half of the pilots studied were also power pilots with a current Federal Aviation Administration medical certification; the rest were glider-only. Unexpectedly, there was no difference between those who possessed a medical certificate and those who didn't, good news for those of us in the US who "self-certify" our medical fitness.

Most studies of the effect of ageing give the impression that performance decline is slow and proportional to the increase in age. The data that support this is based on averaging the performance measure over a number of subjects at each studied age. It is critical to consider that, on an individual basis, this may not be true; head injury, surgery involving anaesthesia, prescribed medications, occupational or environmental exposure, sleep deprivation, hypoxia, etc, may cause a sudden and significant decline in capability.

At the extreme, age-related decrements reported in groups could be the result of averaging subjects with large changes with subjects having no age-related decline whatsoever. Importantly, individual pilots may not be the best judges of the existence of these large effects.

Here in the United States of America, the Soaring Safety Foundation has undertaken a "First Flight" program in which pilots, whatever their skill level, are encouraged to take the first flight of the season with an instructor. Some of us have made the FAA-mandated Biennial Flight Review (BFR) an annual event.

There are measures of vision, vigilance, and response that could be used to evaluate individual fitness to fly solo. A battery of these tests, if carefully assembled and standardized, could provide, at a minimum, a powerful tool for self-evaluation and, perhaps, a yardstick by which pilots could be measured.

Again, thank you for publishing this important article. Although I have, in the past, castigated editors of gliding magazines for publishing the same articles, wide dissemination of this article would greatly benefit the soaring community.

Raphael H Warshaw, CALIFORNIA, USA

The enemy never grounded him but former RAF pilot Claude Woodhouse has been told that insurance requirements will stop him serving as a tug pilot or gliding instructor from now on. See More on old age, *below*

(Photo: Mike Fox)

More on old age

I HAVE every sympathy with Derek Eastell (*Insurance and older glider pilots*, April-May 2006, p8) as I too have had the men in grey suits place restrictions on me by playing the numbers game with no consideration for fitness.

Aircraft and flying have always been a part of my life and this became serious when I started flying in the Royal Air Force in 1943 and gained my wings in 1944.

In 1965 I joined the Coventry Gliding Club at Husbands Bosworth, where I became a tug pilot in 1967 and later the tugmaster. In 1968 I was an instructor, and then a CFI in 1971.

Every year I have a full Class 2 flying medical and, having passed this once again on March 22, 2006, you can imagine how my life was shattered when on March 28 I was informed that as from March 31 I could no longer tow gliders for insurance reasons. This decision is a clear case of ageism and bears no reflection on my fitness and the fact that I take no medications at all.

We are entering the ageism era on an ever-increasing scale prompted by those not yet in the age bracket they wish to condemn. The article by Messrs Nunn and MacDonald does not help, being full of innuendoes and generalisations as though we are all on a one-way street to senility. This is not the case. There is no substitute for experience, which is only to be found in older and mature people. The well-known phrase, "you cannot put an old head on young shoulders", holds as good today as it has done for many years past. The article I have just referred to takes no account of "body age" and those who keep fit and active.

Research poorly done does no favours for anyone, least of all for those it is directed at no matter how inaccurate it is. Unfortunately "the moving finger writes" etc, etc and to the detriment of those in the mature years of life and referred to in that article.

Messrs Nunn and MacDonald also attempted to show that elderly people had more accidents on the road with no account being taken for blame. My experience is that I have to drive defensively to make way for offensive younger boy racers; we know what age bracket boy racers are in.

Finally I wish the British Gliding ➢

Your letters

➢ Association success in removing ageism from the agenda and putting in its place fitness. There is no good reason for insurers to hide behind age because there are no records to prove their deciding factors. Just remember: "There are lies, more lies, and statistics".

PS: After writing the above, I learned that my instructing days are over, too, due to ageism! The men in grey suits strike again.
Claude Woodhouse, LUTTERWORTH, Leicestershire

Dr Alistair Nunn and Gordon MacDonald reply: Mr Woodhouse's letter summarises, very succinctly, the entire problem. He is absolutely right about experience, as well as biological age ("body age"): experience enables pilots to stay ahead of the game, equally, there is no doubt that a healthy body is associated with a healthy mind. However, we cannot escape the arrow of time: the whole point of our article was to show that our cognitive ability ('brain speed') does decrease with age (if it didn't, then we would be immortal – as it would imply no degeneration in any system). On the plus side, experience does more than compensate for this gradual slow down for most of our life. Thus (from a subjective basis), an experienced and healthy elderly pilot is probably a much safer bet than a slightly younger, much less experienced and unhealthy one. Hence, Mr Woodhouse's sentiments are right on the mark: it does seem extremely unfair that he is not allowed to tow any more, if his performance is still up to the mark. He is also right about statistics; at the most basic level, they are just a measure of incidence – they do not tell you who or when. For instance, the accident rates in cars describe a U-shaped curve: they are high when people are young, decrease in the middle, then rise again when they are old, the same follows (more or less) in the General Aviation world. This is taken from millions of real observations. Every measure of cognitive function supports the gradual decline, as do measurements of the underlying biological processes that drive it. However, the rate of degradation is extremely variable between individuals: if you are smart, have good genes, lead a healthy lifestyle, and fly 50 hours a year for 50 years, then you are much more likely to sustain a high level of performance into old age, compared to someone who is less smart, has poor genes, leads a poor lifestyle and only went solo on their 50th birthday. Unfortunately, insurance companies (and others) generally deal in 'objective' statistics and risk assessments, and therefore have to make a judgment call to ensure profit: in 2001 in the UK, the average 65-year-old male could expect to live for another 15.7 years, of which 11.6 could be expected to be healthy. For women, this was 19.0 and 13.2 years, respectively. Thus, to be over 80 and healthy, and still have a good level of performance falls well outside the normal range – an area where most insurance companies do not want to be. Thus, our article is ageist only in the sense that it points out the obvious (we get slower as we age until we stop): in sentiment, we are entirely on Mr Woodhouse's side. What we actually need to do is to ask the question: how can we change the culture to allow elderly but otherwise fit and capable individuals, who fall outside the 'norm', to continue flying? People do age at different rates, and this applies as much to the brain as anything else. For most folk, body and brain age are very tightly linked, as they represent a composite ability to resist oxidative stress. Question is, can we measure performance and link it to biological age in way that will convince the "powers that be"?

Gliding always brings new experiences and adventures, says Brazilian pilot Luis Improta (right), who tells the story of a very special Christmas Eve flight. See Flying is feeling, below

Flying is feeling

A DAY before Christmas, 2005, I had the pleasure of experiencing a new emotion. Even having graduated in psychology and having about 6,000 hours in gliders, I was surprised by this sport once again, for it can constantly bring us new teachings and big adventures.

Christmas Eve was a very good flying day at our Wellington Gliding Club in New Zealand and I had the opportunity to fly with a blind passenger (100 per cent blind), who asked me to describe to him every moment and tell him everything that was going on. It wasn't easy for me, since I'm Brazilian and I'm still learning this new language English, but when facing difficulties we always find new ways.

As soon as we took off I started describing the beautiful view of Kapiti Island, all the different colours on the sea, partly caused by the shadows of the clouds, and the contrast with a wonderful green from the mountains. The impossibility of him seeing and our difficulty in communicating created a new form of expression that may be typical of gliding: "feeling".

I asked him to put his right hand on the control stick and to listen to the sound of the wind coming through the fresh air window while I would put the glider on different speeds. "First at 50kt, then 60kt and 70kt, okay?" He answered "Okay". Later I showed him the different glider bank angles of 20°, 30° and 45°. Smoothly and carefully he started piloting and I followed him with the foot pedals. We flew like that for about one hour and 20 minutes. In between thermals I asked him to fly faster, about 70kt, and incredibly the error margin was under 5kt. The same happened when we flew thermals, 50kt with 30° of bank and there he was, "a blind student with an almost mute instructor", perfectly understanding the fantastic forces of nature.

I recovered control again to make the landing when we approached the air traffic landing circuit. I told him I would count the altitude down until the moment the glider touched the runway, so that he would also have the exact feeling of the landing.

As we left the glider he hugged me and thanked me saying: "This was my third and best glider flight, because for the first time I felt I was piloting."

As a graduate psychologist I can say: "Our limitations are never bigger than our wishes."

As a glider pilot I would say: "What a wonderful sport this is, capable of uniting limitations, people and nations in one single act – the simple and beautiful art of flying".

And finally, as a person I can only offer thanks for the privilege of this magic moment. "Thanks, Santa Claus".
Luis Improta, *via email*

Badge query answered

THE ABGC badge that Peter Davies asked about (*ABGC Wings*, April-May 2006, p9) was the Association of BAFO Gliding Clubs, BAFO being the British Air Force of Occupation in Germany. This association was formed in the immediate post-war period when a number of gliding clubs at scattered RAF units in Germany got together to manage their own affairs, somewhat like a mini-BGA. It didn't last long under that name because BAFO was re-named when the word 'occupation' became out of date. I believe it became the Association of No 2 TAF Gliding Clubs. I think the ABTAF also dissolved before long. I am not sure if the German RAF clubs eventually joined the RAFGSA.

The RAF gliding club that operated at Scharfoldendorf, where Peter's acquaintance saw the gliding competition, was the BAFO Headquarters Gliding Club. They took over the large NSFK (Hitler Youth) gliding unit and all its equipment, gliders, winches, hangar, workshop and staff.

Inter-BAFO Competitions were held there or sometimes at Oerlinghausen, another flourishing RAF club in those days.

I was at Scharfoldendorf in 1949-50. The Scharfoldendorf buildings and surrounding area were used as a leave centre, with other activities than gliding: outdoor sports (a bit of ski-ing in winter, hunting and shooting deer and wild boar in the forests if you liked that sort of thing) and, inevitably, indoor games sports with girls (WRAF) and boys on

Left: A big label for a small glider. This BGA Certificate of Airworthiness label was used in Laurie Woodage's Scud II. Laurie, who is the Vintage Glider Club archivist, asks if any S&G readers remember them

Right: our article on test flying the Space Shuttle attracted plenty of comment, but for sheer oneupmanship the story Dave Wright sent us takes the biscuit. On a trip to the States, Dave (who has just handed on the voluntary role of BGA Accident Database Manager to Douglas Every after many years of sterling service) did the next best thing to flying it himself – and has the video stills (right) to prove it

short leave. I was there to operate, with several others, the direction finding radio unit that was inside a little square tower on the barrack building. I used to sit there while on duty with gliders floating by.

We had a splendid time when not actually on duty, as you may imagine.

The site at Scharfoldendorf has its own active gliding club now, but they operate from the other end of the airfield, about a mile further south. The big barrack block is still there and there has been a lot of other development on that end of the site, but not for gliding. Our little tower has been removed.

Martin Simons, STEPNEY, South Australia

Old Certificates of Airworthiness

RECENTLY Geoff Bailey-Woods was kind enough to give me this C of A label *(above)* that was issued to my Scud 2 (BGA 231) in 1954. It is made of paper and does not appear to have any adhesive on the back. At nearly 150mm in diameter it's a very large label for such as small glider. I wonder if any *S&G* readers can recall seeing them?

Laurie Woodage, *via email*

Flying the Space Shuttle

DEBB Evans's interview (April-May 2006, p28) with Gordon Fullerton about flying the world's fastest glider reminded me of my 1996 visit to NASA Moffett Field in California. As part of my tour of the facilities, which included the world's largest wind tunnel (80ftx120ft working section), a 1,133ft-long hangar built to house the 785ft Macon airship, and numerous simulators, I was introduced to the NASA Vertical Motion Simulator (VMS).

As I was walking along a corridor, a large object "flying" past the window caught my attention. This was a simulator cab mounted on a large beam and jacks and it was whistling around the inside of a very tall hangar at high speed. My host explained that this was the VMS and, if I was interested, I was in next!

The VMS cab was mounted on a beam that allowed a 40ft lateral and 8ft fore and aft movement. The whole of this was balanced on two vertical jacks that had a 70ft range. The upshot of this, and the extremely powerful motors used, was that the whole 70-tonne simulator platform could "pull" nearly three-quarters of a 'g' acceleration.

There were interchangeable simulator cabs for the AV8 Harrier, Osprey tilt rotor and as at the time of my visit, the Space Shuttle.

After crossing a "drawbridge" half way up the hangar I was given a safety briefing on how to get out if it all went wrong – bear in mind we were about 40ft up – and then introduced to Thomas, simulator operations chief, who would be my instructor.

He demonstrated the use of the rate demand control stick – rather like a heavier Airbus sidestick – which was quite sensitive in pitch but not in roll. The Shuttle was weighing in at 194,000lb and was low lift and high drag. ("Rather like a flying rock.") The basic plan was to descend using the energy management head up display (HUD) until, at 2,000ft, the stick was eased back to perform a "pre-flare". We would maintain the energy profile until, at 300ft, horizontal bars came down on the HUD and were followed to 70ft when the full flare was started. The command bars were held on the horizon until touchdown. Being a rate demand system, the nose then had to be positively lowered at 2° a second until nosewheel touch at about 180kt.

My turn – piece of cake – after all, it's only a glider!

Much to Thomas's surprise, with his instructions I pulled a survivable landing off the first approach to Kennedy Space Centre (KSC). "Fluke!" I thought to myself. The scene was changed to Edwards Air Force Base and I did it again! "Okay," he said and gave me a 10kt crosswind and moderate turbulence. This time I reverted to type and began a PIO before remembering to relax – just like on an aerotow. We flew a crabbed approach at about 300kt and I was introduced to the crosswind landing technique of maintaining the crab. I still pulled off a good landing – albeit on the left of the white line (must remember that they drive on the right out here!).

Right! The next one was a night landing with a runway visual range of 1,000m. Again the energy management display guided me in to another safe arrival. At this stage I think Thomas must have thought he'd been given "a ringer" and took us back to KSC for a max-crosswind, turbulent, wet-runway arrival. Another good landing followed by no brakes and limited directional control, as we were aquaplaning! As speed reduced the wheels "broke through" the water and we could use the brakes.

Thomas gave up – demonstrated a full-gain, severe-turbulence approach, which threw us around (and apparently was awesome from the spectator's window), before turning the motion off and motoring the cab back to the drawbridge.

What a ride! Okay while you're in a simulator but flight testing it for the first time – now that's what I call the "right stuff".

Footnote: By the way, the reason for the excited movement the VMS was performing when I first saw it was that Thomas had heard a squeak and was trying to track it down... And I did not stop smiling for weeks!

Dave Wright, *via email*

Definitions?

I MUST protest at the title of Debb Evans's otherwise superb article: *The world's fastest glider*. Wouldn't quibble with the *fastest* bit, of course, but *glider*?

On behalf of the motorglider community: it's one of ours.

Not a Touring Motorglider – there's no "non-retractable propeller" – but close inspection of the picture reveals "one or more power units designed or intended for it to take off under its own power", from the CAA's definition of an Self-launching Motorglider (in its publication, LASORS).

And I'd love to have a go.

Andy Miller, *via email*

Please send letters (marked "for publication") to the editor at editor@sailplaneandgliding.co.uk *or the address on p3, including your full contact details. Deadline for the next issue is* ***June 13***

In praise of volunteers

BGA Development Officer Alison Randle *(right)* offers thoughts on how clubs work well and outlines plans for a club accreditation scheme

IT HAS been the AGM season – how was yours? Did you attend? Were there enough candidates for the places? Did everyone squirm in their seats when the call went up for a pressed man to fill the role of secretary/treasurer/chairman otherwise the club would fold? Were you happy with what happened?

My local village playgroup shut recently. "So? What has that to do with gliding?" It shut because the committee ran out of goodwill and energy. They were fed up with being taken for granted. Four new volunteers couldn't be found from 54 families. Parents wanted private nursery facilities for volunteer-run prices.

I have heard of an outgoing club chairman saying that he had got to the stage where he would gladly crawl a mile over broken glass for a willing volunteer who would provide a solution to a problem they had highlighted and were willing to help put it right.

I know of committee members who become crestfallen to the point of leaving gliding because every trip to their previously beloved club has become unbearable.

If anyone does join a committee for the glory, they are sadly misguided and perhaps shouldn't have a committee role. However, expecting it to be a thankless task should not be the reality either.

If you like the fact that you can just turn up to your club and fly a glider, it is perhaps worth taking a little time to support those who make your midweek dream a weekend reality. If everyone who goes to a gliding club does one of these each time they attend, you should find your committee enjoying their time on the committee. They may even want to stand again rather than the putting the membership through the awful AGM candidate game. There could even be competition for places at the AGM... It will also mean that those who currently prop up many of our gliding clubs by spending hours helping others get airborne should feel less put upon.

Ten things that would make a difference – why not find one you don't already do and try it?

1. Help launch twice the number of gliders as launches you take (including driving the winch);

2. Help get twice the number of gliders off the field as landings you make

3. Keep the log for a bit;

4. Retrieve cables for a bit;

5. Talk to a new member or visitor;

6. Show a new or less experienced member how to do something;

7. Get involved with unpacking or packing the hangar at one end of the day;

8. Read the minutes of committee meetings;

9. Seen something that the committee did that you like? Then tank and/or praise a committee member for their contribution;

10. Seen a problem? Have a think and see if you can suggest a solution when highlighting it to the management.

Finally, your gliding club is YOUR gliding club. Your committee are your elected representatives. When you elect them, you are saying: "We trust you to carry out the business of running our gliding club for us so that we may all enjoy coming here to fly". It is every club member's duty to read

papers and attend the AGM, or if you can't attend for some reason, submit apologies and nominate a proxy.

A roomful of supportive people who can contribute to any discussion that the committee needs to have with the membership is vital for club health. Such discussions should be positive experiences. They will be if members understand the issues concerned, especially if the committee has taken the time to educate you by preparing suitable papers. Decisions made at AGM should be decisive. You can't expect your committee to represent your interests if you haven't given them a mandate because you couldn't be bothered to use the due process to inform them of your views.

Please don't be negative and unsupportive of these hardworking volunteers during the year. If you have a concern, then the well-mannered thing to do is raise it quietly with the person concerned and/or the chairman.

Oh and one more thing – I heard a description of attending The Glastonbury Festival recently. The reason people go and wallow in the mud once a year is because it doesn't matter where the people have come from or what they normally do. The positive experience arises from the way people interact and support one another in this other venue taking part in something they don't do in their everyday lives. My reaction? I felt fortunate because I know where I can have such an experience every weekend (and sometimes during the week too).

Club Accreditation Scheme

Back in the autumn, UK Sport announced important changes to the way they fund National Governing Bodies of sport. In essence the current funding the BGA receives from UK Sport will cease after the next two years.

The BGA is currently in negotiations with UK Sport and the various Home Country Sports Councils to look at future funding. There is funding available, and the best way to liberate it, both for the BGA and for clubs, is for gliding clubs to build good working relationships with their local Community Sports Networks and County Sports Partnerships.

Discussions on funding issues by the club chairmen at their conference last October resulted in a request for some sort of "standardisation" to make gliding and the benefits on offer to those who partake in our sport more easily recognisable to agencies outside our sport.

They also wanted a tool kit that would make the process of applying for funding more straightforward.

Increasingly we are finding that outside agencies such as the sports funding bodies, local councils and schools are looking to work more closely with amateur sports clubs, but in order to do so, they are expecting a greater degree of accountability from clubs.

In response to all this, the BGA has begun to develop a Club Accreditation Scheme. We have been talking to Sport England and are looking to use their "Club Mark" scheme as a basic model for a scheme for gliding clubs throughout the UK.

In order to be successful (and not too onerous) it will need to be developed by working with gliding clubs.

This is a major piece of work and I will be approaching clubs to ask you for your input during 2006. I publicly thank you in advance for your help and support, as I won't be able to do it without you!

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

The benefits of CASC

WHILST thumbing through a pile of *S&Gs* in the clubhouse at Newark & Notts GC, I was surprised to see an article in Development News for February 2005 showing that at that time only six of the several thousand sports clubs registered as Community Amateur Sports Clubs were gliding clubs.

My own experience of securing CASC status at Newark was that of a fairly painless exercise which nonetheless results in a real saving of over £2,500 pa on our rates bill.

In June 2004 I began the process by downloading the necessary form from the Inland Revenue website. Filling in the form requires three pages of information that should be readily at hand for any club treasurer and took me about 30 minutes.

The completed form, a copy of the club's Memorandum and Articles of Association and a copy of the latest accounts were promptly sent off to the Inland Revenue Sports Club Unit.

Since the club had previously been awarded money by Sport England it was hoped that the club's Memorandum and Articles of Association would be close to the requirements of CASC legislation.

However, since any change would require an Extraordinary General Meeting to adopt them I decided to chance it.

One week later I received a reply that not surprisingly we would need to consider amending our Memorandum and Articles of Association only very slightly. Most helpfully, the reply included a suggested scheme of words that would be acceptable to cover: the club being non-profitmaking, a dissolution clause and membership being open to the whole community.

A draft of the amended Memorandum and Articles of Association was duly sent off and in September a letter arrived confirming their suitability. After an EGM to adopt the changes and another letter to the Inland Revenue to confirm the date of this meeting I received our CASC registration number in March 2005. Most of this delay was down to our arranging of the EGM's timing and registering changes to our Memorandum and Articles of Association with Companies House.

It was then a simple matter of writing to the local council informing them of our registration number to get the bill for the year, which had by coincidence just arrived, amended. Since the 80 per cent rate relief was backdated to the date of the EGM this resulted in our rate bill being effectively zero for 2005.

This is a valuable offer that for the sake of filling out one form and writing four letters is well worth having.

Dr Noel Kerr
Treasurer, Newark & Notts Gliding Club Ltd

Right: a heavy shower hits the launchpoint at Newark & Notts GC. There's a limited amount you can do to protect club finances against the vagaries of the weather, but if you choose to pursue Community Amateur Sports Club status, says NNGC Treasurer Noel Kerr, you could save a hefty amount on your club's rates bill

Four key priorities to tackle

In his first *S&G* column as the BGA chairman, Patrick Naegeli *(pictured right)* reflects upon what he has learned so far and explains how your Executive Committee is developing four essential policy strands to ensure that gliding thrives

IT IS, at the time of writing, six weeks since I took over the chairmanship of the Association from David Roberts. Even at this early stage in my new role there is an enormous range of subjects I could have chosen to write about for my first column in *Sailplane & Gliding*. I have, however, decided to focus on three – the transition in chairman; the BGA's overall priorities for the coming year; and some of the things that have particularly stuck in my mind as I have met a range of people from across gliding at various events.

The handover from David to myself has been an eye-opening experience for me. Despite having just spent three years on the BGA Executive Committee, I am only now beginning to fully appreciate the effort David had put in, and the value that he has added, to British gliding. Whilst I thanked him personally and publicly at the AGM in March, I would like to do so again here and properly acknowledge his contribution.

David's retirement, however, is only partial. As chairman, David spent much of his time on regulatory matters. He will remain active in this area and lead the Regulatory Working Group established at the end of last year by the BGA Executive.

Taking up my new role has involved more than simply changing my seat at the committee table. Much of my time recently has been spent being briefed in detail on a variety of subjects that I will be actively involved with, getting to know some of the external organisations where I will represent the BGA, and taking various opportunities to talk with people from across the movement.

I have been greatly helped in my settling in by David, by BGA vice-chairman Mike Jordy and by Chief Executive Pete Stratten. I have also received very valuable support and input from a number of sub-committee chairmen, BGA staff and colleagues on the Executive; my thanks to them all for helping with what would otherwise be a very daunting transition.

The more I learn about the things the BGA is involved with, and the more I listen to what clubs have to say about what matters to them, the more certain I am that the agenda the BGA is pursuing on behalf of British gliding is correct. This does not imply any sense of complacency on my or anyone else's part. We need to review and refine our priorities constantly if we are to maintain an appropriate balance of effort across multiple fronts. This is especially true given our limited resources. Over the coming year, the BGA will, as well as its usual day-to-day activities, work coherently across, and focus time and resources on, four main priorities:

Membership development – an area that we cannot afford to ignore. Whilst effort has been expended on both attracting people to gliding and then retaining them, it is clear that we have yet to find ways to do this that are effective and enduring.

The development of post-solo pilots – the vast majority of people that take up gliding are motivated to develop beyond the point where they have completed their immediate post-solo training. As a movement, however, we do not follow a coherent enough approach in helping post-solo pilots either understand or achieve their full potential – to whatever degree is appropriate. As a consequence, we know we lose people from gliding when we need not. The problem is not universal and there are many examples of good practice among clubs that can be used more widely. The BGA's own success in the development of top-class competition pilots also provides many useful lessons. The trick will be to develop a more broadly applicable model.

Operations – we take almost for granted the management and implementation of instructing, safety and technical activities at both BGA and club level. There are, however, increasing pressures, internal and external, that highlight the need for us to consider more joined-up and, in some areas, effective approaches in each area. In short, we now need to draw together our current activities into more clearly defined training, safety and technical management systems and enhance them where necessary. Given the varying degrees of overlap that are likely to exist between such systems the BGA needs to consider this area from an overall operations perspective.

Regulatory environment – an area that has received much attention and coverage, but also one that changes constantly as the thoughts and intentions of external UK and European groups and organisations vary. The picture caption opposite, describing recent developments, gives just a small indication of what I mean.

Clearly, we are not at a standing start in all these areas. We will, however, need to create new, small teams to provide appropriate focus on the first three. I will report on progress against each of these priorities in future issues of *S&G*.

Switching to my final point, I would like to reflect briefly on some of the different perspectives I have gained since becoming chairman, prompted by conversations "on the ground" with club members.

One perspective came from an invitation to Kent GC's 50th Anniversary Dinner. A truly splendid event, showcased at the dining-room entrance by a magnificent ice sculpture of a K-21 among clouds, it brought together a real cross-section of the club's membership. Everyone I spoke with, regardless of how long they had been a member, was proud of what had been achieved. It really brought home to me just how important club "spirit" is and also how we are merely trustees of our respective clubs for our successors.

My visit to *Fly! The London Air Show* at Earls Court provided me with another, very different perspective. With four clubs also sharing space on the stand I thought that the organisers' signage to highlight our area, a banner hanging some 20 feet from the ceiling, was particularly apt in describing it as a Gliding Village. Our stand was staffed by BGA Communications Officer Keith Auchterlonie and a group of committed volunteers, some of whom I knew, many I did not. Those that approached me in the belief that I was another "punter" impressed me hugely with what they said about gliding and their enthusiasm for it. Had I indeed been a member of the public I would definitely have been swayed by their friendly, informative welcome. I was most impressed and would like to thank those people that helped out not only for their time but also for the way in which they were truly effective ambassadors for our sport.

One of the things the last six weeks has reminded me is that you gain very valuable perspectives by listening to what people have to say. With that in mind, I have written personally to the chairman of each BGA club so that I might open and maintain regular dialogue with them. I am sure they will tell me what they would like me to cover. I have also provided my email address below if you would like to make any comments to me direct.

I wish you a safe and enjoyable summer's gliding.

Patrick Naegeli
chairman@gliding.co.uk

Carl Peters

One key task for the BGA's Executive Committee over the next year is to further develop its strategic planning; and it has identified four key priorities to focus upon:

Reviewing operations (a) *both to take account of innovations such as motorglider tugging (here seen at Bannerdown GC) or plasma rope, and to ensure the continued robustness of gliding's safety, training and technical systems, is one key priority for the volunteers working on refreshing the Association's strategic plan*

Developing post-solo pilots' potential (b) *whatever the level or type of gliding they aspire to, is another of the four key areas of focus for the Association this year. There are lessons that can be shared between clubs and by the British Team – the world's most successful – here represented by Junior World Champion, Mark Parker, pictured concentrating on making the most of a typical British day*

Sailplane & Gliding

Membership development (c) *cannot be ignored. Whilst much effort has been expended on both attracting people to gliding and then retaining them, it is clear that we have yet to find ways to do this that are effective and enduring. Membership growth is already supported by BGA initiatives such as taking this simulator to the London Air Show, where as always it attracted a lot of interest. But ultimately, of course, sustained membership growth relies on clubs being able to deliver what new and existing members want*

The regulatory agenda (d) *calls for immense efforts from volunteers, both in the UK and beyond, who are responding to the ever-changing threats and opportunities posed by national, European and world agencies as well as developing gliding generally. Pictured are just some of those who give up their leisure time to volunteer at European level, seen at the European Gliding Union conference in 2006. The following will give you an indication of what has been happening in this fast-moving area most recently:*

*– The first meeting of the **MDM.032 drafting group** was held in Cologne in March. The title reveals little, but this group could be the catalyst for a significant change for the better. The European Aviation Safety Agency (EASA) has recognised that light aviation is a complex area with considerable diversity, and therefore difficult to apply a uniform set of regulations to. As a result of sustained representations by Europe Air Sports (EAS), the European Gliding Union (EGU) and the BGA over the last few years, and particularly over the proposed maintenance implementing rules (Part M), EASA decided to invite experts from the air sports and general aviation world to develop a (new) concept for European light aviation – defined initially as all aircraft below 5.7 tonnes. All aspects of aviation regulation, other than airspace and related equipment are within the scope of this group's thinking. It contains two British experts, nominated by EAS – Graham Newby, Chief Executive of the Popular Flying Association, and David Roberts, who chairs the BGA Regulatory Group – while EGU President Roland Stuck provides additional gliding regulatory expertise. They have a Herculean task to produce a solution that satisfies a range of criteria, and by July 2006! Once again, it seems they will have little time for their own flying this summer...*

*– In April, the BGA submitted a full response to the UK Department for Transport's public consultation on the proposed extension to EASA's scope to cover **pilot licensing and operations**. It is frightening to realise that at any point in time, there are anything between 50 and 100 individual items being consulted on in civil aviation. Not all of course affect gliding, but it gives an idea of how alert we need to be in this time of unprecedented change*

*– Domestically, the **Civil Aviation Authority's two reviews** – strategic and regulatory – of general aviation are reaching conclusions for presentation to the CAA Board in June. The BGA's participation in these reviews has enabled gliding's voice to be heard, and word is that the CAA's approach to future changes in the regulatory environment and the impact on air sports is generally favourable*

Paul Morrison

David Roberts

Wooden

BGA Chief Technical Officer Jim Hammerton describes what we've learned about glue failure from inspecting wooden gliders

AS MOST BGA members will recall, an inspection programme on wooden gliders was instigated in 2004 following a suspected in-flight glue failure on a Schleicher glider. The inspection produced surprising and in some cases alarming results.

Out of the 363 gliders that were inspected by March 2005, 40 had exhibited some defects serious enough to report. The defects ranged from minor trailing-edge deterioration to full structural degradation that made the aircraft uneconomical or impractical to repair. Defect reports continue to trickle in, some after the second inspection, proving that this is a live situation.

The problem in most cases seems to be a deterioration of glue used in the construction of German gliders, called Kaurite. This Urea-Formaldehyde resin glue is similar to other types of glue, but only Kaurite seems to suffer to a greater extent, possibly different formulation.

The main initiating factor for the glue deterioration appears to be damp conditions and poor storage. Unfortunately once the glue has started to deteriorate due to damp, it does not get better and coupled with high utilisation in some cases, may promote glue failure. It appears that once the initial damage is done this sets the scene for a continued faster-than-anticipated decline, even though the aircraft may have been afforded much TLC in later years.

Long-term tests carried out by various research institutes confirm the theory that certain types of glue deteriorate over time and the process is accelerated by damp/dry cycles.

The glue in question is a mixture of resin and filler material, usually a phenolic material such as Bakelite, and a hardener is used to set the glue. Kaurite identification is not made easy as it varies from a pinkish appearance due to the red hardener to grey or almost black depending on the filler used. During deterioration the glue forms a crystalline appearance and loses much of its strength.

The problems of "pink" glue have been known for a number of years with reports of the small reinforcing gussets, commonly called "biscuits" on K-8s coming off with the fabric. It was believed this was phenomenon linked to the fabric covering; however, as a result of a fleet survey the problem appears more widespread and in some cases can affect large areas of structure.

On an up note, there are a considerable number of gliders that are in perfect

gliders: inspection results

condition: why they are not affected in the same way we don't know; it may be because of better care, different use profile or possibly a generous helping of good fortune. However, these gliders still need monitoring and care to maintain condition.

The BGA Technical Sub-committee is becoming increasingly concerned by the reports and general airworthiness of older wooden gliders and has decided to extend the Schleicher wooden glider type inspection to other similarly constructed types and to introduce a five-year re-inspection. See BGA inspections 042/07/2004 issue 3 and 047/02/2006 issue 1.

Analysis of the inspection feedback has indicated that there was no deterioration of the leading edge "D" box area without deterioration of the trailing edge structure. It has been decided that if no deterioration is found aft of the wing spar and nothing is suspected amiss in the "D" box area the leading edge inspections may be omitted.

Other types of glue are not immune from deterioration or loss of adhesion. We have some reports of modern glues exhibiting signs of glue failure. It is believed these are a storage-related item causes by excessive extremes of damp and heat. The worst environment for a wooden structure is a warm, damp TEE hangar where the aircraft is put away wet and there is inadequate ventilation to remove damp air and allow the sun's heat to escape.

Another event that can promote glue failure is a sudden impact such as striking a wing tip or a hard landing. There may not be much in the way of visible damage but the structure may have been flexed enough to put slightly deteriorated glue joints under too much stress and initiate a failure.

In these cases a thorough inspection by a BGA Inspector with wood experience is recommended. The AMP manual Leaflet 4-3 has also been revised to offer guidance on conditional inspections.

The photographs (right) represent a good indication of glue failure. Particularly look at the abutment to the rear of the spar of some of the joints. Typical Kaurite glue is pink, but remember, not always!

The immediate past chairman of the Technical Committee, John Bradley, has advised in two annual reports that clubs that rely on aging wooden gliders as their primary training aircraft and for their "bread and butter" do need to develop a replacement strategy. This is in the light of the likely increased maintenance costs and decreasing reliability due to the age of the aircraft, high utilisation and resultant general slow deterioration.

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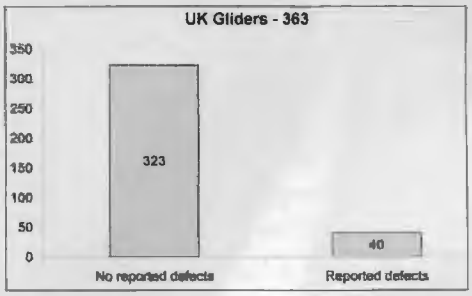
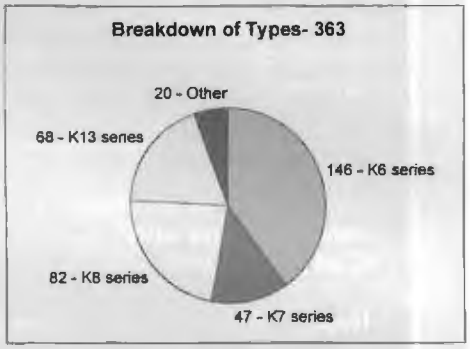
www.gliding.co.uk/bgainfo/technical/news.htm





Above: an inspection programme on wooden Schleicher gliders was instigated in 2004. Of the 363 gliders that had been inspected by March 2005, nearly one in ten (40 aircraft) exhibited some defects considered serious enough to report.

Right: The two charts identify *(top)* how many of each glider type were were inspected up to March 2005 and *(below)* the overall distribution of defect reports by type. Comparing these two charts shows that:

K-6s formed 40% (146 gliders) of all gliders inspected; 8 gliders had a defect report.

K-8s formed 22% (82 gliders) of all gliders inspected; 11 gliders had a defect report.

K-7s formed 13% (47 gliders) of all gliders inspected; 16 gliders had a defect report.

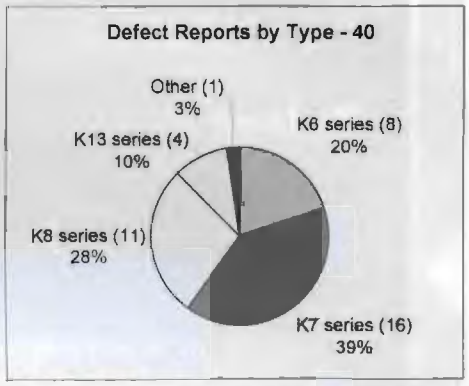
K-13s formed 19% (68 aircraft) of the gliders inspected; 4 gliders had a defect report.

Right and below: These photographs *(courtesy of Jim Hammerton and S Hoy)* show some of the problems wooden gliders can experience:

Right: K-13 damage at double rib at aileron;
Below right: K-7 airbrake box, outer rib and spar;
Below: K-13 ply web adrift from rib.

Of course, many wooden gliders remain in excellent condition but will still require care and monitoring to maintain that good condition into the future.

Defect reports continue to trickle in, showing this is a live situation. The BGA Technical Sub-Committee is extending the inspection to other similarly constructed types and introducing a five-year reinspection.



The Golden Age of Gliding: when was that, or is it still to come?

'If I had not bussed in a load of pensioners, I would have got hardly any votes at all'

THIS TOPIC was the subject of a debate at the London Gliding Club on March 25. I proposed the motion "The Golden Age of Gliding is Over" and have to admit right off that I was totally trounced in the final vote by the Opposer of the motion, Jay Rebbeck, one of the many brilliant young soaring Rebbecks. (There is also an old soaring Rebbeck, but he does not describe himself as brilliant; he can just bask contentedly in the reflected glory of his sons.)

If I had not bussed in a load of pensioners and aviating has-beens (some of my best friends are has-beens, as I am myself, so I do not use the expression in a derogatory way) I would have got hardly any votes at all. Jay's arguments were clearly so much more persuasive than mine that they deserve a big chunk of space in the next issue of *S&G*. You will only have to wait two months to get cheered up again after I have made you all thoroughly depressed.

I say without apology this is a protracted whinge by an old geezer – it's about the only thing old geezers are any good at, so I am indulging myself. If you are a thrusting young trophy-chaser, I suggest you skip these two pages of more or less wall-to-wall bellyaching. There must be more cheerful stuff to read elsewhere in the magazine.

Free as air?

'We do need GPS – so as to make certain that we don't bump into our electrified fence'

FIRST, airspace – it is really hard for many of us not to insert some seven-letter expletive routinely in front of the word *airspace* every time we use it. On glorious east-wind days at Dunstable around 45 years ago we could all fly quite legally at 11,000ft in clear air, with spectacular views of our countryside. (To know what's happened to our countryside, read on – I am coming to that.) If you look at an airspace map of 50 years ago – don't, it'll make you cry into your beer, and we all hate warm beer these days – you will appreciate that we are now almost in a prison. The last time I tried to familiarize myself with the airspace around Dunstable, a couple of years ago, I had to be ferried around the area in a light plane to identify, both by eyeball and with my GPS, exactly where I could and could not go in future. Sure, I am compelled to admit that we absolutely do need GPS – which has utterly destroyed one of the chief skills of the traditional soaring pilot and is for that reason another one of my reactionary pet hates – so as to make certain that we don't bump into our electrified fence.

A great deal of what should be the leisure time of our most experienced pilots is taken up with a continuing battle with the airspace authorities. Someone said years ago: "The price of freedom is eternal vigilance". So we owe a very big thank-you to Carr Withall and his eternally vigilant colleagues. Without them we'd all be stir-crazy.

'For sheer exhilarating rate of innovation in soaring performance, nothing compares with the period from the early 1950s to the early 1980s'

Progress slows

NEXT, we have lost, inevitably, the excitement of change in the post-World War Two boom. For sheer exhilarating rate of innovation in soaring performance, nothing can compare with the period from the early 1950s to the early 1980s. From wood to metal, to glass-fibre, to carbon-fibre, something new seemed to be happening every year.

In 1951 Dick Johnson flew over 500 miles in the metal and wood laminar-flow RJ5 (R for Harland Ross, Dick's associate, and J for Johnson) with its astounding L/D of 40:1. In 1953 Fred Slingsby brought out the new laminar Skylark 2, and two years later the Skylark 3, a steady contest-winner for some years. In 1957 in Germany the Phoenix was the first glass-fibre glider – several of them are said to be airworthy today. The 1965 World Champs at South Cerney was a wonderful opportunity to see in action all the best that the world's designers and builders could bring together in one spot.

When I was 18 – before I became a serious glider pilot – I served in the aircraft carrier HMS Illustrious. No, I didn't get

'The English countryside used to be incomparably beautiful; now it is disfigured by creeping uglification'

'The golden years of gliding happened also to be the years of the decline of British manufacturing competitiveness'

the chance to aviate, despite eagerly volunteering, but since they killed 20 per cent of the fliers in peacetime training, maybe I was lucky. Anyway, what made it exciting was that a whole variety of old props and new jets were being flown from the same vessel. Change was (literally) in the air, with avgas and kerosene assailing the left and right nostrils. It is very exciting to be involved, even in a very minor way, when an aviation revolution is going on.

In gliding we went from dashing downwind (more like ballooning than dashing – many Diamonds were achieved with a true still-air cross-country speed of 5kt, and my Silver C was achieved at 1.5kt plus 10kt of tailwind) to big triangles and out-and-returns even in quite strong winds. Records tumbled. I remember vividly the first day of the 1971 UK National Championships; I was complacently circling in a thermal in my wooden Dart 17R (the R stood for retractable undercarriage, a 1960s development that made Skylarks obsolete). Then George Burton, boss of Slingsby Sailplanes and pilot-extraordinaire, arrived alongside, flying the new Kestrel 19, built in glass-fibre with a carbon-fibre mainspar. This amazing machine seemed to take a brief, nonchalant sniff at my measly thermal, then dived away on track; I watched it pull up steeply about a mile from me and (was I seeing things?) the damn machine was back at the same height as me without having circled, and only about 40 seconds had elapsed. Soon afterwards George vanished altogether.

I was still circling in the same old thermal in my Dart, but complacent no longer. I just had to have one of those glass things! It now occurs to me, years later, that this was a brilliant piece of salesmanship by Slingsby's managing director. George probably did that to every potential customer throughout the course of the competition, making a tick in his order-book as he went methodically through the entry list.

A rapid, Darwinian process of eradication of weak designs and/or poor choice of materials was taking place. It was thrilling to see what could be produced by dedicated, focussed brainpower, especially that of the young Germans such as Waibel and Holighaus. Their 1965 glass D-36, star of South Cerney, was the future, leading to the ASW 12, the Nimbuses, the ASW 22 and beyond. For the next 20 years, up till the mid-1980s, excellent 15-metre designs were emerging, and the problems of making big-wing gliders controllable (read George Moffat on his adventures with the 1970 Nimbus One in his recent book, *Winning II*) were being solved. Superb two-seaters emerged that abolished the old distinction between single-place and traditionally inferior two-place gliders for records and contests.

But all that happened 20 years ago.

Some improvements are still taking place, but there's little doubt that diminishing returns are setting in. The cost of pushing glide-angles past 60:1 is – well, if you have to ask what it costs you can't afford it, as J P Morgan said to a would-be yacht-owner.

They say it's vulgar to talk about money. Polite people never discuss religion, politics or sex either. That would explain the long, deadening silences in those restaurants and hotels that are patronised by polite people in this country. They are of course thinking about all those things, but cannot unbosom themselves of their thoughts to anyone else.

(Get back to the topic! Ed.)

Green and pleasant?

HERE'S another nostalgic whinge: the English countryside used to be incomparably beautiful; now it is disfigured by creeping uglification. For instance, when I did my Silver C distance in the 1950s I flew from Dunstable to Membury, a disused World War Two aerodrome, in an open-cockpit Prefect, a distance of about 90 kilometres to the south-west. The only unpretty thing in the whole trip was the gas-holder at Didcot town, near the railway line from London to the West Country. The rest was unspoilt countryside from start to finish. Do that short trip now, and first you cross the great scar of the M40 motorway, then the vast power station at Didcot. The town gasholder is still there but it's now a little speck alongside those huge cooling towers and chimney. The Harwell atomic research establishment sprawls over a former aerodrome nearby. Then you come to the M4 motorway, with a monster service station, and a television mast several hundred feet high, on the old airfield. That's six brand-new eyesores in about 50 miles, in under 50 years. I bet most of you could recite much the same story travelling the same distance in any direction from your club. Creeping uglification, did I say? For *creeping*, substitute *galloping*.

It should have been a matter for rejoicing that after World War Two there were so many old military aerodromes that could now be used in peacetime by flying clubs and gliding clubs. Sadly, very few of them ended up like that. Many airfields were ploughed under – though I think we would all approve of that, if the land reverted to its original use; many others, however, provided very convenient hard-standing for cheap erections hastily and entirely tastelessly thrown up by the government or by farmers or industry. Hideous, tacky buildings – for which you would never get planning permission in any town – get put up higgledy-piggledy on old runways without anybody saying: "Stop! What are you doing? This is an offence to the eye and to the soul." They'd send for the men in the white coats, if you tried it.

Aren't some gliding clubs eyesores, too? Ed.

Shush, woman! Do you want to get us lynched? Plat

I still have a few more gripes for the next issue but pride of place will be given to Jay's rebuttal....

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When TINSFOS* reigned at Kirkbymoorside

IT IS INTERESTING that whenever Slingsby Sailplanes built a wooden 15-metre glider it had modest aviating and commercial success, but the moment they added two or three metres it was a winner that flew well and sold well. Thus when the Gull 4, a not very handsome Olympia replacement, came out after World War Two, it was a so-so performer, but with three extra metres it became the 18-metre Sky, and Philip Wills took the World Championships in it in Spain in 1952. Same again with the Skylark 2: in the hands of a genius like Frank Foster it took UK records in good conditions, but it was not a good all-rounder. However when stretched to 18 metres as the Skylark 3, it won the World Championships in Germany in 1960, flown by Rolf Hossinger. Again, the Dart 15 was nothing special, despite getting an FAI award as a very practical club glider in 1965, whereas the Dart 17 was a much better performer. (The 17 did not win any significant competitions, however, since its contemporary, Schempp-Hirth's SHK, also 17 metres, was an even better glider than the Dart 17. It was in an SHK that Anne Burns won the UK Nationals in 1965. A renascent Germany was overtaking us.)

You might be inclined to say that since extra span meant a better climb rate and a better chance of stretching the glide to the next thermal, it was obviously right for British conditions. However in two cases Slingsby 18-metre ships beat the world when flying over foreign soil.

In a way this tradition of adding span to a smaller ship continued with the Kestrel 19, which was the Glasfluegel Kestrel 17 stretched by two metres. With no compensating increase in fuselage length, the 19 was an eager ground-looper. It also had a terrible wheel-brake, which is my excuse for putting it into a barbed-wire fence in 1977. (Yes, I should have used its great ground-looping capabilities as a way of avoiding the fence, as I had done before, but things happened much too fast.) However I got my 500kms in it, won the only day-prize I ever got in a UK Nationals – the day before the above-mentioned prang, so there's probably a connection – and just loved the Kestrel.

Slingsby's 15-metre Vega, a sort of mini-Kestrel, did not set the world on fire. There were too many superb gliders coming out of Germany by the 1980s. Thinking back, gliding's golden years (as I see them) happened also to be the years of the decline of British manufacturing competitiveness, of which Slingsby's history was a microcosm.

* For newcomers to this column – TINSFOS = "There is no Substitute for Span"

What should you aim for?

In the first of two articles in this issue about cross-country flying, Julian Rees *(left)* and Richard Smith take a look at what the average weekend-only pilot might realistically expect from their flying, while, on page 22, Pete Masson takes the racing line with tips on faster flying

A RECENT advanced mentoring event at my club raised some interesting questions. In particular there was a debate about the level of expectation an average weekend-only pilot should set for their cross-country achievement. Following this, and some discussion with my fellow mentor Richard Smith, I decided to take a realistic look at my own cross-country flying since I joined Bristol & Gloucestershire GC in the late 1980s, and try to get on paper some of the thought processes about tasks that I go through before and during a typical weekend flight.

Firstly – a word of warning. This guide is aimed at people who, like me, have no great competitive ambitions and want to fly cross-country for enjoyment and personal satisfaction. If you are a steely-eyed racer with your eye on the Nationals (or higher) then don't read it! The ideas in this article could cause a serious deterioration in your finely honed competition mindset and require extensive therapy and/or a one-to-one session behind the hangars with one of the more competitive mentors...

What I want to discuss is how you set about cross-country as a challenging but enjoyable pastime, and I plan to address three issues:

1. What is a realistic level of expectation? We all know that the top pundits talk of 500km flights, rounding the last turning point as dusk falls and squeezing the last drops out of the day – but what really happens to the average weekend cross-country pilot in practice?

2. How do you structure your cross-country task planning, and select tasks so that you don't end up over-setting or (at the other end of the scale) simply wandering aimlessly around?

3. What do you think about *en route* when (as usual!) the weather does not live up to expectation?

For each section I've tried to give you an insight into how a typical pilot's thinking might operate. You need to modify this for yourself, or talk it over with a mentor. Bear in mind some of this is not appropriate for the competition-keen, or the avid badge hunter – and at times you will want to be more "press-on" than described here. What I've tried to do is present an honest view of what I do to enjoy a cross-country on an average weekend.

Reasonable expectations

To get an idea of what "reasonable" might mean for a weekend pilot I did an analysis of my logbooks going back 18 years (to when I moved to Nympsfield and started to get more serious about cross-country flying). To make this a sensible exercise, for those years when I've been flying a Nimbus 3DT I reduced all cross-country kilometres in the Nimbus by 33 per cent. In this period I have had a DG-200, LS4, Pegase and latterly an ASW 27 as well as the Nimbus, and I normally fly weekends only plus around three days a year midweek. So what you see should be representative of what is achievable in a glider such as an LS4, Discus or ASW 20.

First I calculated the average total cross-country kilometres, number of flights, percentage of flights declared/completed and number of flights more than 300km (more than 400km, or 300km at more than 100km/h, in the Nimbus). I also took out anything more than three midweek flights per year. The following profile was the resulting "average year" of weekend flying:

- Total kilometres per year: average over the full period was 2,700km per year, but with wide variations from 1,800km up to 4,000km;
- Average number of cross-country flights – 16 per year, giving an average cross-country flight distance of just over 170km;
- Average number of "300km" flights (400km in the Nimbus) per year – 2.5;
- Percentage of cross-country flights "completed as declared" – 34 per cent;

So, given that I've probably benefited from better access to gliders during this time than many pilots, I would suggest that "reasonable goals" for the weekend-only cross-country pilot in an LS4, Discus or ASW 20 might be something like:

- Total cross-country 1,500-2,500km a year.
- About 12-15 cross-country flights a year, averaging around 150km per flight.
- Of these, expect one in three to be completed as declared, and plan for two to three 300km days per year.
- If you can't get any time off in the week at all, then you may lose several hundred kilometres from your total: this will make a big difference to how your season feels, especially in lean years.

If you're already achieving this, then read no further. If not, then some lessons to take away might be:

- While lots of people talk about and maybe even declare 300km-plus tasks, the reality is that there are relatively few weekends in a year where you will complete one as a "casual pilot" (If you are trying for a 300km distance or goal for Gold or Diamond Badge, then you'll do better than this, as you tend to accept longer flight times and press on more than when you are "flying for fun").
- The reality therefore is that 80 per cent of your tasks will be less than 300km – either because the day is not good enough, or because you abandon a 300km flight for some reason. This means that more than half your total kilometres will be gained in short 100km to 200km tasks. There is nothing wrong with this! Indeed you can learn a great deal from a 100km triangle on a poor day.
- Maybe one in three flights will be completed as declared, so you need to maximise what you get out of your undeclared or uncompleted tasks.
- With the standard of early-warning met info now available, it is fairly easy to spot 300km days a couple of days in advance. Doing this three times a year adds 900km to your haul; but for many pilots, a day off with only a couple of days' warning is not an option. Instead, you'll have to use up a week's holiday: try a task week or a regionals (don't take it too seriously: treat it as a task week). Over many years in the UK, you will average four or five tasks out of a nine-day summer period: 600km per week or a bit more. Every now and then you will be rained off altogether: grin and bear it.
- Alternatively, change jobs, or inherit a vast fortune.

How to structure pre-flight thinking

First, try to declare a task before you set off. I normally declare something verbally at least, unless the weather is so bad that going cross-country at all is marginal.

However, given the difficulty of predicting the weather, it is sensible to have one or more "fallback" tasks in mind before you launch. Then if your first task is not "on" you can still do something constructive – albeit it will not count as a declared task for your club ladder.

Your fallback task can be shorter – for example, cutting one or more legs down in distance – and/or it might be in a totally different direction. As an example, last year I set off from Nympsfield having declared a 300km with Ironbridge as the first TP. Once airborne it became obvious that going

Showers are just one of the surprises the weather can offer and Julian suggests how to re-set your task in flight (Chris Davison's photo shows Simon Minson in ASW 20 'S2' flying north from Portmoak)

north-west was a big mistake (which shows how good my weather interpretation is!). So I re-set (in the air) my task to go to Lasham and Northampton – keeping the distance similar, but totally changing the quadrants I was working in to what looked good from the air.

Everyone has their own style of task planning: my approach is to have a list of favourite TPs, structured so that for each 45° quadrant (for example, west to south-west) I have (say) two or three TPs – ideally one at 50km, one 75km, one at 100km. In this way all you need to do set a task is pick which quadrants you want to fly in and then how far you want to go. It makes re-tasking in flight much easier as you only need to know 20 or so TPs – not the full BGA list.

Finally, when thinking about a task, the main considerations are:

1. How long is the available soaring day? This is a guess, of course!

2. How many hours do I want to fly for today? Your enthusiasm, mental state, likely launch time, and so on, will dictate this.

3. What kind of average speed can I make? For this, one approach is to use the expected cloudbase from the weather forecast as a guide. So for example, assuming it's not too windy, the average weekend Discus driver might do 55km/h with a 3,000ft base, 75km/h with a 4,000ft base and 85km/h-plus with a 5,000ft base (scale these up or down to match your experience level).

4. Which quadrants look best: both forecast, and by looking at the sky at the airfield?

5. Multiply the expected flight duration by the expected average speed. Then look for a suitable-sized task in the best quadrants.

Using this approach, you might say "It's a 3,000ft base today, I want to fly for three hours to the west" – so you're looking for a task of around 150km going west – from Nympsfield I would pick my two 70km TPs in the west/south-west and west/north-west sectors – giving me Chieveley Services and Didcot (160km approximately). If I thought the day might deteriorate from the north, then maybe I would have Membury and Westbury Chimney as an alternative, using two 50km TPs. The important things are:

- Set a task (or adopt someone else's) that is realistic for you. Just because one of your club's Nationals pilots is declaring a 300km don't feel you have to do the same. A shorter task, maybe sharing part of their first and last legs, might be better.
- Set the task for the day – remember there are only a limited number of weekend days when a 300km-plus flight is straightforward. You will learn a great deal (and have a lot of fun) completing declared 100km, 150km or 200km flights. But if the day is good enough for a 250km, do consider stretching to a 300km, unless some weather feature makes this inadvisable.
- Be realistic about your average speed and the time available – it's no use planning a 300km if you are not going to get launched till 14:00hrs and normally only do 50km/h.
- Know your favourite TP list – use this and quadrant system to help you plan tasks (see the end of this article for my own list).

What to do when you are airborne

So you've set your task – ideally with a fallback or two in mind and maybe a fall-forward) – and you've managed to get a launch and soar locally. What you're looking for now is reasonably consistent conditions – say, at least three steady thermal climbs up to a cloudbase you are comfortable with. Once you have this, provided you are not racing, you want to think about setting off if

the conditions down track look similar to those locally. Some rules of thumb:

1. Try to work out what's happening as you soar locally. What do the "good" clouds look like? Which side are they feeding from? What is a reasonable average climb for the day? What is cloudbase? How does this compare to forecast?

2. It's a good idea to set off with a couple of other gliders – if they are faster pilots than you then you'll get left behind pretty soon, but in general no-one minds towing a gaggle for the first few thermals down a leg. Just make sure you fly to your own "comfort margins" not theirs – and keep a good look-out, of course!

3. I personally try to have a structure for the day. Firstly I have a desired "operating band" – typically from cloudbase to a third of the way down. If I fall out of this then between a third and half-way down I'm throttled back and below half-way it's definitely time to find a climb. So on a 4,000ft cloudbase day my operating band is cloudbase down to 2,700ft, throttle back is 2,700-2000ft and by 2,000ft I'm slowed right down looking for a climb that will at least get me back to 2,700ft.

Once you've started you should look for three things (this is true throughout the task):
1. Are the conditions deteriorating around you? For example, is cloudbase coming down and/or thermal strengths diminishing? This doesn't mean just one bad thermal, but a trend over several climbs.

2. Can you see weather problems which you can't simply divert round, such as large areas of spreadout, weak/blue conditions, rain showers, incoming high cloud, and so on?

3. Are you hearing consistent reports of poor conditions from the direction you are going? Listen for several people calling problems, not just one unfortunate individual landing out, and remember that you might just be hearing the pessimists, while the optimists are pressing on.

If you get one or more of these warning signs you need to decide whether or not to continue your task as set. If you are close to a TP it might be worth pressing on for 10-20km, but if you have a long way to go you need to decide if the task is feasible.

Now the important bit!

If you decide not to go on (and remember my own statistics means this happens quite often) the day is not over. You've just flown through reasonable conditions – otherwise you would not have set off. So before you head straight back home consider:
• Can I complete this task, but just at a slower speed than I was planning? In other words, is the soaring day long enough to do this, and are the conditions still okay – if not as good as you had hoped.
• Can I do a shorter task in the original quadrants? For example, a 120km triangle rather than a 160km.
• Is it just this area where the weather is poor? That is: "Did I simply pick the wrong task?". If so, maybe you can still do your 150km (or whatever), but you need to re-set in the air using different quadrants.
• Have I just started too early – so do I need to slow down or go back home, local soar for a bit, then re-start?

Clearly there is a balance here – you do not want to give up a task just because you get low once, but you do need to develop the skill of knowing when to do something different, and to optimise your cross-country flying you need to develop the ability to re-set the task in the air to match what you can see.

So the lessons from this are:
• Make sure you have a clear picture of the conditions before you set off, so you can spot when things are getting consistently worse.
• Take some time to form a judgment, but then admit you were wrong (or the task-setter was).
• If this is not a competition or Badge flight you have the option to do something else, and still have a good cross-country flight. Try to avoid simply coming straight home unless the whole day is collapsing!

Enjoy your cross-country flying.

As a Nympsfield-based pilot, here's my list of favourite turning points as an example, by quadrant:

N to NE:
Stratford or Edge Hill, Northampton, Hus Bos
(SOA, EDG, NOS, HUS)

NE to E:
Didcot, Bicester, Grafham Water
(DID, BIC, GRW)

E to SE:
Membury, Chieveley, Kingsclere, Alton
(MEM, CHV, KGS, ALT)

SE to S:
Westbury Chimney, The Park, Shaftesbury
(WEB, PRK, SHA)

S to SW:
Bath R/C, Sherborne, North Hill
(BAT, SHB, NHL)

SW to W:
Not a lot – the Bristol Channel gets in the way!

W to NW:
Usk, Brecon or Hay-on-Wye, Cray Reservoir
(USK, HAY, CRY)

NW to N:
Hereford, Long Mynd, Ironbridge
(HEC, MYN, IRO)

There are of course other TPs I use as "fill in" or to get round airspace, but the above probably cover 70 per cent of my flights and if you add in the "fill-ins" you get to around 90 per cent:

Airspace avoidance:
Enstone, Devizes (ENS, DEV)

Intermediate points:
Banbury, Silverstone, Lasham, Basingstoke, Worcester R/C, Shobdon (BAN, SIL, LAS, BAS, WOC, SHO)

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Going further and faster

Pete Masson offers tips on how you can increase your cross-country speed

I'M NOT REALLY into racing, I'm more of a distance pilot... A much over-used phrase. Now let me introduce you to a basic equation: *distance = speed x time*. If you have more time, you can go further! The only trouble is that the soaring day is limited. So actually, if you want to go further on any given day, you have to go faster.

So, what do we mean by faster? We mean average cross-country speed. I'd like to introduce you to another way of looking at the above equation, more appropriate to what we are trying to do: *task time = time cruising + time thermalling*. So all of our time is either thermalling (staying still over the ground, gaining height), or cruising (using our height to gain distance). So to decrease total time (that is, go faster), we can either spend less time cruising, or spend less time thermalling – it's as simple as that! Well, almost.

How do we spend less time cruising? Primarily, we need to fly faster between thermals. However, we'll also lose more height. Because we need to gain more height, we'll need to do spend more time climbing. We'll need to find some sort of balance there, which we'll have a look at with some MacCready theory. Also, the closer we stick to track, the less distance we'll have to cover.

How do we spend less time thermalling? Well, quite simply, we need to find stronger climbs. Strictly speaking, the important factor is our average climb rate over the whole flight. You can think of this as the total height gained in thermals (from the moment you roll into each turn to the moment you roll your wings level on track) divided by the amount of time spent turning. Many flight analysis programmes will work this out for you. You'll almost certainly find that this average is lower than you thought!

Of course, if you cruise efficiently, you will also have to spend less time thermalling – for example, if you can gain some height in a straight line, you won't have to gain that height by stopping in a thermal.

MacCready theory

Most of us have come across MacCready theory by the time we go cross-country. What I want to do is to look at the important points whilst also considering its limitations. Firstly, why is it useful? It tells us:

– the best speed to fly between thermals, given that we know what the next thermal strength is.

– the theoretical average (cross-country) speed from the top of one thermal to the top of the next (A to B in the diagram opposite).

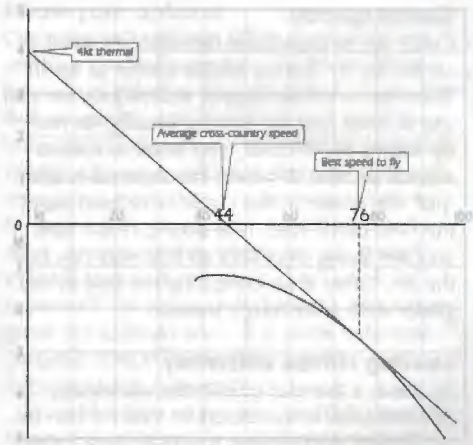
– If we are cruising, it tells us the best speed to fly (faster in sink, slower in lift).

– how fast to fly if there is any wind – but ONLY if we are flying to a point on the ground: that is, final glide or gliding into a TP (faster into wind, slower downwind).

Let's have a look at my DG-101's polar curve *(opposite, top left)*. If I know my next climb is 4kt (achieved average, remember – including the faffing around at the bottom and top), I draw a line from 4kt on the y-axis to a tangent on the polar curve. Where the line meets the curve is the best speed to fly between thermals. Where the line cuts the x-axis gives us our average cross-country speed – that is, from the top of one climb to the top of the 4kt thermal we will take (so we are assuming no height loss). So my best speed to fly is 76kt, and my average cross-country speed will be 44kt (81km/h). We can do this for a variety of climb rates:

Average Climb rate (kt)	1	2	3	4	5
Speed to fly (knots)	57	64	69	76	81
Average cross-country speed (km/h)	42.6	61.1	72.2	85.2	90.7

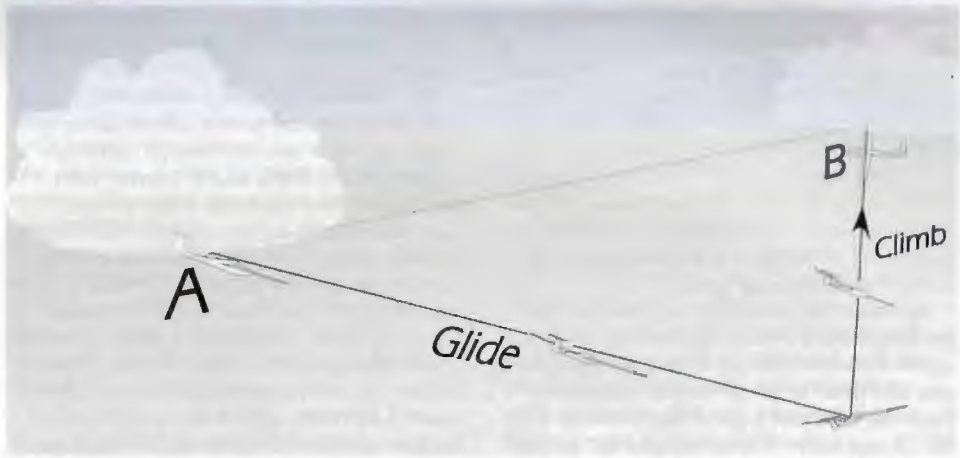
We can also look at what happens if we fly at a speed other than the theoretical



Left: Pete Masson in DG-101 EKP setting off across country (www.whiteplanes.com and Pete Masson)

Above: DG-101 polar curve, showing average cross-country speed at an achieved 4kt climb average (diagram: Steve Longland)

Above right: think of your turnpoint as across a river, and the clouds as stepping stones. What's the best route to reach it? The line shows how Pete would fly this sky (see Increasing your climb rate, *overleaf)*



Right: Theoretical average cross-country speed, according to MacCready theory, assumes that after climbing and gliding (A to B), there is no net height loss

(diagram: Steve Longland)

optimum. So, if we know the next climb is 4kt, and we choose to fly at 60kt, we draw a line from 4 on the y-axis to the point on the curve, which is 60kt *(see above)*. This gives us an average cross-country speed of 42kt (78km/h). So, let's see what happens at a variety of MacCready settings (cruising speeds) in the case that we climb at 4kt.

MacCready setting (knots)	1	2	3	4	5
Cruising speed (knots)	57	64	69	76	81
Average cross-country speed (km/h)	75.9	79.6	81.5	85.2	83.3

What should strike you about this is that the speed that you cruise between thermals doesn't have a big bearing on your average cross-country speed (halve the MacCready setting from 4 to 2kt, and speed reduces by 6.5 per cent). However, your average climb rate has a very large effect on your cross-country speed (halve the climb rate from 4 to 2kt and speed reduces by 28.3 per cent.

Of course, there's another effect when we change our cruise speed – our glide angle. Using my DG-101 with the 4kt climb rate example again, at 76kt the glide angle is 27.1:1. At 64kt, the glide angle is 33.7:1. At 64kt, I can go 24 per cent further! That means I can sample 24 per cent more thermals. That means I have more chance of getting a better thermal.

In practice, if flying at the 2kt setting means I actually get 4kt every time, rather than an average of say 3kt (because I'm flying faster and having to take weaker climbs to get to the 4kt climbs), my average cross-country speed actually goes up by about 7km/h! Put another way, achieving a high average cross-country speed is as much about the thermals that you can reject as the thermals you take. By flying slightly slower and having the option to reject weaker climbs, we can actually go faster!

Flying with waterballast involves similar considerations. Carrying water means that you can fly faster in the cruise for the same height loss. It also means that your climb rate will be reduced, not only because your sink rate at thermalling speeds is increased, but also because it may be harder to get to the core of the thermal. Finding the correct weight to fly at is again a balance.

Everything so far is all very well in theory. However, MacCready theory makes many assumptions. It's important to know these so that we can understand its limitations. Some of these assumptions are:

– The next climb is the strength you predicted (how good are you at predicting the future?).
– You are able to reach the next climb of the predicted strength (in other words, the ground doesn't get in the way first!).
– Air between thermals is still: no lift or sink.
– Thermal strength is constant throughout its depth (remember, it's actually achieved climb rate that counts).
– It doesn't work in the way described for wave flights.

To optimise our performance we should also slow down in the lift and speed up in the sink. How close should we stick to the theoretical speeds? Let's consider that we're flying along at 70kt. We fly through some rising air, as indicated on the variometer. It takes a vario about two seconds to react to this. Once we have this indication, let's say that it takes another second for our brain to react and apply an input to the controls of the glider. If we pull back, maybe it'll take another four seconds to slow to 50kt. In those seven seconds, the glider has travelled some distance. We are now flying the right theoretical speed for the air 250 metres behind us: potentially we're back in sink, and flying much slower than we should be.

So, if you try to rigidly follow the best speed to fly, you are acting on history, you won't feel the air so well (which bumps are your control inputs and which are due to the air?) and you are also creating drag by waggling the controls!

In practical terms, pick a speed that's appropriate for your position and the conditions, and try to stick to it, unless:
– There is a general trend in the air movement (for example, you are under a street);
– You are expecting to fly into a thermal;

– You are leaving a thermal (and expecting sink);
– The next few clouds look better/worse than you previously thought.
So, practical speeds to fly? Well, as a rough guide:

Weather ahead looks dodgy?	**0-1kt**
Weather ahead looks ok?	**1-2kt**
Weather ahead looks very good?	**2-3kt**
Weather ahead looks fantastic? (okay, so not in the UK!)	**4kt**

In my DG-101 (without water), that equates to speeds of about 55kt, 60-65kt, 70kt and 75-plus kt. With my L-Nav, I basically use the MacCready setting to shut the bloody thing up when I'm cruising!

So, we've looked at the theoretical side of how to go faster. The key point is that flying at the optimum speed to fly only makes a few per cent difference to our speed. I've shown that, as Graham McAndrew once told me, there are three key things that will give you a faster cross-country speed;

1. climb rate;
2. climb rate;
3. climb rate.

If flying slower than the optimum allows you to increase your average climb rate, then you can increase your average speed (which is the ultimate goal!).

As important as making sure that we find the best climbs is making sure that we can reject the worst climbs! After any racing day, you can listen to pilots' banter. Invariably, for those who had a good day the story will be: "It was easy – I only stopped for 4kt and never got low". For those who had a bad day the story will be: "It was awful, I kept getting low and had to top up in 2kt all the time". How can two pilots flying in the same sky, who maybe even started at the same time, have such different stories?

I know from my experience of those "bad days" that, more often than not, a bad day is caused because at some point I found myself in a situation where I had to take a weak climb (thus reducing my average speed). I found myself taking a weak climb because I ran out of options (I had to take it as the risk of outlanding was becoming too high). I probably ran out of options because I hadn't planned the previous part of the flight very well. I almost certainly hadn't planned that part of the flight well because I wasn't fully aware of what my options were, so didn't see them eroding. The competition pilot on top of his game is constantly appraising his situation and the environment he's in to ensure he never has to take a weak climb. A comparison to snooker is a good one – the great players always think several shots ahead and also have in the back of their mind "what if this next shot doesn't work?".

So, what I want to do is to help you build a big picture of the things that will help us go faster – that is, help us achieve a higher average climb rate over the whole flight.

Increasing your climb rate

The first place to start is the thermal itself. There are three things we can do to help:

Pete, right, coaching a Ted Lysakowski Trust award winner at Lasham in 2005. The 2001 Club Class World Champion, Pete is a British Team Coach (S&G)

– Find the thermal efficiently;
– Centre quickly;
– Leave efficiently (before climb rate drops).

Finding thermals seems almost like a black art. How can you find an invisible volume of air? Well, as any soaring pilot knows, we aren't entirely without clues. Cumulus clouds are the obvious start – they are effectively telling us a little bit of history (where the thermal was at our height a few minutes ago). The closer we are to cloud-base, the better they are as a guide. If you know where to look under the cloud, even better! The sunny or windy sides are often worth a try. With experience you may even be able to pick out subtle details (such as movement in the cloud, or change in 'colour') hinting at the best bits. On a bigger scale, we should be comparing the layout of the clouds to our task, and performing a 'join the dots' exercise. Think of your next turnpoint as the far side of the river, and each of the clouds is a stepping-stone. What's the quickest, easiest way to get to the far side *(see photograph on previous page)*? Other gliders and birds turning may be a good clue – if you are climbing nearby, they may even be useful for determining if you could be doing better if you move to them.

Ground features are perhaps good for a 'bigger picture', but may be more essential on those days without any cumulus. When looking at the ground, have a think about how it would warm up – picture yourself in the environment. If you were standing in a town or ripe wheat field, you'd probably feel warm, so they are likely to be good thermal sources. Sun-facing hills or power stations are highly likely to be good sources. Also, remember that thermals tend to roll up the sides of a hill and come off at the peaks.

When you fly into a thermal, be ready to turn... and be as equally ready to reject it! If you are rejecting it, you have hopefully thought a few steps ahead so that you know where you are going next. If you do a turn and the thermal isn't there, then is there any point in doing another circle in almost exactly the same place?

Perhaps the hardest part of this is to understand what a thermal 'feels' like.

Centre quickly

Once we've found our thermal, we need to centre on it. That's a whole article in itself! There are a whole host of techniques we can use to help find the centre. Ideally, as you fly round the thermal, you need to form a mental picture of where the thermal is and 'put' the glider in the circle which achieves the best climb rate. If in doubt, make sure you are flying smoothly so that you can feel the air, rather than confusing the feel of the glider with your rough inputs.

Leaving climbs efficiently

To leave a thermal efficiently, we ideally need to look at the cloud so that we can be as diligent at choosing a high-energy route out as we were on the way in. We also want to try to make sure that we don't hang around for a few more turns while the climb deteriorates. After all, that would decrease our average climb rate.

If you want to look at it another way, if you do one extra turn at the top of a climb without going up, you've wasted 20-30 seconds. If you do that every thermal, that could be (say) eight thermals per hour. On a five-hour flight, that might be 20 minutes. You could have gone over six per cent further/faster on that factor alone!

Most wasted turns at the top of thermals are probably due to not having a plan. Again, whilst climbing up, we should have been looking ahead to find out what our options are, and in particular working out what our next step will be, so when the climb rate has dropped below an acceptable level for our position, we can level our wings and go.

Build a 3D picture of the task area

What are the factors that affect our decisions on a typical cross-country task? Here are some suggestions:
– Ground features (power stations, ridges, towns, water, low ground, high ground);
– Weather/clouds (cumulus, altocumulus, cirrus, fronts, wind strength and direction, streeting, wave, etc);
– Other gliders;
– Landability;
– Airspace;
– Glider performance (more climbs are within reach of a better glider);
– Your ability (as you get better, the better you are at finding climbs).

The first three are looking at where the energy is (or isn't) in the sky – primarily, we should be making decisions based on these. Earlier I mentioned things to look for to find climbs efficiently. Equally, on the flip side watch out for likely problems – areas that have been covered by cirrus or spreadout will not be as great for thermals as sunnier areas, and neither will wet lowlands. Can you see lots of gliders low and not turning ahead? Remember, we can go faster by not getting into trouble ourselves!

The last four are aspects that won't help us in our quest for a stronger climb, but do have a bearing on the decisions we make.

Know your options

Once we've built our 3D picture of the sky and our environment, we need to work out how we're going to play this game of snooker. Before making any decisions, we need to know what our options are. Which potential climbs can we reach? Are there any lines of energy near our track? Is our track likely to be restricted by airspace? Are there reachable, landable fields where we are going? What happens if our plans don't work as expected? It's also worth thinking about how good our options are – is a route with one fantastic option better than another route with two okay options?

Consider this: when you are high, you can reach lots of thermals and therefore have lots of options. If you have a street in front of you, you have lots of options. If you have lots of options, you can reject the worst ones. When you are low, you have fewer options and are more likely to have to take the worse options. If you are flying parallel to a line of airspace, you maybe only have half the sky available to you – that is, half the options. If you only have one landing option, your soaring options are tied to your need to be able to reach it should you not find a climb in time to turn back.

What I'm saying is, *options = speed*. If you have lots of options, you can afford to reject the not-so-good ones. If you have few options, you are forced to take what you get. If you are getting into a situation where your options are reducing, think about how you can stop them eroding further. Even though there are 4kt thermals, we're only half way to cloudbase with a big gap to the next clouds: perhaps it's time to take 3kt before our options erode so we have to take 2kt?

Make plans

So, we've built this big 3D picture of our task area. We know what our options are. Now what we need to do is to put them all together and make some plans.

I always have three plans available to me.

1. Long-term plans: the big picture. For example there's airspace close on the right side of my track, so I would like to bias my track to the left where possible.
2. Medium-term plans: the next few steps. For example the next few clouds we are going to sample – there's a great line that's left of track but it has lots of options so it should be quicker than gliding straight across the blue whole that's on track.
3. Short-term plans: what's my next decision? For example, what is the next cloud to try? What route shall I take under this cloud?

Of course, the plans all have to lead into one another – there's no point in choosing a medium-term plan that makes the long-term one unachievable!

Your plans should also be flexible – that is, have more options available. A plan is an amalgamation of your chosen options, but most of our decisions are based on probabilities so we are likely to get them wrong on a regular basis.

When they do go wrong, we need to know what the other possible options are so that we can make some quick decisions and come up with a new plan. Remember – if we have to do a couple of turns in zero before we make a decision, we've just reduced our average climb rate.

If we're racing cross-country for several hours at a time, it is (or should be) very hard work. There's a lot to concentrate on, and it's easy to get distracted. Once you are distracted, it's very easy to stop making plans, and this is when you are most likely to get yourself in an unnecessary hole.

Try to recognise things that distract you, and do what you can to fix them – it might be an uncomfortable sitting position, or it might be that you are too eager to use all the functions in your expensive PDA software.

If you can eliminate these things, you will have that bit more capacity to contemplate the energy in the sky.

Conclusion

I hope you now have a reasonable idea of the things you should be concentrating on to enable you to go faster cross-country. There's a big world of information out there in the sky, and 99 per cent of what's going to help you go faster is outside the cockpit. It's down to you to interpret it to make best use of it. If you're ever getting into a hole, the first trick is to recognise the fact. The next step is to work out what your options are, and finally to make some plans which will get you back running again. And remember – the key factor that will ensure you go faster is your average climb rate.

Learning from experience

Hugh Woodsend looks at some recent airproxes, and identifies what we glider pilots can do to make the skies safer for us all

EVERY half year the UK Airprox Board publishes its latest findings in book form. In addition, a General Aviation extract is produced as a subset of the main volume. GA Book 12, just published, is wholly dedicated to matters gliding and for use as a lessons learned, or at least identified, for pilots of powered aircraft to help them understand more of the gliding world. You can download copies of these publications by going on to the website *http://www.ukab.org.uk/* and selecting "Publications" from the panel on the left. You will need to agree to the copyright rules before proceeding to the sub-menus.

This article is addressing the subject from the other point of view, in other words, the lessons identified for glider pilots. I have attached the reference numbers so you can easily find the relevant Airprox report.

Lessons identified – themes

GA Book 12 has been written to address a number of specific themes. Naturally they won't exactly match the lessons identified for glider pilots but you might consider looking at those as well. This time I have picked seven themes for us to consider.

Lookout

Until a few years ago, the main consideration in any Airprox debate was lookout in Class G airspace. It is now well understood by everyone that gliders are difficult to see and that we have to get better at keeping gliders and powered aircraft apart. However, there is still a need to keep looking out; the newer scan cycle now taught is far better and any glider pilots who were taught some time ago should refresh themselves on this much-improved procedure. (If in any doubt, consult an instructor about it). We still get lower speed comings together, 066/05 (PA28/LS8), and 127/05 (Cessna 182/LS8) being examples where there was a good possibility of seeing each other much earlier.

Winch-related incidents

We have had a number of winch related incidents. Clearly it is not a good idea to overfly gliding sites, especially below cable heights and I highlighted this in GA Book 12. There were two examples worth reading (061/05, Lasham, and 155/04, Rivar Hill). For ourselves, we should remind our launch crew, in addition to the all clear above and behind, to look well into the distance for potential conflicting traffic. Earlier in the year, I constructed a mathematical model which showed we will be lucky to see aircraft flying above 120kts during the launch procedure, but we must make every effort to do as much as possible.

Tug operating

On the whole we do not get that many tug-related incidents. But it is probably worthwhile highlighting the potential for conflict, especially after release. The complex cooling procedures we all now use can lead to clock watching and we must ensure we keep the scan cycle going during this period and do turn the aircraft from time to time to avoid blind spots. Low sun also can reduce dramatically the in-flight visibility. We had an example earlier this year. If possible it is good if tugmasters publish their towing routes and circulate them to local airfields; it all helps to keep everyone informed.

Overflying gliding sites

General overflying of gliding sites continues to be a problem. The closing speeds can be large so it becomes both difficult to see the other traffic and extremely difficult to move out of the way. Good examples are 171/04 and 122/04. At some sites it may be possible for experienced pilots who are flying locally to both see and warn of conflicting traffic but this only really works if the glider's altitude is similar to the conflicting traffic as judgment of vertical separation is difficult. Perhaps this is something to debate at instructor meetings.

Local agreements

Local agreements between gliding sites and their neighbours should now be copied to the BGA so we have a central repository. Over time, committees change, CFIs leave and chairmen resign and only too often the knowledge of the local agreement goes with them. We had just such an example in Northern Ireland (196/04) which resulted in a SF340 meeting two gliders on its approach into Londonderry. This is a good example of what can happen when the practical knowledge of the original thoughts and decisions behind the agreement are lost.

IFR non-airways

Airspace in the UK is quite complex. Even within Class G airspace, there is a lot of IFR traffic flying between different airports which have no airway or advisory route between them. The bulk of this traffic tends to be above FL50, with unpressurised aircraft up to FL120 and pressurised above that. In good thermal conditions, pilots will often route above cloudbase to keep in the smooth air, but when the cloudbase is very high this may become impractical. Glider pilots should be aware that with high cloudbases or in wave, they are likely to meet this type of traffic.

We had a good example of this when a Shorts 360 flew down from Coventry to Exeter and his company had filed a non-standard routing. Over Nympsfield he met

UK glider-related airproxes, military and civilian, 1999-2004

All General Aviation (GA): risk	1999	2000	2001	2002	2003	5yr avg	2004
A	17	19	24	9	10	16	13
B	41	33	27	58	38	39	42
C	74	54	60	57	70	63	71
D	2	2	1	3	0	2	4
Total	134	108	112	127	118	120	130
As of total	13%	18%	21%	7%	8%	13%	10%
Bs of total	31%	31%	24%	46%	32%	33%	32%
Cs of total	55%	50%	54%	45%	59%	53%	55%
ALL GA: Gliders	1999	2000	2001	2002	2003	5yr avg	2004
Gliders (excluding paragliders)	15	22	17	24	17	19	21
Total	134	108	112	127	118	120	130
Gliders of total	11%	20%	15%	19%	14%	16%	16%

Gliders 1999-2006: risk	A	B	C	D	Total
Gliders (excluding paragliders)	19	46	50	1	116
All GA (incl gliders & paragliders)	65	239	386	12	729
Commercial Air Transport	12	58	421	13	504

	(A+B) Risk-bearing		C	D	Total
Gliders (excl paragliders)	65	56%	50	1	116
All GA (incl gliders & paragliders)	331	45%	386	12	729
All GA except gliders	266	43%	336	11	613
Commercial Air Transport	70	14%	421	13	504

UKAB assigns incidents to one of four internationally agreed risk categories –

A: risk of collision;
B: safety not assured;
C: no risk of collision;
D: risk not determined.

The map, right, illustrates the general location of all 116 airproxes between gliders and other aircraft, 1999 to 2004 inclusive. There were 21 reports in 2004, indicated in red on the map and in the table opposite. S&G thanks Peter Hunt, Director of the UK Airprox Board, for his assistance with this information

This article's author, Hugh Woodsend (below), is a Full Rated gliding instructor at Cotswold GC with shares in a Duo Discus, T-21 and Ventus 2c. He started gliding with the RAFGSA and has clocked up 3,500 gliding hours since the early 1960s. On top of that, he has more than 20,000 hours on 500-plus types, ranging from light aircraft to passenger jets, and is a freelance fast jet test pilot. A member of the BGA Airspace Committee, he co-ordinates a liaison programme, raising awareness of gliding among military pilots, and has written this article in his capacity as one of the members of the UK Airprox Board (UKAB) with responsibility for General Aviation. Hugh adds that:" I am well aware that many incidents go unreported or were not quite close enough to justify a formal report. I would like us to keep an eye on specific incidents: incursions over sites, winch conflicts or abandoned launches, and wave conflicts or higher-altitude incidents, so please send me a short email at hugh.woodsend@btinternet.com *if you have anything in these areas; it will all help us".*

Hugh edited the UKAB GA Booklet 12, which we urge you to download from http://www.ukab.org.uk/ *to learn from lessons identified. UKAB defines an airprox as a situation in which, in the opinion of a pilot or controller, the distance between aircraft, as well as their relative positions and speed, have been such that the safety of the aircraft was, or may have been, compromised. UKAB also publishes two comprehensive reports a year, assigning incidents to one of four internationally agreed risk categories:* ***A:*** *risk of collision;* ***B:*** *safety not assured;* ***C:*** *no risk of collision;* ***D:*** *risk not determined. The latest was published in April 2006. In addition, from December 2005, the deliberations of the Board's monthly meetings are being published on its website*

Photo: Sid Gilmore

Steve Longland

an ASW 27b on a second task. The Shorts was cruising around 150kts, but many of the aircraft on this type of routing will be considerably faster and therefore more difficult to see.

Airspace and wave

Quite recently, we had two incidents that involved wave flying. 191/05 involved a Hawk meeting a Janus over Milfield at about FL55 in the wave and 186/05 involved a Duo Discus and 10 Tornados engaged in an exercise over Loch Laggan at FL90.

In neither case was anyone doing anything wrong, it was simply that neither party knew the other aircraft was there. In fact the Duo Discus had been talking to Scottish, but the co-ordination didn't happen. These two incidents have resulted in a recommendation from the UK Airprox Board that Military and BGA get together to discuss a way forward. Currently there is an excellent unit that is responsible for low-level military activity, but its jurisdiction stops at 2000ft and no-one is responsible for co-ordination at higher levels. This meet is long overdue and should result in sensible discussions on how best to operate gliders and others in Class G airspace, particularly at higher levels.

All the above pre-supposes that you are in Class G airspace. I have already highlighted in *S&G* (August-September 2005, p10) an incident in which a DG-1000 out of Sutton Bank conflicted with a Jetstream 41 in the airway (191/04) so I won't do more than remind you of the need to keep maps and GPS airspace files up to date and leave enough margin at the boundaries.

How to deal with tug emergencies

The BGA's Chief Tug Pilot, John Marriott, offers a few words of wisdom on safe aerotowing – and what to do if it all goes horribly wrong

GUIDANCE notes for towplane pilots are to be published this June on the British Gliding Association website – *www.gliding.co.uk* – compiled from the generously shared experience of UK gliding clubs, tuggies and tugmasters. For *S&G*'s sneak preview of the section about coping with aerotow emergencies, read on...

1. Aborting the tow on the ground

If there is a problem with the tug, the tug pilot should immediately release the rope. This has two functions: firstly, it increases the separation between tug and glider and, secondly and most importantly, once the glider pilot sees that they are "pushing the rope" they are likely to be fairly convinced that getting airborne is unlikely and they should now be prepared for the subsequent ground run and for avoiding the tug. The tug pilot should consider stopping ahead, but do so without heavy braking if possible and an attempt to steer gently to one side if safe to do so. At any point be very aware of the possibility of the glider rolling into the tug as tug brakes are usually much more effective than the glider's. The danger point is while the tug is still firmly on the ground and the glider lifts into ground effect, therefore losing the ability to stop quickly. If the glider pilot aborts the tow by releasing, if the launch is stopped from the ground or for any reason unknown, the tug pilot should seriously consider not getting airborne. This is because there could be a problem that the tug pilot is not aware of, for example (and it has happened) the tug's wheel might have picked up a winch cable! The basic rule then could be: if it is safe to stop ahead – do so.

2. Glider airbrakes open

Glider airbrakes may open in turbulence, or because of the pilot's failure to lock them properly. If the tug is climbing at a poor rate, first check the throttle is fully forward, carb heat is not on, both mags selected and the engine gauges are normal, then check the mirror. If the glider brakes are open, do not signal immediately unless absolutely necessary; try to get the glider to a safe height if possible – then signal. Remember, a dazed glider pilot is likely to just release at any sign of a problem. The signal for glider airbrakes open is to waggle the rudder rapidly; try to make this an obvious signal to the glider pilot. It is the rudder waggle that is the signal to the glider pilot, not the yawing of the tug, which is to be avoided, especially at low speeds! If the signal is not well done, the glider pilot can mistake the roll resulting from the secondary effect of yaw for a wave off, which could lead to an accident. Also consider using the radio to identify the problem, but only at a safe height: don't let its use distract you from flying the aircraft. If the tug is maintaining height or, even better, climbing, gently return towards the airfield and consider delaying the signal until within gliding range or over landable fields reachable even with full airbrake. Good tugs climb even with the glider brakes open, but if the tug is at risk, wave the glider off or release without delay.

3. Glider out of position

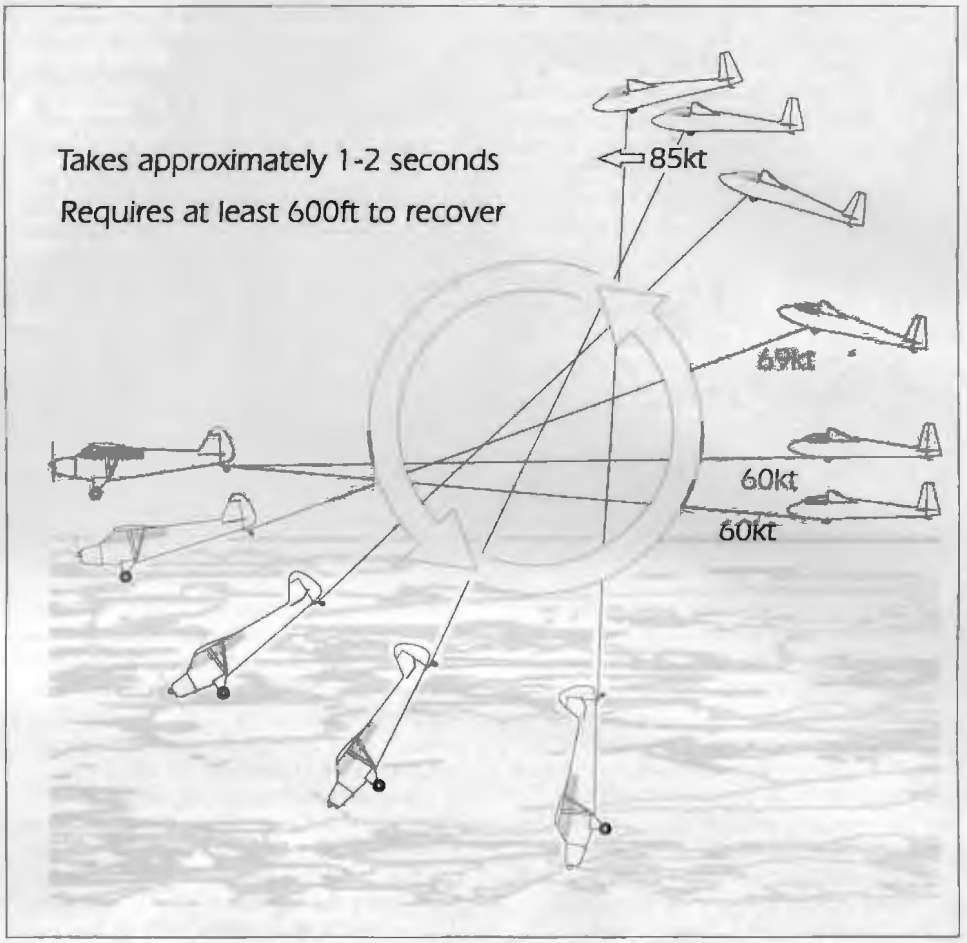
Practising "boxing the slipstream" is a BGA training exercise for glider pilots. Although uncomfortable for the tug pilot, it should not cause control difficulties. If the glider gets way out of position near the ground and has the potential for handling difficulties, as always, consider releasing

Take-off at London GC against a backdrop of the Dunstable Downs (Peter Atkinson)

Top right: typical sequence of glider "winching" behind a tug to cause an upset. Glider speeds based upon a constant tug speed of 60kt

Below right: The solid line corresponds to the vertical component of the tow rope load which will upset the tug, and the dashed lines represent the loads applied by the glider, calculated as if tow ropes were extremely long. For typical ropes, the loads are greater than shown – much greater for steep flight paths. The tug will therefore be upset at small rope angles by rather gentler manouevres than this diagram suggests. The rope weak links will protect the tug at the right side of the diagram while ***rope release is the only solution at the left***

(All diagrams: Steve Longland)



the glider and saving yourself (and the tug!). As a general rule, if you need full deflection of the elevator, it is time to let the glider push the tow-rope from his/her end – in other words, release the rope from the tug immediately!

4. Tug upsets

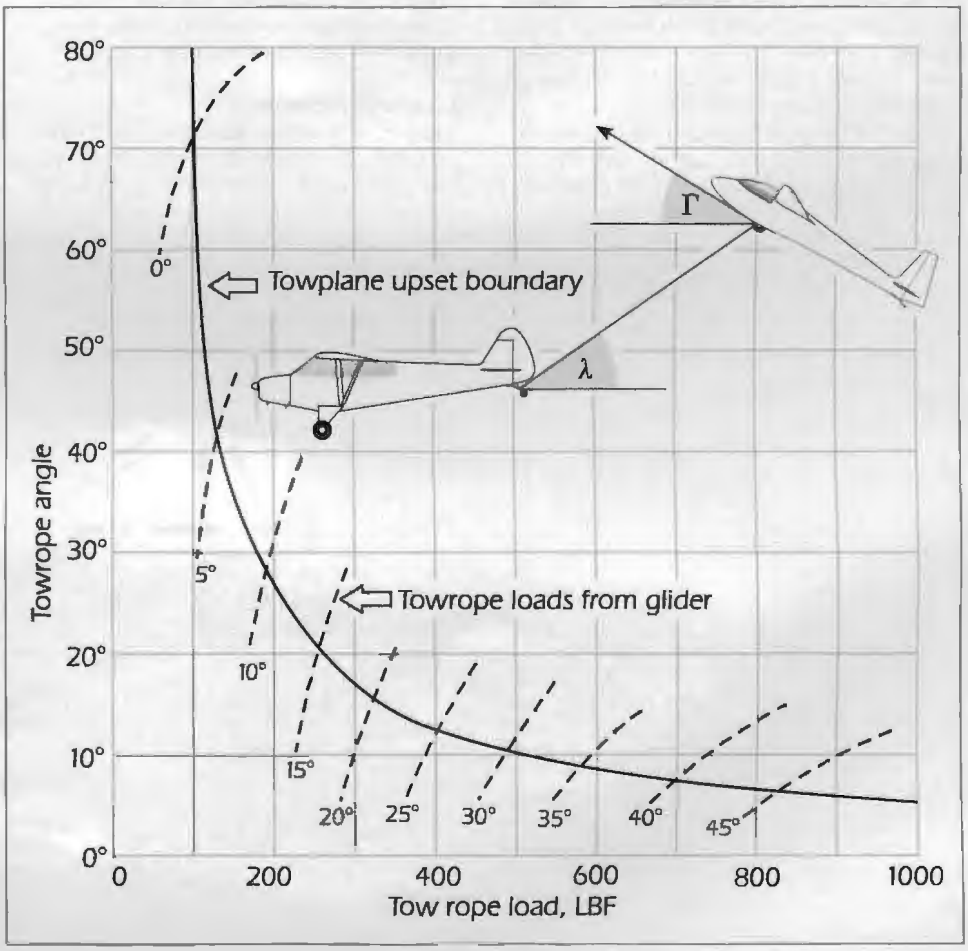
Tug upsets occur when the glider pilot gets too high and lifts the tug's tail uncontrollably. This tends not to happen from a pilot flying consistently high on tow, but rather from a pilot in difficulties a little low, perhaps in the slipstream, who suddenly "winches" up behind the tug. This creates so much lift, and hence drag on the glider, that the tug is not only tipped, but loses its forward momentum as well. From time to time over the years, tug upsets have occurred at low level from which the tug has been unable to recover, usually with fatal results. A glider pilot's aerotow training emphasises that correct position behind the tug is essential and that he must release if he is getting too high. However, tug pilots must be vigilant during the early stages of the launch for any tendency of the tug to be pitched nose down. At all times monitor the tug's attitude and if a significant backpressure is required to prevent any nose-down pitch – release immediately. Be aware that tug upsets can happen rapidly with little warning.

There are a number of factors that increase the possibility of a tug upset:

– A glider that is to be towed from a belly hook;
– Gliders with high-set wings relative to the towing hook;
– Gliders with a low wing loading, usually older or vintage types;
– The presence of turbulent conditions, especially if associated with a strong wind gradient;
– Glider pilots with low hours and/or little aerotow experience;
– Lightweight pilots;
– The use of short tow ropes will exacerbate the problem.

This list is of course not exhaustive.

A typical sequence is shown *(right)* in the illustrations, with a simplified rope load/angle plot. In reality, the situation is worse than shown because the glider zoom climbs behind the tug, its total energy ➢



Left: the highest risk of a lateral upset is during the "glider cannot release" signal demonstration. As this involves a heavy two-seat glider, like this K-21, going a long way out of position it should only be done at sufficient height. Radio contact between the glider and tug could make the signal unnecessary

(Photo: Mick Davis and Paul Holdnall)

increases (simultaneous increase in height and speed). This energy can only come from the momentum of the tug and therefore its speed will rapidly decay. This means that just when a high download is required to be generated by the tailplane/elevator to retain control and break the weak link on the rope, the capability to do so is vastly reduced by the decay in airspeed. This may result in the tailplane, and possibly the wing, stalling. Typically, 600 feet or more may be required to recover from an upset.

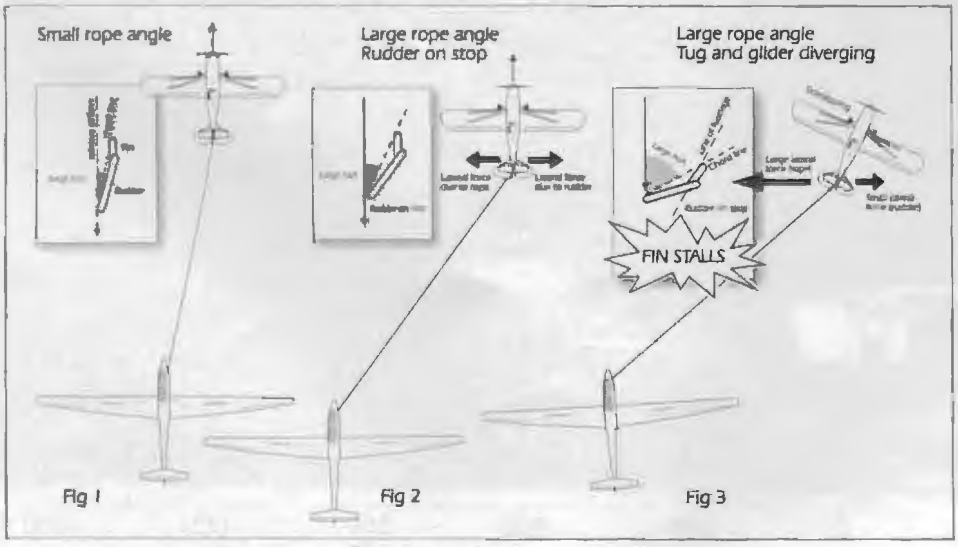
It is also important to avoid a hasty transition from level acceleration to climb, as this will result in the glider becoming low relative to the tug. This can tempt the glider pilot to make a rapid recovery, with obvious potential for overcorrection.

Another cause of tug upsets occurs when glider pilots perform a climbing turn on release before confirming that the rope has gone. Arguably this is not so dangerous as it is normally performed much higher, but it could still give the tug pilot quite a fright.

There are other destabilising influences for tug and glider pilot, such as retrimming, flap and undercarriage retraction, instrument scan or canopy coming open. In a tug upset condition bear in mind that the rope release pressure can increase significantly. For the tug pilot, retracting the flaps, if necessary, should be left to a safe height, normally at least 300 feet. Sometimes the upset can occur so rapidly that the tug pilot has no chance to react and release the glider. If any glider pilot gives cause for concern, do not hesitate to release the glider before he/she jeopardises the tug, being sure to advise the duty instructor that further training will be required. It is important that this retraining should not be considered a punishment (to promote an effective safety culture).

5. Lateral tug upsets

Another, dare we say lesser, danger to the tug is the situation leading to a lateral upset. This is as a result of the glider going out to one side and progressively diverging until the tug reaches its control limits. If the tug pilot continues to apply full rudder it is possible to stall the tug's fin. The sudden loss of directional control at this point is spectacular and very close to a flick manoeuvre. The violent yaw is caused by the rudder no longer opposing the rope tension, thus allowing the glider to pull the tail round. As a result of the rate of yaw the secondary effect in roll is also very significant and can go beyond vertical. Although the wing may not always have stalled, the effect is similar to a flick roll. The need to release immediately is obvious as, if the glider remains attached, the vertical upset scenario could develop. The lateral upset can be avoided by caution when applying large rudder deflections. If more than half rudder is insufficient to prevent further yaw then be very careful and allow the tug to yaw slightly. If there is a significant increase in rudder load or the glider continues to diverge then release. If the rope is released or the weak link breaks while full rudder is applied, the sudden yaw can also be alarming but not as violent as a fin stall. The difference in this case is that the tug will yaw towards the glider, presenting a collision risk. The highest risk of a lateral upset is during the "glider cannot release" signal demonstration. As this involves a heavy two-seat glider going a long way out of position it should be demonstrated only at a sufficient height. Once again, radio communications between the glider and tug combination might make the signal unnecessary. Although this theory is valid, the good news is that out of all the tug pilots questioned in the UK nobody has ever heard of this happening: yet...



Lateral upset risk: This can be avoided by caution when applying large rudder deflections. *(Steve Longland)*

6. Glider unable to release

The glider pilot will fly out to the left (tug pilot's side of the aircraft) and rock the glider's wings. Take care not to confuse this with a wobbly student practising out-of-position exercises. Radio contact between the tug and glider may also confirm the problem. No immediate action is required. Firstly, tow the glider back towards the airfield and to a suitable position for release. If the rope is taut, reduce power a little and check in the mirror that the glider is high-ish before releasing, so that the released rope remains clear of the glider. The glider pilot will probably fly back to the airfield with the rope hanging at about 45°and land deep to avoid it snagging on anything. The glider pilot might consider releasing the rope in some circumstances, but consideration should be given to where the rope will drop.

7. Both tug and glider unable to release

In the extremely unlikely event of both the glider and the tug being unable to release, an on-tow landing will be necessary. Judicious use of the glider's airbrakes will be necessary to ensure that the glider does not "overtake" the tug on the descent. The tug aircraft will normally carry out a slow descent and wide circuit with a long approach to a landing well into the field, the glider pilot maintaining an accurate position behind the tug and ensuring that

sufficient airbrake and wheel brake is used to prevent "ramming" the tug from behind. The use of radio is again recommended. The procedure is not normally practised in the UK. One club does have a go at it from time to time and their experience says get the glider airbrakes out, leave them out and don't play with them, and it then becomes quite easy.

8. Serious tug emergencies

In the event of a major problem, do not hesitate to release the glider as the time taken to give the wave off may compromise the tug's safety. Also remember that if you believe that the emergency could be mitigated by using an alternative procedure for whatever reason then, as always, use the options open to you.

9. Tug overheating

If the towplane's cylinder head temperature is approaching the red line, accelerate by a few knots. If this fails, wave the glider off in a safe position and land. Be sure to snag the tug and report the problem to an engineer.

10. Total power loss

Release the glider immediately and fly the aircraft. Carry out a standard forced-landing procedure. Consider a restart if appropriate, put out a radio MAYDAY call and then run the type-specific security drills, such as fuel, electrics off and harnesses secure, however, and most important – fly the aircraft.

11. Serious engine vibration

Rough running is often a symptom of carb icing; however, carb hot air should not normally be selected with full power applied and is less likely at high power settings. Failing this, check the mixture, electric fuel pump on, magnetos both on, and try changing tanks. Shed propeller tips or spinner can also cause serious vibration. To prevent the engine shaking from its mountings, throttle back and consider shutting the engine down, slow down to stop the propeller, which will reduce drag and carry out a forced landing (on the airfield with a bit of luck).

Andy Durston's shot of towing out of Lee-on-Solent. Now, next and later takes on another meaning here: as we went to press, Portsmouth Naval GC had been forced to stop operating at the site, just sold by the Government, and was in talks about its future there

12. Air Speed Indicator failure

Check that the ASI is increasing during the ground roll and if there is a problem abort the tow before getting airborne if possible. If you do get airborne fly by attitude and keep climbing to at least a safe height. If you are very unhappy, wave off the glider – near the airfield hopefully – and conduct a normal approach and landing paying particular attention to power settings and attitude: power + attitude = performance.

13. Weather difficulties

A. Strong winds

Beware of turbulence and curlover from nearby trees or structures. Land as into-wind as possible, using plenty of power on the approach. Do not hesitate to go around if badly rolled by gusts or speed fluctuations are unacceptable. Once landed, avoid taxying or attempting to turn downwind, particularly in a Cub, Chipmunk or Pawnee. If necessary, shut down or get someone to hold the tail and wings as you taxi. If it is particularly windy, could there be mountain wave around? If you are scared, put the toys away in the hangar for another day.

B. Wind gradient

Exercise caution in the initial climb as a strong wind gradient increases the tug-upset risk. Check the position of the glider regularly to ensure you don't leave it behind in the ground effect. It is very easy in certain types of fairly high-performance tugs to end up climbing through 100ft with say 75kt indicated while the glider is at 50ft and at 55kt and has insufficient energy to catch up: note the illustration (*opposite*). It is vital to hold the attitude and not chase the ASI, accepting a higher-than-normal airspeed through the gradient until the glider is stable behind the tug. (Being towed too fast is not as bad as falling into the slipstream nearly stalled at 75ft with the tug climbing away from you.) Climbing into a wind gradient shortly after take-off creates an increase in airspeed and energy. Tug pilots should consider accepting a few knots of extra speed at this stage and avoid zooming up, which could leave the glider low and in less energy.

C. Poor visibility or low cloud

If you are ever unhappy with the weather conditions, do not let a glider pilot pressure you into giving a launch. The average PPL holder will lose control in seconds once visual reference has been lost, even with a full instrument flying panel. Tugs are not normally equipped for instrument flight. Remain clear of cloud, even if a lowering cloudbase means a field landing is required. If caught by a local deterioration – for example, a large shower – consider holding off upwind until it has cleared. Alternatively, consider landing at one of the neighbouring airfields. If landing in heavy rain, the windscreen could be obscured and visual clues can be diffracted, so consider looking out sideways to judge your height and land well into the airfield to avoid obstacles. On winter days turning into a low sun, visibility can be practically nil. Remember we still have to comply with the Visual Flight Rules.

14. Accident and incident reporting

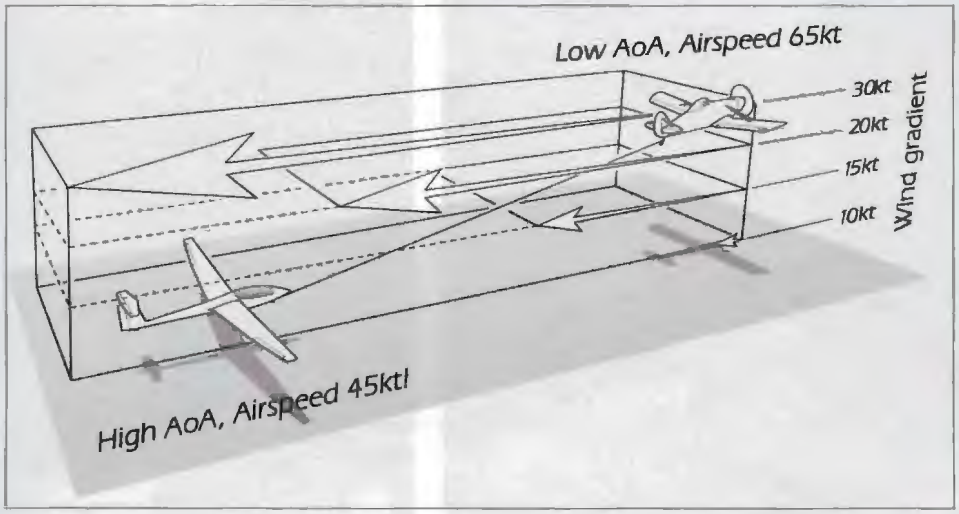
The Civil Aviation Authority and the British Gliding Association operate something called the just or fair blame accident and incident reporting system. The Air Accident Investigation Board (AAIB) are not into blame, period: they are tasked with simply finding out what happened. This means that these groups encourage feedback and are not in the business of punishing people unless the incident is clearly illegal or downright negligent. Please complete a CAA Occurrence Report if you think others might benefit from your experience or observation. If you wish to protect your anonymity, consider submitting a Confidential Human Factors Incident Report Procedure (CHIRP) report, which can be done online. Further information on accident/incident reporting and support for anything safety related is available from the British Gliding Association.
BGA website – *www.gliding.co.uk*
CHIRP website – *www.chirp.co.uk*
AAIB website – *www.aaib.dft.gov.uk*

15. Safety

Aerotowing does not need to be hazardous. Let us make it our aim to make it as safe as possible. How? There is no magic answer. The solutions are numerous so let us examine some, starting with technical ones:
– Ensure that your tug is kept up to a high standard of engineering and serviceability;
– Ensure you are licensed and up to date;
– Ensure you are in current flying practice;
– Obey CAA, BGA and club regulations and rules – they are produced for your safety.

An out-of-date certificate of experience or a broken aeroplane is relatively easily identified and rectified, but now let us examine the more complex subject of human factors, which is important as it is present in about 75 per cent of accidents.

Last landing of the day – photo by Peter Atkinson. On winter days, if you are turning into a low sun, visibility could be practically nil – worth bearing in mind whether you're a tuggie or a glider pilot



Exercise caution in the initial climb as a strong wind gradient increases the tug-upset risk. Check the position of the glider regularly to ensure you don't leave them behind in the ground effect (Steve Longland)

Our problem here is that human factors are much harder to identify and rectify. There are numerous books on human factors in aviation, but the following may be useful:

1. Be rigorous when operating aircraft. Lack of "rigour" could consist of things like:
A. Complacency, for example, failing to follow a checklist;

B. Distraction – everyone is prone to this. What distracts you and why?

C. De-skilled: that is, being out of practice in certain flying related skills;

D. Tiredness, fatigue, heat exposure and dehydration.

2. Reinforcing situational awareness:
Now – What is happening around you? (For example speed, height, position, configuration, FREDA – Fuel, Radio, Engine, Directional Indicator, Altitude – checks);
Next – What is going to happen next and how am I going to cope with it? (For example, approaching controlled airspace – how am I going to avoid it?);
Later – What is going to happen later on? For example, at the end of this flight I am landing at an unknown airfield. Have I considered all the options? What is their frequency? And so on.

3. Error management. To err is human: we all make mistakes. Another Crew Resource Management (CRM) saying (slightly modified) is *Remove, Avoid, Trap, Mitigate*. If something is likely to catch someone out let us first try to *remove* that problem. If it is still there let us try to *avoid* it. If we fail to avoid it let's try to *trap* it before it does us real damage and after all that if it still gets us we try to *mitigate* the effects of the resultant problem.

4. Decision-making. This may not be very well taught in the aviation environment; perhaps it is because it is particularly difficult to teach! Maybe the topic can be divided into three areas:

Rule based decision-making, for example making a decision by following a checklist. An example could be, when driving a car and we reach some traffic lights we would use to the rule-based decision, a red light means stop.

Analytical based decision-making. In contrast, when the road ahead is blocked due to an accident we use the analytical based technique, that is, plan a re-route.

Naturalistic decision-making. The argument runs that when we are confronted with difficult, time-pressured problems or threats we will tend to take action on the basis of previously embedded patterns of behaviour. So a useful tool when things are going wrong and you are under pressure is another trusted Crew Resource Management (CRM) phrase, **DODAR**, which stands for Diagnose, Options, Decide, Act and Review. But never forget the age-old saying: aviate, navigate, communicate – in that order!

16. Fire Truck
On an unlicensed UK airfield there is not normally a requirement to have any fire-fighting and rescue equipment. However, it is strongly suggested that some sort of truck containing fire-fighting equipment, rescue equipment and first aid kit is available. A list of actions in the event of an accident should also be kept in that vehicle. Immediate communications with the emergency services should always be available, so make sure the airfield mobile is always charged and on the ground where it's needed. If your club has such a vehicle or facility, please ensure that it is actually available for immediate use. Murphy's Law says the truck is stuck in the back of the hangar just when it is needed!

REINFORCING SITUATIONAL AWARENESS

Now
What is happening around you? (For example, speed, height, position, configuration, FREDA checks)

Next
What is going to happen next and how am I going to cope with it? (For example, approaching controlled airspace – how am I going to avoid it?)

Later
What is going to happen later on? For example, at the end of this flight I am landing at an unknown airfield. Have I considered all the options? What is their frequency? And so on

Health warning: These notes have been compiled in the interest of safety, using the established practices of a number of gliding clubs and the experience of very skilled aerotow (tug) pilots, and are offered to club tugmasters and tug pilots as a source of guidance and known good practice. The BGA accepts no responsibility for any of the suggested practices contained in this document. Aerotowing (tugging) is subject to the Air Navigation Order and to other aviation law

Above: This article's author, BGA Chief Tug Pilot John Marriott, in the cockpit at Bicester. John, who began gliding in 1974 with the RAFGSA, has about 1,000hrs gliding and is a Full Rated gliding instructor with all three Diamonds. His total of 12,700hrs in powered aircraft includes 3,000 in light aircraft and 300 in motorgliders: a third of that instructing; and 250hrs towing gliders. John, Flight Safety Officer at Windrushers GC, is a Boeing 777 captain and a BALPA Accident Investigator and holds a Master's Degree in Air Safety Management. He thanks the many clubs and individuals who shared experiences to help him compile these tugging notes (photo: Dave Bullock)

Jochen Ewald tries out the ASG from Alexander Schleicher and the (pictured in the

From W to G

WITH THE ASW 27, Schleicher has a really successful flapped 15-metre glider, and the company's ASH 26 is well established in the flapped 18 metre self-launcher market. Now Schleicher's new engineer, Michael Greiner, who took over from Gerhard Waibel on the latter's retirement, has "filled the gap" between these two types with his ASG 29.

The ASW 27 is uncompromisingly a pure FAI 15-Metre Class competition glider, and the ASH 26 is optimised as an 18-metre self-launcher, requiring more wing surface to carry the extra weight of the engine. So Michael Greiner's design aim was to make the ASG 29 the ultimate flapped 18-metre glider, which can be flown in the FAI 15-Metre Class using interchangeable outer wing sections, or equipped with a sustainer engine.

The ASG 29's 18-metre four part wing is only 10.5m^2 and has an aspect ratio of more than 30. It uses the latest Delft University aerofoils from Loek MM Boermans. A serial production empty weight of 280kg (the prototype, at 284kg, is very close), would give a minimum wing loading of 33kg/m^2. In 15-metre mode, its wing area of 9.2m^2 is slightly more than the 27, its empty weight is 270kg and the minimum wing loading 36m^2.

Rigging the 18-metre wing with tongue-fork spar connection, two main bolts and fully automatic Hänle control connections for ailerons, flaps and airbrakes is fast, easy and follows the well-known Schleicher system. Waterballast tanks in the inner wing take 80 litres each and there's a five-litre fin tank. The winglets (used in both modes) connect automatically, thanks to spring-loaded snap-in bolts. Fuselage and tail unit origin from the ASW 27, albeit with a slightly increased rudder size. The cockpit incorporates the latest crash-worthiness developments, using composites with energy-absorbing Dyneema fibres. The positioning of the aerotow hook is new, in the tip of the fuselage, as is the 35-litre fuselage waterballast tank above and behind the main spar. The resultant lost stowage capacity is compensated for by a lower compartment on the left behind the backrest (similarly, on the right, there is space for oxygen). The base of the backrest can be adjusted on the ground and a new crank on the right of the cockpit makes adjusting the top easier.

Waterballast allows a very wide range of wingloadings: at the 575kg max AUW of the 18-metre version, 54.7kg/m^2 is possible, while the 15-metre outer wings reduce the max

G 29, the new 15/18-metre offering
ne first designed by Michael Greiner
e cockpit above)

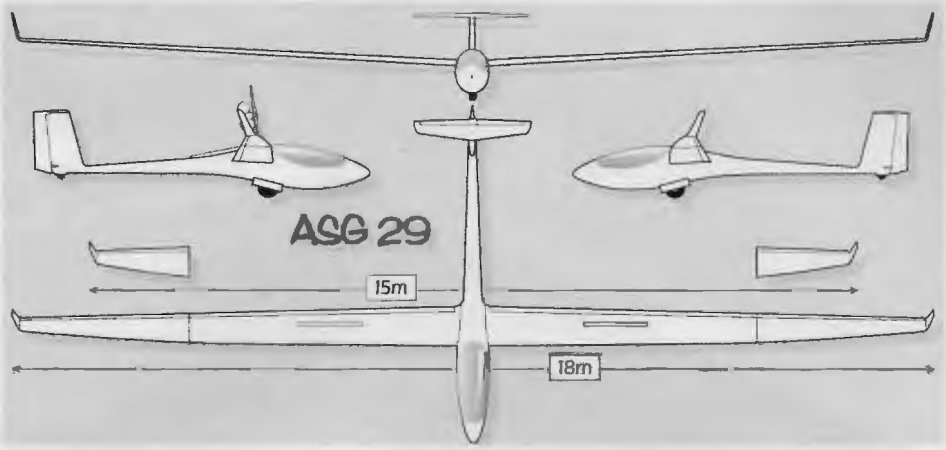
Photographs, this row from left: The ASG 29 being flown by Michael Greiner, who is the G of ASG and successor of Gerhard Waibel in Schleicher's engineering team and (above) the ASG 29 on the ground at the Wasserkuppe

Below, from left. On the left of the cockpit are the flap lever (black, top), cable release knob (yellow, front), airbrake lever (blue, below) and trim position indication and setting button (out of shot, below). The instrument panel, in flight. The ailerons of the outer wing sections interconnect automatically via tongues, the main spar connection is secured by an integrated bolt, which is inserted by screwing the red handle in – here seen closed. Schleicher's Uli Kremer with the 15-metre outer wing. The winglets's tongues are pushed into the upturned end of the wing until a snap-in bolt connects

AUW to 510kg, which permit a maximum wing loading of 55.4kg/m^2.

Because the Poppenhausen factory airfield was too muddy I flew the ASG 29 prototype at the Wasserkuppe. Fitted with three batteries (two in the baggage compartment behind the backrest, one in the tailfin), parachute and me, it weighed about 375kg and the c of g was central. The cockpit is really comfortable, with everything where I like it. Although the cockpit walls appear high, small steps in the floor easily allow you to push yourself out. The instrument panel is fully enclosed, and there is enough room even for tall pilots. The canopy opens so wide that you cannot reach its handles when strapped in, but a hole in the bottom of the panel serves to pull it (and the attached canopy) down, and it can be closed without external help. The flap lever shows no 'XX°' markings, but is labelled with numbers from 1 to 6 and 'L'. These mean: 1=-2.5°, 2=0°, 3=5°, 4=12°, 5=20°, 6=24°, while selection of the landing position 'L' brings the inner flaps down to 47° and, at the same time, increases the washout by lifting the ailerons back up to 12°. This improves control and reduces the risk of a wingdrop during slow approaches and on the ground.

At the Wasserkuppe, I had a gusty 10kt/90° crosswind and set the flaps to the standard take-off position, 4. The ailerons were effective immediately, and after a short ground run the ASG lifted off. A little bit of friction could be felt in the ailerons, but this is quite normal given the long flaps and ailerons with brand-new seals. Control was direct and stable with comfortably low, unambiguous forces, and even the heavy gusts you always find under crosswind conditions when passing along the trees besides the runway did not cause any problems. The undercarriage was very light to operate, and its locking positions could clearly be seen and felt. Setting the trim correctly needed only light pressure on the lever in front of the stick, 'support' by moving the button on the left console in the desired direction was required only when setting the trim to higher speeds. The cockpit was very comfortable, with good fresh air supply and visibility. At a towing speed of 110km/h the tug was clearly visible above the instrument panel. For even better visibility on slower tows, the flaps could be set to 5, which lowers the nose. I also checked the behaviour on tow with the flaps set to 6 or even L, and found no significant tendency to 'go out of control' and overclimb the tug even at high towing speeds. Stall behaviour was



Left: ASG 29 three-view. Below: ASG 29 polar curve Above: the winglets for 15- and 18-metre modes (Diagrams: Steve Longland)

docile: with the flaps set to 4, buffeting began at 68km/h indicated. Soon afterwards the speed indication dropped due to the vortex of the wingroot hitting the pitot tube. Pulling the stick back to its stop resulted in a stable, buffeting stall. Flap setting 6 resulted in the same behaviour at 3km/h slower speeds, now with a bit of staggering after the stick had been kept fully back for some time. Setting the flaps to L allowed me to fly another 5km/h slower, with the full stall being stable again. Opening the very efficient airbrakes resulted in the stall speed increasing by 8km/h with again a very stable, buffeting stall. As the previously trimmed speed increased also by about the same amount after opening the airbrakes, there were no trim changes required on approach. There influence from the flap setting on the trim speed could be slightly more, with the trim set to 80km/h and the flaps set to 6, the 29 accelerated to 125km/h after setting flaps to 1, so it does not (yet) 'follow the flaps' automatically.

Roll-rate was excellent: at 100km/h, I measured 3.6 seconds for a 45° to 45° bank change with the flaps set to 4, and at 3.7 seconds nearly the same time at 6. Michael Greiner has developed a really fine drive system for flaps and aileron, which barely affects the roll-rate when the flaps are set to thermalling. This excellent feature makes it very easy to centre even when the flaps are in their fully positive thermalling position – also a safety factor when close to other gliders. Control harmonisation is best at 100km/h with the flaps set to 4; at slower speeds or higher flap settings, a bit more rudder than aileron is required.

This all makes thermalling easy, efficient and fun: circling at 30° in smooth thermals at 75km/h, or, in narrower, gusty thermals with 45° bank and 85km/h, demonstrated that this glider is an excellent climber and offers very relaxed flying. Once trimmed, I could even let it thermal 'hands off'! At higher speeds, the slim wing proved comfortable and the glide angle appeared stunning.

The ASG 29 offers real relaxed flying fun, and a performance range that some years back you'd have expected in the Open Class. But those 'big ships' were much less easy to rig, handle and fly.

Landing was as easy as can be: the flap setting L reduces the required approach speed very efficiently with the inner flaps going to +47°, and at the same time gives excellent manoeuvrability because the ailerons move back up to 12°. Under normal conditions, an approach speed of 85km/h appears appropriate; in the gusty crosswind at the Wasserkuppe I chose 95km/h. The three-bladed Schempp-Hirth-airbrakes make an extremely steep approach angle possible; and if you want even more, sideslipping is easy and effective. Fully held off, it touches down in a perfect two-point attitude. The undercarriage with its big wheel is well sprung, the wheelbrake (on the final inch of the airbrake lever) works well and is easy to close. The ailerons work until you stop.

With the ASG 29, Michael Greiner has completed the Schleicher production range with a flapped 18-metre glider that seems to me to not only be 'on top of its class', but also easy to fly, making it ideal for club use, too. Optimised for 18 metres, it can also be flown in FAI 15-Metre Class competitions. If you want to avoid long road retrieves, you can swap the fuselage waterballast tank for Schleicher's sustainer engine installation, already familiar from the ASW 28e.

This is a glider that is really fun to fly, and I think it soon will prove its performance in competitions.

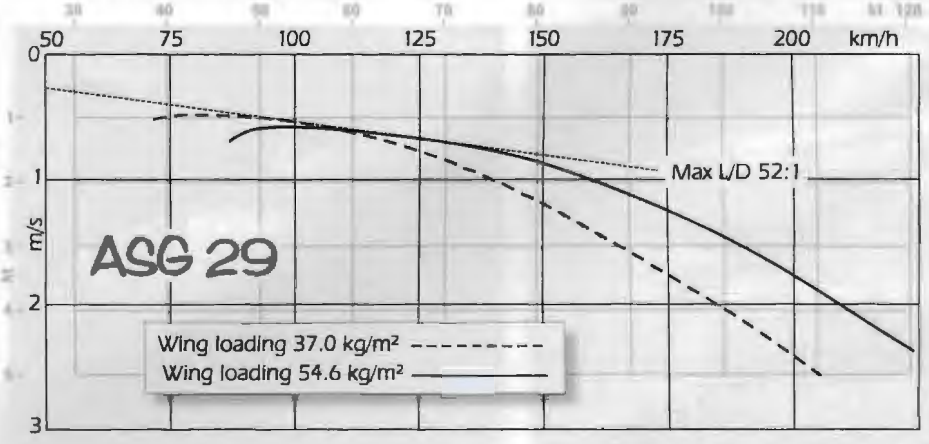
Text and photos: Jochen Ewald

TECHNICAL DATA

Wingspan	18-metre	15-metre
Wing area:	10.5m²	9.2m²
Wing aspect ratio:	30.4	24.4
Empty weight:	280kg	270kg
Max take-off weight:	575kg	510kg
Min wingloading:	33kg/m²	36kg/m²
Best glide (37kg/m²):	52 (at 90km/h)	50 (at 100km/h)
Length:	6.585m	
Height:	1.3m	
Max waterballast		
– wing tank:	160 litres	
– fuselage tank:	35 litres	
VNE	285km/h	
Max manoeuvring speed	210km/h	

Option available with retractable Solo 2350 sustainer engine, 18hp with 1.2m diameter two-bladed AS propeller

Data: Alexander Schleicher GmbH & Co



Exploring the X factor

Phil and Diana King report on what the British Gliding Association's new two-seater, the Duo Discus "x", is like to fly

Before the new BGA Duo Discus went to Spain to be used for British Team Coaching (above), Phil and Diana, who plan to use it for club-level coaching later this year, tried it for size in the UK (© Richard Starey Photography)

IN EARLY April Diana and I took delivery of the BGA's replacement Duo Discus from Schempp-Hirth's UK agents, Southern Sailplanes. This is one of the first "x" models to be produced and is easily identified because it has the British national registration G-DUOX under the new European Aviation Safety Agency rules. We were lucky enough to fly it on three days, the first with strong thermals and the second with wave to 12,000ft. Here are some of our thoughts about this super new glider.

When Schempp-Hirth introduced the Duo Discus in 1993 it was an immediate and well deserved success. The lightness of its controls and the crispness of its handling belied its 20m span, and its performance matched or exceeded that of contemporary two seaters of similar span but without the complication of using flaps. When some customers wanted a Turbo version, Schempp obliged, and it has taken 13 years for DG to catch up and produce a fully competitive alternative in the DG-1000T. With the latest "x" model of the Duo, Schempp-Hirth attempts to leap-frog the opposition – have they succeeded?

First impressions count, and mine is of a beautiful high-performance two-seater that is easy to fly and goes well. The rigging is simple and straightforward, although as you would expect with a span of 20m, the wings are heavy. There are two heavy parts, which constitute over 16m span, plus two tip sections which are light enough to be easily carried by one person. The winglets are a fixed part of the outer wing panels and therefore require no extra step in rigging. All the controls connect automatically.

Inside

The cockpit has plenty of room for large pilots and sufficient adjustment for all but the shortest of pilots. There are some useful pockets for stowing drinks, food, maps, and so on. However these are not generous for the rear pilot and totally inadequate for the front pilot. To make things worse if the front pilot tries to stow things under their arms they're likely to drop through onto the rear pilot's rudder pedals. It's good that these wells are open so you can see what's dropped into them; it might be better if they were enclosed to prevent things dropping there in the first place!

In the air

The Duo has the inertia of a big glider yet the controls are light and responsive and compare favourably with those of many single-seat gliders. Anyone familiar with other modern gliders will soon feel at home in the Duo. Centring and climbing in thermals is a delight.

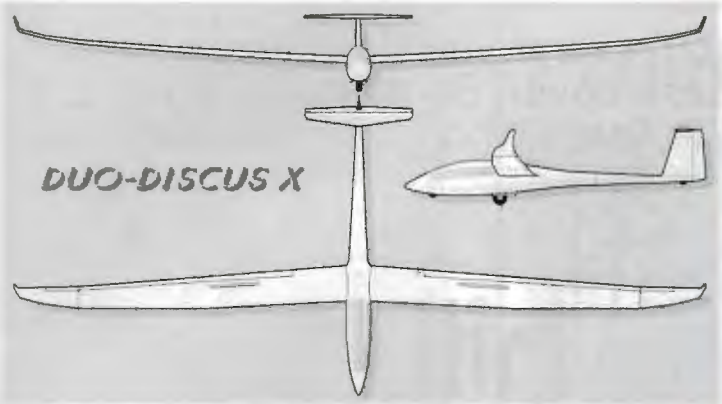
The trimmer has a notchy feel yet is very easy to use and, with the C of G near its aft limit, has an adequate range. I suspect it would not trim back enough for thermalling near the forward C of G limit. To remedy this you would probably want to put some water into the tail tank.

Low noise level is particularly important in a two-seater so as to allow the rear pilot to hear the front pilot easily without them needing to shout or turn their head. The Duo is impressively quiet, and what little noise there is seems to come from the tail and is amplified by the shape of the fuselage and allowed through into the cockpit by an opening above the main spar.

The large one-piece canopy allows excellent visibility all around apart from the inevitable blind area below and behind. There is no hoop structure at mid point to obstruct the rear pilot's view; however, the forward view is spoiled by reflections – wouldn't it be nice if we could have a non-reflective surface on the inside of canopies? Some say opening a one-piece canopy is a liability in a strong wind. That's true; however, the K-13 has a one-piece canopy and I don't often hear criticisms of that. More worryingly, some Duos do have a problem with the canopy fit in hot weather. The Perspex canopy tends to expand more than the cockpit so that it no longer closes. It was a perfect fit at April temperatures in England – I wonder how well it will fit in the heat of summer, or in Spain?

New trailing edge flaps are linked to the upper surface air brakes by a gas strut. As you open the brakes, the flaps go down, allowing steeper approaches

(Mike Evans)



Above: three-view of the latest version of the popular Duo Discus (Steve Longland)
Right: G-DUOX, competition number 98, above Radnorshire in April (Mike Evans)

For how to hire this glider, see p51 or visit www.gliding.co.uk/bgainfo/bgafleet.htm

The X factors

The improvements on the "x" model are:
- Winglets
- Landing flaps coupled to the airbrakes
- Undercarriage suspension and wider doors
- Undercarriage operation from the rear seat
- Ventilator for the rear-seat pilot.

Winglets

The most obvious visual difference is the winglets, and yet these are the hardest item to evaluate. The BGA speed index credits them with one point, however, this is probably an arbitrary value. I do not believe any pilot can really quantify the small but significant performance improvement they undoubtedly make. Unless you compete at the highest level you may think some of the other changes more significant.

Airbrake wizardry

Many pilots felt that the airbrakes on the original Duo were its weak point. When fully deployed they didn't provide a very steep approach path and when the glider eventually touched down there was still a lot of momentum to kill. The "x" addresses this concern in an innovative way. There are new trailing edge flaps which are linked to the conventional upper surface air brakes with a gas strut. As you open the brakes, the flaps go down to create extra lift and drag. The loss of lift from the action of the brakes on the upper wing surface is roughly balanced by the increased lift from the flaps with the effect that you can touch down more slowly. The extra drag allows a steeper approach, and the overall effect is that the air brakes are now up to the job of getting this large and heavy glider down into a small-ish field. Another advantage claimed by the manufacturer is that the brakes do not tend to suck open if unintentionally left unlocked, removing the need for a Piggott hook as supplied on the rival DG-1000.

'First impressions count,' says Phil, 'and mine is of a beautiful high-performance two-seater that is easy to fly and goes well'

An unfortunate effect of the flap operating mechanism is that there is significant resistance to moving the airbrake lever on the ground and more particularly in the air. While we did not have the opportunity to see whether this could be improved by adjustment or lubrication, I suspect some stiffness is inherent in the design.

Time will tell whether there are any other drawbacks. We did not notice any tendency to fall out of the sky on fully closing the brakes, which has the effect of raising the flaps, presumably because the loss of lift from the flaps is compensated for by increased lift from the wing's upper surface.

These trailing edge flaps are ineffective at high speeds because, when you accelerate above max rough speed, they slowly retract as the aerodynamic forces increase. This feature is presumably to protect the wing structure from excessive loads. It does, though, have the result that the brakes are not able to protect the glider from exceeding ➢

Diana presents the minority report

AS A relatively light-weight pilot with significant strength and mobility limitations due to arthritis, I always view a new glider from the ergonomic point of view before almost anything else, as its performance is only as good as my physical ability to fly it.

Can a Duo "x" be the right glider for everyone? Specifically, would it suit the minority but significant number of smaller, lighter-weight, or not very strong pilots, such as women or pilots with some disability? My view is that there are some major positive points and some negative ones. Taking the positive first, this is a lovely glider to fly and, in spite of its wingspan, it handles almost as easily as the LS8 I am used to. The control harmonisation means it is easy to manoeuvre and to thermal, although it is less forgiving of weak leg muscles than some gliders. Failure to coordinate turns properly makes for an uncomfortable ride, but if you get it right it is a very easy glider to soar.

Raising and lowering the undercarriage from both front and back seats is fairly easy even for someone not very strong, although I found that, from either seat, I needed some help to lock it up or down.

The ballast position, just forward of the instrument panel, gives a useful amount of effective extra weight for a relatively small amount of actual weight. However the fitting, with two wing nuts and safety pins, is remarkably difficult to undo and then do up again. Three of us, of various weights, sizes and strengths, struggled for half an hour before finally getting it secured. We had only one opportunity to try it, and no doubt it would get easier with familiarity.

Getting in and out is also something of a challenge for someone small or not very able. With the sprung undercarriage, the cockpit sits high off the ground and I found this more difficult than many other gliders.

The other major drawback for the less strong is that the enhancement to the airbrakes comes at a price. Using the first part of the brakes is fairly straightforward, progressive and not unduly heavy and there seemed to be no tendency for the brakes to suck out or over-ride the pilot. However, half way along the travel, the airbrake lever becomes extremely stiff and heavy to move and I was only able to move it at all by using both hands – not really an option when on approach.

So – the verdict from the "weaker pilot"? Compared with other two-seaters I know, the Duo "x" is one of nicest and pleasantest to fly. So it is a pity that the extra strength required for the airbrakes and undercarriage makes it impractical for someone of limited strength to fly without assistance. However, if you are happy to accept that a smaller or disabled pilot may need 'help', it is beautifully easy to handle in most respects and a good choice for a club or syndicate looking for a high-performance glider suitable for all comers.

Well-sprung undercarriage with wider-opening doors (photo courtesy of Mike Evans)

VNE in a steep dive. Maybe this is one reason why the Duo (in contrast to the DG-1000) is not certificated for cloud flying or aerobatics.

Undercarriage

To facilitate take-offs and landings on typical gliding fields the "x" has shock-absorbing suspension. This also slightly increases the ground clearance, and consequently increases the height of the cockpit side. However, the cockpit side is still lower than on some other two-seaters such as the DG-1000 and ASH 25. It is now possible to retract, extend, and lock the undercarriage from the rear seat as well as from the front seat. The operation is of course heavier than it would be on a smaller glider and so it may make sense for the front and rear pilots to share the load. In any case you need to warn the other pilot before unlocking the operating lever or else you may strike their leg!

Ventilation

There are two changes. The front pilot now has two separate controls, one controls the amount of airflow and the other directs it to demist the canopy or to cool the pilot. The rear pilot has an eyeball style ventilator, which can be directed towards the pilot's face. At thermalling speeds airflow through this was too slow to be of any use, and I would rate it a failure. It is a pity: comfort is important for safety and performance.

And the answer is ...

The original Duo has proved to be a classic and yet the Duo Discus "x" is a significant improvement on it. It will continue to be popular with syndicates and clubs. The improvements have addressed some of the criticisms of the original Duo, and many owners of the original will want to upgrade. With the "x", Schempp-Hirth have left very little room for criticism: the airbrake operating loads, the lack of safe storage space in the front cockpit, poor ventilation in the back, and doubts about the canopy fit. Pilots will put up with these because the "x" is a joy to fly and wins where it matters, in the sky.

From top: *Lasham CFI Gordon hooks the club K-21 on to the tug, with Andy aboard alone; the rope pulls tight; glider and tug are both off the ground and,* below, *Andy heads off into the skies. After one trial lesson, he reached solo standard by training in the sim* (opposite, bottom) *before dual training in the air*

Trialling a brand new approach to training

Above: Andy Chawe's second solo (All photos courtesy of Ron Allen)

Lasham CFI Gordon MacDonald reveals what he has learned from Lasham's experiments so far with training *ab initios* and instructors on a simulator

TWO years ago the Lasham Trust (along with Airborne Composites, Toshiba, and many other volunteers and companies) sponsored the building of a gliding simulator. We have now had the simulator in use since August 2004. It has undergone many software upgrades (Silent Wings mostly) and a few minor hardware changes since then. But the biggest evolution has been the way it has been used. What follows are my observations and conclusions so far.

The simulator is kept in its own dedicated room that is warm, quiet, and equipped with a blackboard. It is a near-perfect training aid. You brief the exercise to be flown on the blackboard, fly the exercise and then debrief. If during the exercise a briefing is required then you are able to press pause, do the briefing and then when ready resume the exercise.

How does it differ from a real glider?

The simulator software and cockpit we use are based on the Grob 103. The amount of control movement and coordination required to control the simulator, and the rate of response at any airspeed is realistic, when compared to the real glider. The simulator's control forces are lighter than the real glider's and do not change in flight, apart from when you use the trim. The simulator is also not quite as stable as the real glider. Most simulator-trained glider pilots find the real glider easier to fly and more stable, especially on aerotow where the virtual tug pilot takes no prisoners! Scenery is fairly realistic, improving with height and distance, but is not as good when low or close in, for example, ridge soaring. Our graphics card is the limiting factor here, I am told, not the software. When landing, as long as you round out and flare over the tarmac runways, the texture and feel is very realistic. Overall the simulator is not as easy to fly as the real glider.

Ab initio training: solo in 5 real flights!

A question I have been asking myself for a while is: "How effective is the simulator at training students?" Lots of people and instructors had opinions but we had no real measure of our simulator's effectiveness, other than how quickly some "part-simulator" trained students had progressed. The only answer was to train a real *ab initio* student, who had no previous flying experience at all (apart from one trial flight). I would train them in the simulator until they were capable of flying it to solo standard (including spinning and all emergencies). I would then put them in a glider and with no demonstrations see if they were able to fly competently on their very first full training flight. Andy Chawe consented to be the experimental student, picked entirely by the fact that he could get a few hours off work every Friday when I was also available. We kept a simulator logbook and progress training card throughout the training.

I decided from the outset that the training was going to be aerotow, mainly due to the fact that it is safer and more reliable than winching. In view of the experimental nature of what I was doing, safety and risk management were paramount in my mind. We had just sold our club Grob 103, the glider the simulator is based on, so our K-21 was the next real training glider of choice.

Over the next few months Andy and I would meet up at Lasham for a few hours at a time. We would fly the sim and go through the required briefings. After six hours he had completed the pre-solo progress card and was up to solo standard in the simulator. Andy then flew a further two hours' solo in the simulator, as the weather was too bad to fly for real. Then the day arrived when the weather was good enough.

Glider flight 1 – apprehensive

Andy's first flight since his trial flight – he was apprehensive. The weather was less than ideal. Not very good visibility and more wind than I would have liked, but in the UK you will wait a long time for perfect weather, so we flew anyway. Andy flew the entire flight including all the aerotow. The take off was okay but a little high initially behind the tug. He corrected this without prompting. At 300ft he was getting adverse yaw due to not using enough rudder. After a verbal prompt this improved a lot. We released from tow at 2,000ft, Andy got his bearings and practised some turns. When we got lower Andy did a fairly high and tight circuit; this required him to use lots of brake on the approach as he

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➢ was overshooting his reference point. The landing was well judged and slightly flown on. Not bad for his first flight!

Glider flight 2 – rapid progress
A better aerotow, more situational awareness, much improved co-ordination, circuit planning and a fully held off landing. A very good flight. As an instructor, if you did not know Andy's background and had been giving him a check flight you would have thought: he was a bit rusty but he is okay to fly solo. Scary thought after just two flights!

Falke flight – consolidation/requirement
There is a requirement to fly 20 flights before an "A" Badge test (effectively, solo). As the simulator is not yet BGA-approved as loggable flight time we used the Falke to give Andy the legal experience required to fly solo. We flew in the Falke for 1h 15mins and 18 landings. He practised circuits, problem circuits, running out of height, situational awareness, stalls, stalls with wing drops, ballooned landings and lots of aerotow launch failures. This was to make absolutely sure he was at a good standard and could deal with all emergencies. In reality we did more aerotow launch failures and running out of height exercises than most students ever do before first aerotow solo. With hindsight we did not need to do so much Falke flying but in view of the experiment I was not going to take any chances.

Glider flight 3 – sensation issues
This had been a busy day for Andy and he was starting to get tired. We tried one more flight. The lesson plan was to box the slipstream while taking a high aerotow and go through the stall/spin syllabus as far as the K-21 would allow us. The aerotow was okay but cloudbase intervened before we got as high as we wanted. Although Andy was adequate at stalling he was not keen on the sensations. We changed the lesson plan to try and desensitise him to the sensations. Aerobatics were the new plan. After he had flown his second loop he felt a lot better! This flight finished with a good spot landing outside the hangar. Very good progress for his first day's gliding.

Glider flight 4 – ready for solo
This would be Andy's second session of gliding. It went well. A high aerotow with aerotow signals, more boxing, recovery from out of position, stalling and spinning with a good circuit and landing at the end. Both Andy's and my confidence grew enormously when we realised that his first day gliding had not been a fluke and he really could fly! With his pre-solo progress card now complete and the weather being adequate, I would normally have sent a student solo at this stage but I made him do another flight just to be sure.

Glider flight 5 – making sure
A normal tow, and an uneventful flight, where I shut up and just let him get on with it. Good spot landing.

Glider flight 6 – job done
First solo. Observed and looked good from the ground. However, I still have to teach Andy how to buy everyone beers at the bar!
Conclusions so far: My biggest surprise was that Andy had learned the skill and judgement of landing so well using the simulator. I would say his aptitude is slightly better than average. The conversion to real glider from the simulator was just that, a type conversion with differences training rather than teaching somebody to fly. So far, this has been a very successful experiment, but is not yet the normal way of teaching every student to fly at Lasham. We have three more students undergoing this experiment at the time of writing, with three very experienced instructors. How to make a student "airfield aware" with little actual experience of being on an airfield is an area that needs careful development. The simple things like ground handling, how to walk across the airfield and many other airfield awareness and safety issues have traditionally been learned through experience during the many training sessions a student flies. This will now have to be taught thoroughly with briefing, demonstration, practice and assessment. The same instructor will stay with the student throughout their training until solo. The students at this stage are very highly supervised by their instructor on a one-to-one basis. We will assess the results from all of these students and work out the best way to integrate this training into *ab initio* training. Students will ultimately have the choice of how they learn to fly with a system that suits their life style and mindset. The choices for training could be: glider training; motorglider then glider; simulator then glider; or simulator, motorglider and then glider. An issue will be how to educate students on the choices available!

Instructor training
For the last year most of our Basic Instructor candidates, once they have started training to be an instructor, do a few hours in the simulator learning the patter and how to time the words with the flying. We do not fly a real glider until this is virtually perfect. This has saved a lot of expensive flying and at the same time improved the quality. We still fly the exercise in a real glider but this usually only needs to be once as it often near perfect the first time. With Lasham Gliding Society picking up the bill for instructor training this is a win-win situation. This has also proved invaluable for Assistant Rated Instructors who have got stuck on flying a particular exercise and need a few hours extra practice to get their heads round it. Coordination, stalling, spinning symptoms, aerotowing, sub-500ft winch launch failures, ballooned landings, progressive undershoots and overshoots are all exercises that work well in the simulator.
Conclusion: This is the area where we have most experience of using the simulator. The candidates are far better prepared when they fly the glider at a much lower cost. Use of the simulator has increased the standards of patter and the lesson given by instructors as well as improving standardisation at a lower cost.

Gordon, right, instructing Andy in the Lasham Sim

Safety training
Training all the parts of a flight that would ordinarily be too dangerous or undesirable to train in a glider are now possible. Sub-50ft winch launch failures can now be practised as much as you like in the simulator. I have observed a number of pilots get this exercise wrong and do heavy landings in the simulator even after briefing and demonstration. The simulator very graphically shows what happens if you rotate too quickly near the ground during a winch launch. If you do not hold the wings level at the start of the launch, then you will groundloop. You can now demonstrate getting much too high behind the tug, causing a tug upset while aerotowing. When ridge soaring you can now demonstrate the clutching hand effect of flying behind the ridgeline. Landing in very strong cross winds is a fun challenge. Everyone has their limit!
Conclusion: We are only just starting to use the simulator for these exercises; I am sure we will find a lot more to practise in it soon. It should be stressed that this training is to augment glider training and briefing not replace it. All these exercises are meaningless unless you can also demonstrate how to avoid these situations in the first place. People who have seen and flown these exercises understand the risks better, and more importantly have actually practised the skill of recoveries when in reality there is no room for error in a real glider. Essentially it is training a skill that hopefully they will never require. Most importantly, the training is risk-free to all involved as well as a lot of fun!

Marketing
The Lasham simulator has become a powerful on-site marketing tool. Anybody who turns up to check out Lasham Gliding Society but cannot decide whether to buy a trial flight does so after they have had a session in the simulator. When a trial flight

is cancelled due to bad weather but the person (and their family usually) often turn up anyway, we now have the option of flying everyone in the simulator and getting the rest of the family interested in gliding. On weathered-off trial flight evenings the simulator has still been in use after midnight, such is the enthusiasm! If you have a nervous first-time pilot you can fly the lesson in the simulator and reassure them what you will do when you fly the real glider. This has sold quite a few trial flights to people who would not have ever thought of giving gliding a go. During the competitions it has been a useful all-weather tool for keeping sponsors happy, as well as a very low-cost technology demonstrator for Toshiba.

Conclusion: It is very hard to quantify the value of the simulator as a marketing tool, but all the feedback has been positive from everyone who has used it. There is no doubt it has given potential customers a very good insight into gliding, at no cost to themselves and very low cost to Lasham. We have gained some members from this method of marketing. For the future, the prospect of being able to do a lot of training at a booked time of the day or night, regardless of weather, will appeal to a lot of pilots. The BGA's own gliding simulator is very popular with the public: I strongly suggest clubs use it.

Soaring training

Thermals and ridge soaring are a lot of fun. The simulator is especially realistic for ridge soaring. The ridge effects and modelling are realistic, including the off-the-clock sink if you fly behind the ridges. At one of last year's Inter-Club League meetings on a weathered-off day the task was flown in the simulator instead. There is little doubt the skills and decision making required were similar for both real gliding and the simulator. Former world champion Pete Masson proved the point when he got in and thrashed everyone!

Conclusion: This is a good learning aid, especially for ridge soaring. Pilots who have flown our simulator and then gone to Jaca in Spain – terrain for the simulator and Jaca is very similar – have commented on how realistic the simulator was in terms of modelling where the lift and sink is. There is real value in this training, especially as Lasham is a flat site!

Economics and a changing culture

If you were going to set up a gliding club with the intention of training people to a high standard at a low (and profitable) cost then the simulator (as well as motorgliders and gliders) would be an important part of that equation. The convenience, set up and running costs of the simulator are very favourable compared with buying/operating a new glider. The Lasham simulator cost about £6,000 fully installed in its own dedicated room, but only as the result of sponsorship and a lot of work from high-quality, skilled volunteers. The commercial cost, I imagine would be over £15,000. Is it worth it? I feel that yes, it is, on a lot of levels, but if its use can prevent a single accident then it is priceless! How to integrate it into a volunteer-run club environment, where the treasurer needs more launches to balance the books and the CFI needs more people to help at the launchpoint, remains a bigger problem. A massive culture change would be required. Not all the answers are obvious, but to ignore what a simulator has to offer would be a mistake.

A place in BGA glider pilot training?

Simulators have been used for many years in the military and commercial flying worlds. This is because they are very low cost, safer than real planes, time efficient and offer non-weather-dependant training. For all the above reasons a simulator is good for glider training, too. And, in conclusion, having used a simulator for training, I cannot ever see Lasham not including it in its future plans.

One of the biggest achievements of my life

Andy Chawe describes how he became the UK's first pilot to go solo after a club-directed training based on simulator use – and just five "real" flights

LEARNING to fly has always interested me. When I received a trial flight for my birthday from my wife, I was very excited, but at the same time very nervous due to having a slight fear of heights. On the day of the trial flight the weather was great and I really wanted to get going. Sitting in the glider I was very anxious, but determined to see it through. The flight lasted for only 15 minutes, but was exhilarating.

A few months later I decided I wanted more. Having reviewed what was available at Lasham I decided to sign up for the *flying start* course to make sure this was for me.

Travelling to Lasham on the day of the course I was beginning to feel very excited that I would be flying again. As I got closer to Lasham I noticed that there were no gliders flying and when I arrived I was disappointed to hear that, due to the weather, no flying would take place. At that point I was introduced to Lasham's Chief Flying Instructor, Gordon Macdonald – when I heard his plans for using the simulator for glider training and that I was a good candidate, I jumped at the chance to get involved. Using the simulator would enable me to train to solo standard at a fraction of the normal cost and being a guinea pig for this new way of learning appealed to me.

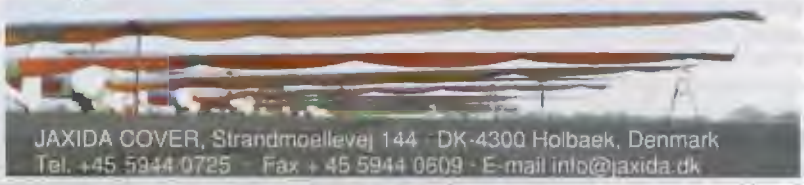
Learning the principles of flying in the simulator was brilliant. It enabled me to gain confidence both with using the flight controls and also the terminology of gliding, before even taking to the skies. Overall 8hrs 30mins was spent training in the simulator covering the syllabus for normal flying. Once we had completed most things on the syllabus to a competent level, I was now ready for the real thing. After a full briefing from Gordon we headed out on to the air-field. We were going to be using the K-21. Climbing into the glider again was great and immediately I found myself familiar with the instruments and the location of the flight controls. My first flight was an aerotow to 2,000ft and I was delighted that I completed this almost entirely by myself. The main differences I noticed were that the simulator controls were more sensitive than the K-21 and I could now feel the true sensations of flight, which at first I did not like, particularly negative Gs.

Back safely on terra firma *Andy Chawe feels the sim is a great asset and is looking forward to years of gliding*

Over the next four flights we practised the skills I had been learning in the simulator and, as I was still having trouble with the sensations of flight, Gordon introduced me to some aerobatics. After this I was a lot happier and this problem no longer worried me. When Gordon asked me to fly solo after just five sessions in a glider, I was nervous but exhilarated by the prospect. The flight went very well and I landed exactly where I wanted. To have now flown solo after such a short amount of time rates as one of my biggest achievements in life.

I found that learning to fly in the simulator was a great training tool and enabled me to practise skills I was having trouble with, time and time again, without having to complete the whole flight. The tuition that I received from Gordon was excellent and I found that although we were still on the ground, a very professional approach was being applied.

With the time constraints of modern life, I feel the simulator would be a great asset for the introduction of gliding and will make the student feel more at ease with the practical application of flying – I am now looking forward to gliding for many years to come.



What can you buy?

John McCullagh updates his listing of what's available if you're thinking of acquiring a brand-new glider

THE LIST of new gliders that I produced for the February-March 2005 issue of *S&G* (p46) has been updated with some additions and the sad exclusion of Scheibe-Flugzeugbau. As before I have included aircraft which have conventional three-axis controls and which have a soaring ability somewhat greater than a grand piano. So some ultralights and microlights are in the list, but there are no hang-gliders, even though some may have a similar performance.

Even after allowing for my blunders, the list has other limitations of which you should be aware before parting with any money. In Europe most gliders comply with a set of rules which were called JAR-22, but are now EASA CS-22. Without compliance, getting permission to fly some of these gliders may be tricky.

Under European regulations, the maximum structural mass of a single-seat glider is 80kg (100kg for a two-seater) for it to be counted as ultra-light and so exempt from CS-22. However aircraft with engines can be much heavier without having to comply with CS-22. Gliders are also exempted from the regulations, by inclusion into Annex II, if they are historic, 51% or more built by amateurs, experimental or likely to be produced in very limited numbers for example. UK Annex II gliders are yet to be agreed between the CAA/EASA and BGA.

The rules elsewhere in the world are different and so some gliders that may not comply with CS-22 have been included because *S&G* is read worldwide. You must discuss the exact status of a glider with its manufacturer and your country's regulatory body.

In the UK, as well as the British Gliding Association, the British microlight and hang gliding associations may be able to help in some cases, but your own gliding club will also have views on what can be flown from its site. It is not possible to register an ultralight glider in the UK under current legislation, however this is under review by EASA with BGA/EGU involvement.

The prices and performance data are unreliable. Not only can the exchange rate fluctuate but what you get included as standard in the basic price can also vary greatly. Even then you have to consider a trailer and instrumentation. Measuring a best glide angle is difficult to do and so the quoted values are sometimes just estimated, or optimistically guessed.

Some of the manufacturers have helped by providing information, but for others I have relied on what it is on their web sites, which may not have been updated recently. Even after all these caveats, I hope that the list will interest you and it might even prompt you to buy a new glider.

If you have any suggestions or brickbats, send them to *john@mccullagh.demon.co.uk*

	Stng	Prop	U/C	No. built	Span	Flaps	L/D	CS22	hp	Delivery time	Price	Notes
Aeromot Ximango (*www.ximango.com.br*) – *ximangoUK@aol.com* – UK agent: Ximango UK												
AMT200	2ss	X	R		17.5	N	31	Y	81			
AMT200S	2ss	X	R		17.5	N	31	Y	100			
AMT300	2ss	X	R		17.7	N	31	Y	115			
Aeros (*www.aeros.com.ua*) – *info@flylight.co.uk* – UK agent: Flylight Airsports Ltd												
AL12	1	-	F		13.3	Y	27		-	5	€ 17,000	
AL12M (self launch)	1	R	F		13.3	Y	27	U	16	5		
Alisport (*www.alisport.com*) – *info@alisport.com*												
Silent Club (self-launch)	1	R	F	45	12	Y	31	U	28	5-6	€ 50,800	Also avaiable as
Silent 2 (self-launch)	1	R	F/R	26	13	Y	39	U	28	5-6	€ 56,234	as a kit
Silent 2 TARGA (self-launch)	1	R	R	2	13.3	Y	40	U	28	5-6	€ 62,500	"
Silent 2 (electric self-launch)	1	R	F/R	4	13	Y	39	U	17	5-6		Kit not available
Silent 2	1	-	F/R	1	13	Y	39	N	-	5-6	€ 41,830	>80kg Also as kit
ALLSTAR PZL (*www.szd.com.pl*) – *allstaraviation@hotmail.co.uk* – UK agent: ALLSTAR Aviation Agency												
SZD50-3 Puchacz	2	-	F	330	16.7	N	30	Y	-	6	€ 54,950	
SZD51-1 Junior	1	-	F	260	15	N	35	Y	-	4	€ 37,500	
SZD55-1 Nexus	1	-	R	116	15	N	44	Y		6	€ 46,250	
SZD59 Acro	1	-	R	34	13/15	N	36/40	Y	-	4	€ 45,500	wingtips + €2200
ALPAERO (*www.alpaero.com*) – *info@alpaero.com*												
Choucas	2ss	L/F	F	5	14.35/15	N	24/26	U	50			Kit only
Exel	1	L	F	9	13.74	Y	30	U	20		€ 39,468	Kit available
AMS-Flight (*www.ams-flight.si*) – UK agent: McLean Aviation												
APIS-13 /WR	1	-	F		13	N	39		-			Kit available
APIS-15	1	-	F		15	N	40		-			Kit available
APIS-M (self-launch)	1	R	F		15	N	40	U	40			Kit available
APIS-E (electric self-launch)	1	R	F		15	N	40	U	27			-
Carat A	1	L	R	14	15	N	35	Y	54			
DG303 Elan	1	-	R		15	N	44	Y	-			
DG303 Elan Acro	1	-	R		15	N	-	Y	-			
DG303 Elan Acro Club	1	-	F		15	N	-	Y	-			
DG303 Elan Club	1	-	F		15	N	-	Y	-			
DG500 Elan Orion	2	-	R		20	N	>44	Y	-			
DG500 Elan Orion (trainer)	2	-	F		18	N	>40	Y	-			
DG500 Elan Orion Acro	2	-	R		17.2	N	-	Y	-			
Magnus AM21 (self-launch)	2ss	F	F		13.35	Y	-	U	80/100			
Bee 15 MB (self-launch)	1	R	F		15	Y	39	U	28			

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KEY TO LISTINGS

Stng = Seating 1 or 2 seat or 2 seat side by side
Prop = Propellor
F = Fixed, R = Retractable
X = can be feathered in flight
L = can be folded in flight
U/C = Undercarriage Fixed or Retractable
No. built includes all variations of the basic type
Span in metres (with and without tips)
Flaps = Flaps (Yes or No)
L/D = Best glide angle (with and without tips)
CS-22 Y = CS-22 compliant or in progress
U = Ultralight category
hp = horse power
Delivery time in months
Price is ex-works in Euros
and includes either local VAT or UK VAT
tba = to be announced

A small dash means "not applicable"
A blank means "don't know"

The photographs, right, show some of the aircraft currently available for purchase new on the market: Top: Steve Jones flying the single-seat Nimbus 4 at the British Open Class Nationals last year (Paul Haliday) Centre: the Silent 2 Targa, with retractable landing gear Bottom: Lak-19T on show at the BGA Conference earlier this year (Paul Morrison)

	Stng	Prop	U/C	No. built	Span	Flaps	L/D	CS22	hp	Delivery time	Price	Notes
Biuro Projektowe "B" *(www.beres.com.pl) – bpberes@pro.onet.pl*												
SZD-56-1 Diana	1	-	R		15	Y	48	Y	-			
DG Flugzeugbau *(www.dg-flugzeugbau.de) – mcleanav@supanet.com* – UK agent: McLean Aviation												
DG808B (self launch)	1	R	R		15/18	Y	45/50	Y	53			
DG808ST (turbo)	1	R	R		15/18	Y	45/50	Y	23			
DG808B/C	1	-	R		15/18	Y	45/50	Y	-			
DG808S	1	-	R		15/18	Y	45/50	Y	-			
DG1000S	2	-	R		18	N	-	Y	-			
DG1000S-18/20	2	-	R		18/20	N	-/46.5	Y	-			
DG1000S Club	2	-	F		18	N	-	Y	-			
DG1000T (turbo)	2	R	R		18/20	N	-/46.5	Y	30			
DG1000M (self launch)	2	R	R		18/20	N	-/46.5	Y				
DG Flugzeugbau *(www.dg-flugzeugbau.de) – wells.glide@virgin.net* – UK agent:Wells Design												
LS8-a	1	-	R	478+	15	N	43	Y	-			
LS8-s	1	-	R		15/18	N	43/48	Y	-			
LS8-st (turbo)	1	R	R		15/18	N	43/48	Y	23			
LS-10	1	-	R	1	15/18	Y	>49	Y	-			Turbo due soon
Diamond Dimona *(www.diamond-air.at) – henrik@diamondair.co.uk* – UK agent:Diamond Aircraft UK Ltd												
HK36 TC80 Super Dimona	2ss	X	F	942	16.33	N	27	Y	80	12		Next batch of
HK36 TC100 Super Dimona	2ss	X	F		16.33	N	27	Y	100	12		production due at
HK36 TC115 Super Dimona	2ss	X	F		16.33	N	27	Y	115	12		the end of 2006
Flugtechnik & Leichtbau *(www.leichtwerk.de/eta) – sales@eta-aircraft.de*												
eta (2 seat self launch)	2	R	R	2	30.9	Y		Y	64			
Glider Factory Jezów *(www.szdjezow.com.pl/) – hmynarski@szdjezow.com.pl*												
PW-5 Smyk	1	-	F	260	13.4	N	33	Y	-		€ 25,732	
PW-6U (two-seater)	2	-	F	26	16	N	34	Y	-		€ 50,525	
HPH *(www.hph.cz) – hph@hph.cz*												
Glasflugel 304C	1	-	R	150+	15	N	43	Y	-		€ 48,175	
Glasflugel 304CZ	1	-	R		15	Y	44	Y			€ 51,700	
Glasflugel 304CZ-17	1	-	R		15/17.4		Y	44/46	Y	-		€ 56,400
Glasflugel 304SE	1	-	R		15	Y	48	Y	-		€ 69,325	to fly during 2006
Glasflugel 304S	1	-	R		15/18	Y	45/51	Y	-		€ 73,437	*
Glasflugel 304S tp (turbo)	1	R	R		15/18	Y	45/51	Y	-			to fly during 2007
Glasflugel 304S pp (self launch)		1	R	R		15/18	Y	45/51	Y	-		*
Lange Flugzeugbau *(www.lange-flugzeugbau.com) – info@lange-flugzeugbau.com*												
Antares 20e (electric self-launch)		1	R	R		20	Y	56	Y	57		
Antares 18s	1	-	R		18	Y	53	Y	-			to fly during 2006
Antares 18t (turbo)	1	R	R		18	Y	53	Y	18			*
LZ Aeronautical Industries *(www.let.cz) – slanik@let.cz*												
L13AC Blanik (acro)	2	-	F	14	14.1	N	26	Y	-			
L23 Super Blanik	2	-	F	310	16.2/18.2		N	28/32	Y	-		
L33 Sólo	1	-	F	95	14.1	N	33	Y	-			
Edward Margański *(www.marganski.com.pl) – e.marganski@pro.onet.pl*												
MDM-1 Fox (acro)	2	-	F	40	14/16.15	N	34/36	Y	-	2	€ 58,750	priced in $
Fox Solo (acro)	1	-	R	1		N						prototype
Peregrine Sailplanes *(www.barryaviation.com) – info@peregrinesailplane.com*												
KR-03a (was the Puchatek)	2	-	F		16.4	N	27	Y	-		€ 48,500	priced in $
Pipistrel *(www.pipistrel.si) – pipistrel@siol.net*												
Sinus 503 (self launch)	2ss	X	F	15	15	Y	28	U	53	4-6	€ 61,688	
Sinus 912 (self launch)	2ss	X	F	110	15	Y	27	U	80	4-6	€ 75,788	
Virus 912 (self launch)	2ss	X	F	80	12.5	Y	24	U	80	4-6	€ 75,788	
Taurus 503 (self launch)	2ss	R	R	4	15	Y	41	U	53	15	€ 91,650	

	Stng	Prop	U/C	No. built	Span	Flaps	L/D	CS22	hp	Delivery time	Price	Notes
Schempp-Hirth (www.schempp-hirth.com) – Office@southernsailplanes.freeserve.co.uk – UK Agent: Southern Sailplanes												
Discus CS	1	-	R	800	15	N	43	Y	-			
Discus 2a/b	1	-	R	200+	15	N		Y	-			
Discus 2c	1	-	R		18	N		Y	-			
Discus 2T (turbo)	1	R	R		15	N		Y	21			
Discus 2cT (turbo)	1	R	R		18	N		Y	21			
Duo Discus x	2	-	R	400+	20	N	46	Y	-			
Duo Discus xT (turbo)	2	R	R		20	N	46	Y	30			
Nimbus 4	1	-	R		26.4	Y	>60	Y	-			
Nimbus 4T (turbo)	1	R	R		26.4	Y	>60	Y	26			
Nimbus 4M (self launch)	1	R	R		26.4	Y	>60	Y	63			
Nimbus 4D	2	-	R		26.5	Y	60	Y	-			
Nimbus 4DT (turbo)	2	R	R		26.5	Y	60	Y	26			
Nimbus 4DM (self launch)	2	R	R		26.5	Y	60	Y	63			
Ventus 2ax/bx	1	-	R	400	15	Y		Y	-			
Ventus 2cx	1	-	R		15/18	Y		Y	-			
Ventus 2cxT (turbo)	1	R	R		15/18	Y		Y	21			
Ventus 2cxM (self launch)	1	R	R		15/18	Y		Y	52			
Alexander Schleicher *(www.alexander-schleicher.de) – zuluglasstek@clara.net* – UK agent: Zulu Glasstek												
ASK21	2	-	F		17	N	34	Y	-			
ASK21 Mi (self launch)	2	R	F		17	N	34	Y	56			
ASW22BL	1	-	R		26.6	Y	62	Y	-			
ASW22BLE (self-launch)	1	R	R		26.6	Y	62	Y	50			
ASH25	2	-	R	250	26	Y	60	Y	-			
ASH25Mi (self-launch)	2	R	R		26	Y	60	Y	56			
ASH26	1	-	R		18	Y	>50	Y	-			
ASH26E (self launch)	1	R	R		18	Y	>50	Y	50			
ASW27B	1	-	R		15	Y	48	Y	-			
ASW28	1	-	R		15	N	45	Y	-			
ASW28-18	1	-	R		15/18	N	45/48	Y	-			
ASW28-18E (turbo)	1	R	R		15/18	N	45/48	Y	18			
ASG29	1	-	R	-	15/18	Y	50/52	Y	-			
ASG29E (turbo)	1	R	R	-	15/18	Y	50/52	Y	18			
Sportine Aviacija *(www.lak.lt) – balticsailplanes@dsl.pipex.com* – UK agent: Baltic Sailplanes												
LAK17A	1	-	R	60+	15/18	Y	45/50	Y	-	3-5		
LAK17AT (turbo)	1	R	R		15/18	Y	45/50	Y	26	3-5		
LAK19	1	-	R	20+	15/18	N	45/50	Y	-	3-5		
LAK19T (turbo)	1	R	R		15/18	N	45/50	Y	26	3-5		
LAK20	2	-	R	-	23/26	Y	55/60	Y	-	tba		
LAK20 (turbo)	2	R	R	-	23/26	Y	55/60	Y	30	tba		
LAK20M (self launch)	2	R	R	-	23/26	Y	55/60	Y	53	tba		
Stemme *(www.stemme.de; www.stemme.co.uk)* – UK agent: Mike Jefferyes												
S2	2ss	-	R	-	20	Y	47	Y	-			to fly in 2006
S6 (self launch)	2ss	X	F	-	18	Y	33	Y	115	-		to fly in 2006
S6RT (self launch)	2ss	X	R	-	18	Y	39	Y	115	-		to fly in 2006
S8 (self launch) (tourer)	2ss	X	F/R	-	18	Y	32/38	Y	115	-		to fly after 2006
S10VT (self launch)	2ss	R	R	150+	23	Y	50	Y	115	9		
TeST *(www.test.infoline.cz) – test@infoline.cz*												
TST-10 Atlas (kit)	1	-	F	1	15	N	40		-	10	€ 19,754	
TST-10 Atlas	1	-	F	-	15	N	40	N	-	10	€ 25,704	
TST-10 Atlas M (self launch)		1	R	F	27	15	N	40	U	36	10	€ 39,746
TST-13 Junior (self launch)	1	F/L	F	2	15	N	24/31	U	40/50		€ 39,746	
TST-14 Bonus (kit)	2	-	F	-	17	N	40		-	10	€ 23,205	
TST-14 Bonus	2	-	F	-	17	N	40	N	-	10	€ 32,011	
TST-14 Bonus M (self launch)	2	R	F	8	17	N	40	U	approx 50	10		€ 55,930
Ultralight Soaring Aviation *(www.ultralightsoaringaviation.com) ekstrom@midwest.net*												
Cumulus (self launch)	1	F	F		13.1	Y	20	U	40			Kit only
Windward Performance *(www.windward-performance.com) – info@Windward-Performance.com*												
Sparrowhawk	1	-	F	23	11	N	36	U	-	18	€ 36,000 in dollars > 80kg	

The road to gliding Heaven

George Metcalfe describes how his good intentions to learn more about met finally came to fruition

Lasham members and visitors at one of the new meteorology courses being run at the club

Photo: Paul Haliday

IT'S LONGER than I care to admit since my understanding of the meteorology of gliding plateaued, and about as long since I learned anything new about how to predict when and where the good gliding weather is going to be.

These days, there are increasing numbers of people who seem to be able to access, assimilate and analyse masses of internet data and merge it with their own flying observations to produce markedly better task declarations than I can. I'd like my success rate on tasks to be higher and while it's clear I need to improve my in-flight performance, it's also clear that a good task declaration is a pretty important component too.

Several of the pundits from the previous paragraph are generous enough to share their forecasts and task ideas with us regularly over the internet. This is enormously useful and I'm very thankful for it, but in the end there is no substitute for producing a forecast for your own specific purpose. I didn't have the wherewithal, and I decided I'd better try to do something about it.

The road to Hell is paved with good intentions. A long time ago I bought a copy of Bradbury's met book, but never got round to reading it. Some time later, I bookmarked all WeatherJack's weather data sites and tutorials, but didn't follow through with regular practice. So the bookmarks are now all out of date. And I didn't even manage to get to one of the club briefings from the local experts. Just what would it take?

Late last year, when the idea was floated of a special met course for gliding, I quickly expressed my interest and enthusiasm, all the time knowing how often I'd failed to follow through and hoping that as the idea developed it would somehow drag me along with it.

Lasham members Bruce Nicholson and David Masson together with Matt Ruglys, an experienced instructor of Met men for the Royal Navy (I don't know how they found him but thank goodness they did) devised and developed a syllabus for a two-day course to be held at Lasham. This sounded really good. And then they added the magic ingredient: there would be a limited number of places on the course, and we'd have to book it and pay for it in advance. That was it! I duly booked and paid. And having paid for it, I was jolly well going to use it.

Old habits die hard, and I paved a bit more of that road by failing to do the recommended reading for the course. (My excuse is that we are between houses and my copy of Bradbury is buried somewhere in Pickfords' store.)

I joined 11 others in the classroom on Saturday morning. About two-thirds of the participants were Lasham regulars, but it was pleasing also that word had got out and we had a number of visitors from other clubs.

This was to be the second time the course had been run. Matt, Dave and Bruce had adapted the content after feedback from the first time and developed a more substantial module on Tephigrams. We'd all seen them before, we'd all tried or at least pretended to understand them before, but now were taken through them in a way which made it all seem straight forward. One of the major tools of forecasting was revealed to us. Every glider pilot should do this, even if he doesn't remember it for ever after.

Here are are some of the things the course

'You need a familiarity with the basics (such as 'hot air rises' and perhaps a little more)...'

did for me. It reminded me of things I once knew (or should have): Tephigrams (work out trigger temperatures and cloudbase, if any); temperature profiles for stability, instability and conditional stability; and characteristics of a good wave day.

It answered questions that I had been wondering about for years. How do they predict maximum temperatures? How much cloud will there be and how high will they go? How strong will the thermals be? Will there be layer cloud and, more difficult, will it burn off? Which are the most useful sources of data on the internet?

It explained interesting things which it probably wouldn't matter if I never knew! Why is the cloudbase often lower over a hill or ridge than upwind of it? How wide does a hill have to be for the wind to go over it rather than around? How to work out the wavelength of standing waves.

Maybe I've been a bit glib in the above. After all, someone has to know how to work out wavelength, and I'm sure it is more relevant to those who regularly set out to fly in wave. So view it rather as an indication of the sort of content you will encounter if you sign up for the course yourself.

The course is essentially about method and practice, not about theory and formulae (mostly). We spent some time drawing lines and shading equal areas on the tephigram to practise the techniques for predicting all those things glider pilots want to know. This graphical technique represents in a sort of "scale drawing" the energy trades and balances which go on in the atmosphere, but it's a matter of personal choice whether you look at it that way or simply absorb the procedure for working out your answer.

There was one slightly surprising but in a way reassuring impression I gained from the course. The methods for many parts of a forecast are essentially empirical. Someone somewhere has collated lots of "data" from (presumably) glider pilots and seagulls about the strength and depth of lift (thermal and wave) the proportion of clouds which will reach this height or that, and correlated them to measurable characteristics of the air mass (temperature and humidity). It is this carefully accumulated and structured set of data which has provided us with the basis for our forecasts. Perhaps this makes forecasting an art or a craft rather than engineering or science.

So where has all this got me and what next?

In a good forecast, there is a mix of analysis, experience and inspiration.

I now have the basic toolset and it's the same toolset the experts use, and probably experience which I'm not making full use of.

I have to develop my approach to the daily forecast and make sure I actually do it and learn from it.

I found the course very interesting and worthwhile. You need a familiarity with the basics (such as "hot air rises", and perhaps a little more) but don't be afraid that you will be submerged in science. Matt is enthusiastic, an expert, but very sympathetic to those who are not. There was lots of interaction during the two days and I know I learned from the other students as well as from Matt. More courses are planned and I'd say to anyone that it would be time well spent.

Who are the Air League?

Andy Perkins, a founder member of the The Air League's Youth in Aviation Committee, describes the League's work – and three new gliding awards

Left: Flypast organised by the League as part of an event to honour Battle of Britain pilots

Right: The Air League is working to bring young people into aviation

YOU will have noticed in the previous *S&G* an advert for gliding scholarships offered by The Air League (p11). So who are The Air League?

Answer: A superb organisation that every year awards in excess of £100,000 of flying, engineering, ballooning and now gliding scholarships! This translated last year into 43 flying scholarships, 20 bursaries, 17 engineering scholarships and one ballooning scholarship. With the addition of the new gliding scholarships the League is set to award in the region of 90 scholarships during 2006! An incredible achievement.

The "AERIAL LEAGUE OF THE BRITISH EMPIRE" (Ah, yes, the Empire...) was formed on April 13, 1909 and is now renamed The Air League. So as it approaches its first century, what does it do? Its mission statement says it exists to "promote the cause of British Aviation." and to "encourage air-mindedness in young people". Apart from fantastic scholarship opportunities, it administers the Associate Parliamentary Aerospace Group (APAG), which has a significant number of members of both Houses of Parliament, providing an unrivalled platform for discussing aviation and aerospace-related matters. APAG meetings allow direct contact with the Parliamentary members, corporate and individual members of the League.

It provides expert careers advice for every sector of aviation via a wealth of contacts across the industry that is second to none. It organises celebrations of the most memorable, poignant and fun parts of aviation, air shows and behind-the-scenes visits to industry, an annual reception (fantastic champagne) and recently a Battle of Britain Banquet where more 80 fighter pilots from the Battle of Britain were guests of honour. In 2006, it has already held an event to celebrate the 70th Anniversary of the first Spitfire flight; several visits behind the scenes at the Red Arrows and the Typhoon occur later this year. A Schneider trophy banquet at the RAF museum under a Lancaster wing is planned for September 13, to celebrate record breakers in aviation.

In addition, there are close links with the Royal Aeronautical Society and the Guild of Air Pilots and Navigators, who specialise in career advice, the former having an extensive library available to Air League members. So, as you can see, The Air League has a lot to offer. Plus with a lot of young enthusiasm growing within the Air League, there are plans afoot for gliding days, simulator flying at British Airways and nights out in London to discuss – well, just nights out in London.

What is the League's connection with gliding? The Youth in Aviation committee was inaugurated in late 2004 with members from Air Cadets, University Air Squadrons, the British Gliding Association, Royal Aeronautical Society, The Air League, GAPAN, and the Society of British Aerospace Companies. The sole purpose is to combine the ideas of flying organisations that support young people in aviation. In collaboration with the BGA, this directly led to the formation of The Air League Gliding Scholarships as an effective way to encourage and facilitate young people into aviation. UK gliding has been fortunate that over the past decade the junior community has grown to be the largest in the world: something that must continue to be developed and encouraged if the sport is to survive in the UK and Europe over the coming decade. The Air League scholarships are therefore aimed at furthering the skills of existing young pilots allowing them to attain skills that encourage a lifetime involvement in aviation. So what's on offer?

Aerobatic Training:

Five 4,000ft aerotows with instruction in basic aerobatic manoeuvres. The intention is to enhance the scholar's handling skills and provide an insight into the skills and flying discipline of competition aerobatics.

Cross-Country Training:

Two cross-country flights. British glider pilots continue to lead the world in glider racing. These scholarships allow an insight into the complex, exciting world of racing sailplanes across country. The changeable Great British weather (cursed by every glider pilot I know) offers more challenging conditions than almost anywhere else on the globe. The intention is to show young pilots how it's done and sow the seeds to fly efficiently and move on to compete at national and international level. It is hoped that the majority of these scholarships will be flown by ex-Junior national pilots, who can teach and also talk firsthand of their experiences in becoming accomplished glider pilots.

SLMG NPPL Training:

Many young pilots dream of flying for a career. This scholarship allows them the opportunity of combining non-powered and powered flight. Training in a self-launching motor glider (SLMG) teaches operation of a powered aircraft whilst understanding how to optimise the weather as a glider pilot. These skills are called upon in all forms of commercial flying and viewing the weather as a glider pilot gives a depth of understanding no book or theory course can provide. The course comprises of up to 32 hours flying, which depending on the student's progress can lead to them achieving an SLMG National Private Pilot Licence.

As you can see The Air League offers some amazing opportunities throughout every faculty of aviation. From powered flying scholarships to gliding, career advice to industry insights there is a lot on offer.

Finally, have you been looking for a way of putting something back into gliding? Why not sponsor a gliding scholarship or show support by becoming a League member? In the words of Luke Roberts "It's a bargain." Contact *scholarships@airleague.co.uk* or 0207 222 8463. For more information visit *www.airleague.co.uk*

After this article was written *S&G* learned that Andy was due to be awarded The Air League's Marshall Gold Medal, in the presence of HRH The Duke of Edinburgh, in May. This prestigious medal is given to former Air League scholars who are successful in their career and who have contributed to the League. The world-beating Junior Standard Class Gliding Team of 2005 were also in line for an Air League award. For more details see the next issue of *S&G*

Club news

Aquila (Hinton-in-the-Hedges)

CONGRATULATIONS to Alistair Cook on his 500km and to Ryan Powell and Louise Walker on completing their Bronze Badges. 2006 is Aquila's 40th anniversary year and we are planning events to celebrate this in September. Tony Boyce is researching and compiling the history and development of the club. We are encouraging more members to fly cross-country by flying lead and follows on Saturdays and making the K-21 available for dual cross-country training. The K-21 has been entered in the Bicester Regionals. Laurie Clarke is co-ordinating this year's Inter-club League.

Tim O'Sullivan

Black Mountains (Talgarth)

DON Puttock is now back with us full time at Talgarth. Our five-year strategy is at last complete. For the fourth year in a row, our launch numbers have risen despite mediocre 2005 soaring weather. With new trailers for the club Junior and two-seaters, the emphasis is definitely on cross-countries this summer so we anticipate a rash of badge claims. At the AGM, Martin Pingle was awarded the Tony Burton Trophy for his Diamond height climb in his Mini Nimbus and Tony Bartlett won the CFI's trophy for achieving Silver height and BI status as well as making outstanding contributions to the running of the club. The Inter-club League rockpolishers weekend will be held at the end of May and our Task Week at the end of August is already fully subscribed.

Robbie Robertson

Booker (Wycombe Air Park)

THE season has started well with several fast 300kms done by early April, one by Dave Watt at 115km/h. Mark Sempers and Jim Pengelly did their Silver distances and Mark also did the first leg of his 100km Diploma. Arnie Jorgenson did his 50km with an out-and-return to Enstone (total 110km). The Duo has been surprisingly busy for so early in the season. One reason might be the lower soaring charges across the board introduced by treasurer Jim White at the AGM. These also include free soaring before 11.00hrs and after 16.00hrs to encourage better utilisation of the fleet. We have a new look to the committee with Roland Wales taking over as chairman and Nick Storer as secretary. They are already at work to improve the operation and facilities at Booker. Our thanks go to the outgoing chairman and secretary, Jack Luxton and Alan Green, for the work they have done over the years. There may still be a few spaces left in our "No entry fee" Regionals as you read this, and on June 23-25, Wycombe Air Park will host AeroExpo 2006 – an excellent opportunity to promote gliding.

Roger Neal

Borders (Milfield)

THE club held a full-time *ab initio* course from March 20 to 26. It was a great success for beginners and Graham White soloed. Mike Bishop re-soloed. A small contingent of Burn pilots (not *ab initios*) were resident at the same time. One of their number, Alastair Mackenzie, achieved a decent 16,900ft and another, Ralph Jones, made Silver height. The AGM was held on March 26. The Chairman, Aleister Fish, was re-elected and Len Dent was confirmed

in the post of Honorary Treasurer. The post of Public Relations Officer, having been vacated by Mike Charlton, was filled by Richard Abercrombie. Brian Cosgrove has been awarded the status of Caroline Trust Cadet of the Year at the BGA annual gathering. Brian soloed on his 16th birthday and has gained his Bronze and Silver height.
Len Dent

Bowland Forest (Chipping)

AT a well-attended AGM in April it was reported that we are in a healthy situation with plenty of members and a raft of trial lesson vouchers to fly during the forthcoming season. A couple of changes on the committee were made with the new being welcomed and the old thanked for their hard efforts. Steve Robinson has handed over the role of Safety Officer to Trevor TutthIll. Trophies for the past year were awarded to: Yvonne Stott – Barber Trophy for Enthusiasm, Derek Littler – Liver Trophy for Services to the club, Keith Clarke – Barbara Aked Trophy for Progress in Early Solo, Croft Brown – Hogben Trophy, our DCFI Ian Ashton walked away with three awards – Aked Height Trophy, Cross-country Trophy and the John Todd Trophy. Shares in Duraglit soared on the stock exchange with the news, and finally our much-embarrassed CFI Pete Desmond was awarded the coveted Knot Trophy for "not getting back from an aerotow retrieve" during the inter-services comp (much to amusement of those listening on the radio). Our K-21 was based at Dishforth during winter that proved most useful for, amongst other things, aerotow training, thanks go to our regular hosts once again for their hospitality. A series of well-attended lectures by various instructors for Bronze was another cold weather entertainment along with much fettling of aircraft and the like. The year will include an *ab initio* course and various expeditions.
Phil Punt/Tracy Joseph

Bristol & Gloucestershire (Nympsfield)

WE now benefit from the Community Amateur Sports Club Scheme. We get 80% rates relief, saving several thousand a year, and can reclaim tax from donations to the club. The cost of the fixed price to solo scheme has been increased and will be kept under review. The bus-winch radio link is now much improved. Rob Thompson has taken over as Ladder Steward from

Please send news to *editor@sailplaneandgliding.co.uk* or Helen Evans, BGA, Kimberley House, Vaughan Way, Leicester LE1 4SE to arrive by **June 13** for the next issue (later deadlines at *www.gliding.co.uk*)

When in last issue's Gliding Gallery *we said there must be sites other than* **Black Mountains** *with photogenic wave, we didn't anticipate seeing such great photos. You might reasonably expect to find wave near Borders – thanks to Graham White for sending this stunning photo* (above) *from St Abbs on the Berwickshire coast, 20 miles from Millfield. Graham, below left, is seen after soloing in March thanking* ab initio *course tuggie George Brown.*

On an international theme, Carsten Hyldborg Jensen, from Denmark, emailed the photo top right: "Here is a picture from St Auban, France, in March 2006," he said. "Since it is not from the Black Mountains it might be useful to you." And Shirley Maddex of **Newark & Notts** *GC went even further to capture these spectacular lenticulars – Simonstown in South Africa. Our final two pictures are back in Britain: first, John Dransfield took this* (right, centre) *from his Grob 109b on November 13, 2005 over the River Dee west of Aboyne, while Ian Easson, in the front of the Scottish ASH with John Williams in the back, shot the north-east corner of Loch Leven with Bishop Hill just visible* (below). *Many thanks to all of you for sending your photos*

*No, it's not as bad as it looks – **Buckminster GC** organised this "accident" as a mock emergency exercise with the fire, ambulance and police services to aid mutual understanding and test the club's response. The helper on the ladder is a new BGA Executive Committee member, Bruce Tapson (photo: Chris Davison)*

Jim Wilson: thanks for Jim for his work. Mike Harris is researching use of 'plastic winch rope'. A long-term plan for the fleet will be drawn up and revised regularly. A marketing group meets regularly, looking initially at the needs of different member groups. Bar takings were boosted by a series of evening talks on a range of subjects. Our website is being developed as a major means of communication. The ridge running syllabus is gaining momentum, even attracting visitors from other clubs wishing to run our Cotswold escarpment.
Bernard Smyth

Buckminster (Saltby)

IT'S been a busy few months! We have taken delivery of our brand-new K-21, which will allow us to do more aerobatic training as well as being a different type for members to add to their log books; thanks to all involved, especially Phil. Fifteen people attended a course on aerobatic judging and another five learnt about maintaining wooden gliders (the two were not linked). We held a mock emergency exercise with the fire, ambulance and police services, which not only helped the club understand what we need to do better, but helped the emergency services understand what a glider is and where we are based... The real problem was that our "dummy", Andrew, is a dentist, so no one seemed in a hurry to rescue him! The AGM and annual dinner were very well attended and we had done more 300km-plus cross-countries by the middle of April than in the whole of 2004 and 2005 put together! We are open 364 days a year; visitors are welcome.
Chris Davison

Burn (Burn)

CONGRATULATIONS to Phil Addy on his first solo flight. Several members experienced the usual excellent wave flying on the Spring Expedition to Milfield.
We continue to make progress in our search for a new home. The number of possible sites has now been reduced to two. Alastair Mackenzie and John Stirk gave presentations, to a very well attended members' meeting, on the pros and cons of the two opportunities open to us. It is hoped a final decision will be made by December this year.
George Goodenough

Cairngorm (Feshiebridge)

SPRING has finally sprung along with its attendant north-westerly winds, enabling us to enjoy the superb Feshie wave, not to mention polishing the local rocks, before polishing off John Whyte's bar stock! Our thanks this month go to Roger Creig and Nick Norman, our tireless inspectors, for keeping our fleet in the air, and in tip-top condition. Thanks are also due to Bill Longstaff, our CFI, for his keenness and forbearance in organising the many late spring events here at Feshie. It's a tough job, but someone has to do it. Dates have yet to be set for our Octoberfest, but these will be published next month. Please check out *www.gliding.org*
Chris Fiorentini

Cambridge (Gransden Lodge)

OUR AGM saw the retirement of the chairman, John Rogers, we thank him for five years of hard work – and retiring committee members Will Harris, Mike Roberts, Andy Jude and Julian Bane. Richard Brickwood now picks up the baton of chairman and we all wish him the best. The AGM also approved the re-branding of operations at Gransden Lodge under the overall banner of "Cambridge Gliding Centre". This now encompasses the activities of Cambridge GC and Cambridge University GC and will allow us to introduce a number of new initiatives. On the flying side we have instigated the Cambridge Racing Cup, combining the scoring of a Grand Prix with tasks set for speed and a winner-takes-all attitude! This will be run for nine days throughout the year with a "day winner" and the Cup to the overall winner. The first CRC Race was on April 4 with a 400km course set by Sarah Kelman. We should also gain a deeper understanding of GP racing when it arrives at Gransden Lodge in September with the first UK Gliding Grand Prix. To complement this, Sara Kelman will be showing us how to get that extra turn of speed in the BGA's Duo X in May on our cross-country course. We also welcome back Robert Theil as our full-time summer instructor to help run our bookable courses. Congratulations, too, to Jackie Sparrow, Stuart Gooch, Michael Pye, Ross Edmondson and Neville Anderson, all of whom have soloed this year – and, remember, "The sky's the limit"
Paul Harvey

Carlton Moor (Carlton Moor)

FUEL problems with the winch resulted in it being stuck on the moors for a couple of days, but Herculean efforts one cold and windswept Saturday resulted in a new tank being fitted, which solved the problem. We have taken the opportunity of a few weekends when we weren't flying, due to the CFI helping on an instructors' course, to C of A the K-13. This was completed by Easter. The club's thanks are due to all who have contributed to these projects, as we rely entirely on voluntary help. June 25 will see the 40th anniversary of the first flight of our long-serving treasurer, Dave Hughes. Dave had his first flight at Carlton in 1966.
Nigel Ling

Channel (Waldershare Park)

THE forward control caravan is proving a real asset, particularly in the recent biting winds. As well as fitting new wheels for ease of transport the roof has been re-felted by a local contractor so club members remain dry as well as warm. Less welcome was the fact that the contractor's son had by far the longest flight of the day whilst dry members looked skyward in envy from their refurbished shelter! Another popular purchase has been an old Massey Ferguson tractor. Tractor driving instruction has been nearly as popular as flying instruction with the results of both being equally agricultural on occasions. The tractor has been an asset for cable towing when the field has been wet and sales of "chewing straw" and washing powder have risen locally. The BGA Diploma awarded to Simon Walters for his efforts to revive the club is greatly appreciated by members.
Nigel Shepherd

Chilterns Centre (RAF Halton)

WE welcome Andy Hill – and welcome back to Gally. Cross-country flights have continued with a few 300kms being flown in April, while the odd day enabled some ridge running (which also helped kick off the thermals) as well and, out to the west, some wave flying. Some members should have now recovered from the club and RAFGSA expeditions to Sisteron, and are now looking forward to some competitions – mainly the Bicester Regionals and the Inter Services Regionals (hosted this year by the Army) at Middle Wallop.
Andrew Hyslop

Cotswold (Aston Down)

TIM Barnes, our outgoing chairman, has passed the baton to Mike Weston, who is currently updating the club's communication systems and cajoling the membership into the internet era. Tim resigned to pursue a life goal of cycling, along with his wife, to Tibet (as in Himalayas!) so they will be away for quite a while. We do get regular reports via email cataloguing ongoing disasters; they travel with our best wishes.
Our CFI and chairman recently went to Germany to collect a secondhand DG-500 that the club has bought for cross-country training. They returned safely having encountered considerable snow en route. We welcome Eugene Lambert as secretary, replacing Paul Lazenby, who has retired owing to pressure of work but will continue to fly with us. Richard Kill, our social manager, organised a wine tasting evening in the clubhouse that was enjoyed by all. We look forward to similar beer and malt whisky tasting events! We are running courses and seven-day operations this summer and look forward to a successful 15-Metre Nationals at Aston Down.
Frank Birlison

Cranwell (RAF Cranwell)

THE new soaring season has started out reasonably well with quite a number of pilots enjoying the thermals after the long winter haul. However at the time of writing, we are not sure if we are in spring/summer mode yet whereas many clubs may take their cue from a variety of "experts" in weather forecasting we have our own special seasonal forecaster in the form of Ian Mountain the eternal optimist, who generally can be

***Carlton Moor**'s K-13 about to be reassembled after its C of A (Kevin Davidson) **Dorset GC**'s Tony Honnor and his beautiful Skylark and Tim Linee after his 300km flight*

seen in his tee shirt for most of the year unless it is exceptionally cold (usually well below zero) – the point being if he is in his tee shirt it is usually a good day's flying. If you think I jest, watch carefully! On the expedition front a number of members and Nottingham University associates have undertaken the long haul to Portmoak in Scotland to enjoy the opportunity to do some wave flying, whilst another group of members is hoping to sample the delights of Sisteron in France. Nearer home and here on Lincoln edge it's also going to be a brilliant soaring year (we hope)!
Zeb Zamo

Deeside (Aboyne)

DESPITE an old-fashioned winter we have welcomed several visitors and there has been some decent wave and thermal flying. With the coming of spring (so we are told), the club has moved from ad-hoc midweek flying to a seven-day operation run by the membership. Our very successful ab-initio/new members' evenings start again in May and continue until August, run by Steve Thomson. There are only two places left in our Mountain Soaring Championship entry and the Competition Enterprise entry is also filling.
Mary-Rose Smith

Denbigh (Denbigh)

MEMBERS of East Sussex and Wrekin were here on expedition for the first week of April, with a number of memorable flights. From East Sussex, Terry Banks managed two wave climbs over 20,000ft, and also flew his 300km Diamond goal. Dan Tirel completed his Cross-Country Endorsement with his two-hour flight. The longest flight of the week went to Adrian Lyth with his eight-hour-plus flight. From Wrekin, Simon Harris achieved his Gold height with a climb over 17,000ft just west of Denbigh. Mike Osborn, Stuart Duncan and Randall Williams all exceeded 10,000ft in wave. From our own members, John Sconce and Gary Jones both reached Silver height, and Gary also completed his Silver duration. There were many other impressive flights by visitors and members. What a week: wave, thermal and ridge – Denbigh at its best. On the ground, improvements continue. The hardcore is now down, and soon the Tarmac will be laid on the peritrack and in the trailer area. We have also started using a SkyLaunch winch, thanks to an agreement reached with landowner and glider pilot Rod Witter.
Paul Jewell

Devon & Somerset (North Hill)

SOME really good soaring days have already been had with winds back to a more sensible west/north-west! Our V8 winch will hopefully soon be fitted with a "fly by wire" system making the ample power more controllable by the less able or not so current winch driver. This with the possible introduction of the new plastic woven rope, and a demonstration from Skylaunch of the retrieve system means that this year could see a big leap forward in the way we launch. Our DG-505 is likely to be used more this summer as the requirement to fly it has been reviewed. Our ground equipment is all up to scratch thanks as usual to the members who work tirelessly to keep it that way, sometimes to the detriment of their own flying: that has got to change. Several instructors seem keen to take a K-21 to other clubs to let our members to build experience; sites include Halesland, Brentor, and Talgarth. Thanks to Brentor for the way that we were welcomed at recent visits and a special thanks for arranging the wave!
Mark Courtney

Dorset (Eyres Field)

WE have managed to keep flying through most of the winter and our reseeded grass strip has greatly increased our landing options. April 5 turned out to be a really good day, with Tim Linee doing his first 300km in the Nimbus 2, and Tony Honnor his five hours in his beautifully refurbished Skylark 3. Tony now also has his Cross-Country Endorsement. Well done to both. Welcome back to Tony Law, who at this moment is busy doing some refurbishments in our clubhouse. Barry and Alan have been keeping the club fleet up to scratch. Our thanks to them and the others who keep our club going. A new club social committee has been set up with Tony Law, Gary Shaw, and Nick Barnes. At the annual dinner, awards went to: 'Tight-wad trophy' Rob Linee. CFI's trophy for 'best endeavour' Nick Barnes and Peter Boyce. 'Best achievement' trophy to Tony Honnor. 'Height trophy' To Mike Slade. 'Under 21s' trophy to Ben Johnson. 'Glider maintenance' trophy to Barry Thomas and Alan Coatsworth. 'Local soaring' trophy to Colin Weyman. 'Tug pilot' trophy to Bill Cook. The 'Boomerang cup' (quickest out-and-return to Salisbury) was unclaimed this year. Our Spring Task was a complete washout: we hope that the July 21-28 and August 26-28 ones will be better. Well done to Carol Marshall on joining Liz Sparrow's team of enthusiastic lady pilots. We all wish them the very best.
Colin Weyman

East Sussex (Ringmer)

WORK has almost finished on the first phase of field levelling; it will soon be seeded then left to settle before we switch sides. Progress on new plasma rope has been delayed but we hope to be operating with it very soon. Our resident graphics designer Bjorn Birjk has revamped all of our stationery and brought us up to date with a modern design – very nice! Mike Millar has achieved Diamond goal and a recent trip to Denbigh resulted in Terry Banks achieving 20,000ft twice and also 300km! For the rest of us there were a number of personal bests and one longest flight of eight-and-a-quarter hours. Many thanks to Keith at Denbigh and our pals from Cosford with their excellent tug. Trips are planned to Talgarth and Serres; we look forward to our flying week in early June.
Adrian Lyth

Essex & Suffolk (Wormingford)

THINGS are moving on well with a number of cross-countries of note including 400km-plus from John Gilbert Jnr as well as his 300km-plus a couple of days earlier. A programme of talks is in progress, including cross-country techniques as part of an emphasis which our CFI, Dennis Heslop, is placing on further development of post-solo pilots. Graham Wright joins the committee as treasurer in place of Nick White, who we thank for quite a number of years at the helm of our finances. Congratulations go to Martin Hargreaves and Tim Forsey on their first solos.
Bob Godden

Essex (North Weald/Ridgewell)

OUR annual club dinner was as always a thoroughly enjoyable affair. Many thanks to Dave Charles for once again organising the event. Paul Fournaise and Vince Earl are to attend a Basic Instructors Course and Eoin Cassells and Cathy Dellar to try their Cross-country Endorsement. All in all it has been a relatively quiet period in the last couple of months so we all are looking forward to a good soaring season.
Peter Perry

Fenland (RAF Marham)

THANKS to Paul and all those that came out for the second station BI day, a fantastic effort by all. It's been a busy couple of months now the thermals have returned and Paul was first off the mark in rattling up a few kilometres, probably closely followed by PSA. The last C of A of the year will have been completed by the time you read this so thanks to Steve for all his work and all who took time out to polish wings and stuff.
Graham French

Club focus

Channel

CHANNEL GC was formed in 1984, having been at RAF Manston and known as the Kent Motor Gliding and Soaring Centre. The name was "borrowed" from a club which flew from the hills overlooking Folkestone during the 1920s and 30s.

Situated in the grounds of Waldershare Park, the ancestral home of The Right Honourable The Earl of Guilford, we enjoy superb views across the Garden of England to the west and spy on our continental friends to the east in France, which is a mere 23 miles away across the channel. Another feature of the scenery in the area is ever-changing views over the Dour valley, Dover docks and Dover Castle.

Originally, the club was a proprietor-run club but this situation changed three years ago and, although we have struggled severely against a number of adversities, we have moved forward with amazing speed and strength. The club and its 40 members are proud of our fleet of four K-7s which, despite their age, have proved valuable workhorses ideally suited to flying conditions at Waldershare.

For the first time in many years the emphasis is on training and soaring and in the last year we have had a good number of first solos and Bronze badge claims and are looking forward to our first home-grown Silver badges and hopefully new instructors. Like most small clubs we are eager to move forward and plans are in place for further fundraising together with grant applications. Our target this year is to purchase our first glass two-seater along with a new engine for the winch to get her aloft.

What then makes Channel so different from other small gliding clubs? Every club member works their socks off whether we are flying or not to ensure that safety, the facilities and even the dreaded track continue to improve. The instructors give unstintingly of their time to ensure members have the maximum enjoyment and the minimum risk when flying. But best of all we are all friends and it is this camaraderie which makes Channel unique.

So if you are travelling to France with your glider and want somewhere to stay overnight or if you're attempting a crossing in your aircraft and aren't quite brave enough on the day, simply drop in and see us and enjoy a warm welcome at the Channel Gliding Club.

Simon Walters
Chairman

At a glance

Full membership cost: £175 pa

Launch type and cost: Winch – £6.00

Club fleet: K-7 x 4

Private gliders: four

Instructors/members: 6/40

Types of lift: ridge, thermal, sea-breeze front

Operates: Weekends + occasional weekdays

Contact: 01304 824888
secretary@channelglidingclub.com

www.channelglidingclub.com

51º 10' 20"N 001º 16' 36"E

Club news

Kent (Challock)

HAVING welcomed Andy Beatty back as our full-time instructor for the season, we look forward to some exciting times in Challock as we celebrate our 50th Anniversary. At time of publishing, we will have started our celebrations in style with our Anniversary Dinner Dance at the Ashford International Hotel on April 22, which is to be followed by a full day of activities on July 8. The day will consist of many events, including local area tasks, the flying of many local dignitaries, a dual glider tow and aerobatic display plus many other events. Naturally, our very own Vintage Glider Group will be out in force to mark the occasion, with some gliders our founding members will be more than familiar with! Pilots are more than welcome to visit us; check out *www.kent-gliding-club.co.uk*

Darren N Palmer

Lasham Gliding Society (Lasham)

AS the 2006 soaring season gets under way, Lasham has given safe gliding the highest priority with talks by the Civil Aviation Authority and Lasham's own expert and safety researcher, Tony Segal. Two full-day training courses were held and enthusiastically received. Punchy and informative, these courses demonstrated how to reduce accidents and improve flying safety. A highlight of the winter talk season was a fascinating presentation to a packed house by Flight Lieutenant Andy Robbins (Red 10) of the Red Arrows. Thanks to Sandy Hawkyard for organising the winter talks and for her tempting display of gliding goods in the clubhouse. Congratulations to Roger Barber for his successful 500km and Gold height, gained on the Jaca expedition. The evening and weekend groups are in the swing of the new season, the ever-popular five-day courses are up and running and cross-country courses as well as competitions are in the calendar on the website. Aerobatics is gaining popularity with courses in May and June run by Ed Lockhart, Stewart Otterburn and Colin Short. Check out the club calendar on *www.lasham.org.uk* for courses, expeditions and comps or telephone 01256 384900.

Mary Allen

Lincolnshire (Strubby)

THE members enjoyed the club dinner and prizegiving. Awards were made to Derek Woodforth, Dave Ryder, Keith Brown, Dick Skerry, Eddie Richards and Will Mclean. At the AGM, John Brooks joined the committee as Publicity Officer and Ian Butler as Safety Officer. The project to fly 300 underprivileged children has begun thanks to a grant from the Lincolnshire Community Foundation. The K-8 wings are away for recovering and a tractor has joined the MT fleet. With expeditions planned to Shenington and two-seater comp at Pocklington we have a busy summer planned.

Dick Skerry

London (Dunstable)

OUR first cross-country flights of the year were achieved by Bob King on February 28 going around 200km and Shaun McLaughlin going around 100km. Our airspace to the west has been modified by new bases to the north of Aylesbury from May 11. Trevor Mills must be praised for organising interesting Saturday evening lectures during the winter. The Great Debate Evening on the Golden Era of gliding between Mike Bird and Jay Rebbeck proved it is not all lost in that we are all still enjoying ourselves whatever we fly from golden oldies to newer modern types. Our 2006 cadets have had their introductory day, taking first flights with big smiles and grins. Still bigger wings have appeared on the airfield with a new 28-metre self-launch glider EB28, which has an Eta fuselage with modified Schleicher wings and with a higher top end performance so in theory we should always see the crew back home at night in the bar on opening time. Seventeen competitors flew the Dan Smith Memorial aerobatic contest on April 1-2. Congratulations go to Guy Westgate with Gold, Steve

Jarvis Silver, Mike Newbound Bronze. The Dan Smith trophy was awarded to highest-placed sports pilot Patrick Greer. We host the Junior Nationals in July.
Geoff Moore

Mendip (Halesland)

THIS year started off with consistent east and north-east winds which offer 90° crosswind take-offs and landings and a high probability of being swept into the valley. In an effort to get some serious flying in, a February expedition was launched to seek out the legendary Talgarth wave. Mud there was aplenty but wave was in the hens' teeth category. Undeterred our wave-hunters set out again four weeks later and this time were rewarded with flights which apparently covered most of Wales. The Ed Gardener/Simon Withey partnership came out top of the pile with 10,500ft. Our thanks to Don Puttock for the aerial tours. Thanks also to Andy Whiteman and his small band of helpers for the late/all-night efforts to produce a superb trailer that was not only roadworthy but that both our K-13s fit on to.
Keith Simmons

Midland (The Long Mynd)

THE Dutch returned again with 20 or so people between two clubs, and enjoyed more bungying and hill soaring. We have also had club visits from a number of flatlanders, and also a couple of universities, Oxford and Loughborough, of which one student unwittingly did his five hours! Another Uni student (Birmingham) and new member, Kat Marchin, has gone solo and past member Andy Holmes achieved Gold height in the storming last week of March. Not to be outdone Dominic Haughton surfaced to do a 300km, Mike Witton did Diamond goal and Holmes, Hawley, and Lewis 500km in the cracking first week of April. Twelve members and two gliders made the first club overseas expedition in many a year to Jaca in Spain, and had some very impressive wave flying. Our Task Week is August 19-27: phone the office to book.
David d'Arcy

Nene Valley (Upwood)

THE Annual Dinner Awards were: Marshal Papworth Rose Bowl – Margaret Childs, Life a S**t Award – Paul Daly, Chairman's Shield – Roger Morrisroe, CFI's Shield – Dave Mansfield, Cross-country Gold Award – John Young, Cross-Country Silver Award – Dave Mansfield. We have now got our website updated. The Safety Meeting was well attended. Kevin Moloney from the BGA Safety Team gave an excellent, thought-provoking presentation. In March a member thermal-soared to 6,000ft (climate change!).The annual ten-pin bowling contest against Welland resulted in NVGC winning.
Dave Mansfield

Newark & Notts (Winthorpe)

THIS may well be the last S&G article written at Winthorpe. The impending loss of flying field in June gets ever closer, all flying will cease at Winthorpe on June 11. Negotiations for a move to Newton are on going but slow. Hopefully the next S&G article will be written from my new executive office (shed) at Newton. Whatever happens the club will go on flying; it takes a lot to keep a good pilot down. Congratulations to Amy Sentence, who has done a two-hour endurance to complete her Cross-country Diploma.
Noel Kerr

Norfolk (Tibenham)

OUR well-attended Annual Dinner was once again excellently organised by Bonnie. Trophies were awarded as follows; Chris Lawrence (2), John Roche-Kelly (2), Wade Leader, Eddie Applegate, Ray Hart (6), Martin Aldridge and Bob Bartram. Phil Sillett, Phil Foster and Tim Davies have completed their assistant instructor ratings, Will Day is about to embark on his and Jenny Novak is training to be a BI. Conditions in Norfolk have been exceptionally good (although cold), with plenty of soaring from January onwards. Why not get in an entry for the Eastern Regionals? It is my sad duty to report the deaths of Evan Harris and Geoff Haworth, our thoughts are with their families (see obituaries, p62).
Ray Hart

*Amy Sentance of **Newark & Notts GC**, who has done her BGA Cross-Country Diploma at Winthorpe*

North Wales (Llantysilio)

WITH AGMs both club and national behind us we approach this next season with fresh enthusiasm and maybe some fresh ideas, one of which being a display stand at Britain's largest manufacturer of aircraft wings, Airbus, in North Wales on their family day in June. It is always good to hear of old aircraft being saved, rebuilt and flown and such has been done again by another one of our members, Tony Cummins. A Skylark 2c which had been abandoned turned up in a trailer (not at our club) the owner having retired to Spain. For many years the glider "33" belonged to Dennis Corrick, who may well be remembered by the more senior readers; it was built by Slingsby to be a prototype and as far as we know is unique. Tony purchased it and after many hours of both hard and intricate work flew the 2c at Camp Hill and Sutton Bank last year. It was sad to read in the last issue of S&G the news from Denbigh club of the passing of Ian Hurle, Ian was known and liked by many of our members and he will be missed.
Brian Williams

Northumbria (Currock Hill)

DISADVANTAGED or disabled young people in our area will get the chance to enjoy a gliding experience with our new Northumbria GC Wings Trust, which we have set up thanks to a sizable donation from past chairman Roy Bousfield. Groups of young people will be identified each year, and we will be organising a couple of evening parties a year for them in the summer. Bad weather hit the amount of flying done at Currock Hill in the early part of the year – our field was waterlogged for a fortnight – but members are making the most of flyable days, and income from flying activity has shown a promising start to the financial year.
Richard Harris

Portsmouth Naval (Lee on Solent)

AT the beginning of March the custody of Lee on Solent airfield was transferred from one government department to another as the Defence Land Agency relinquished ownership to the Maritime Coastguard Agency. Despite intense efforts by our club committee, officers at the highest levels within the Navy, our local MP and many other well-wishers, there was no immediate provision for the use of the airfield by PNGC. Thus with effect from March 20, PNGC has ceased operations at Lee on Solent until agreements can be reached with the new operators. Pending a return to Lee, we have temporarily taken up residence at Lasham, to whom we are immensely grateful for the opportunity to continue flying. Understandably, the future of the airfield dominated the club AGM but nothing could prevent the annual redistribution the club silverware. Threat of libel action prevents me from recording some of the less desirable awards, but no such restraint applies to the very well deserved presentation of an Honorary Life Membership to our CFI, Tony World. As the citation notes, Tony makes an enormous contribution to the running of the club besides being CFI and the award is but a small token of gratitude for all his hard work over the years. In the near future the club will continue its nomadic existence, operating from Lasham with expeditions to Yeovilton and Keevil, but we look forward to being able to report our restoration at Lee on Solent in the next Club News.
Steve Morgan

Rattlesden (Rattlesden)

BOD Blanchard has sent two people solo in the K-13: Graham Drewery, who has monocular vision, on February 11 and James Inch on March 12. James converted to the Puchacz a week later. Paul Roche converted to the Astir on April 9. Lorna Willcox passed her Bronze paper at Gransden in March. On April 5 Mark Taylor flew 401km and Graham Hackett got his first half hour. At the strategy meeting it was decided to have a booking system for trial lessons, and a three-month trial of winch launching only before 10am and after 4pm with aerotows only between 10 and 4. The AGM was held on March 11; Lorna Willcox stood down as secretary after serving for five years, many thanks to her for all her hard work; Paul Roche has taken on the role. Brian Partridge, Dawn Goldsmith and Graham Hackett were welcomed as new committee members. Rattlesden hosted the first Inter-club League of the year on May 6 and 7 following on from the flying week.
Helen Page

Scottish Gliding Centre (Portmoak)

THE start of the year has been mixed as far as the weather was concerned, from deep snow and blizzards to some excellent wave days. Those better days, of course, allowed the ladder pundits to start their first steps on to the rungs. We have made some very good use of the Scottish Gliding Association (SGA) ASH 25 this year (see photo on page 55). Our AGM was held in March – John Williams remains chairman for another year, Bruce Marshal stood down from secretary and John Munro was welcomed as our newest board member. All other officers were re-elected. Our winch encountered some serious mechanical problems just before the start of our visitor season in March but thanks to some sterling efforts by our club members, the engine was removed, sent for checks, a replacement engine secured, tested and installed and winch launching restarted – all within six days. Those six days were right in the middle of some very wet and wintry weather so this didn't cause us so many problems as we feared. On the single good day, our tug was put to very good use and completed almost 40 aerotows.
Ian Easson

Shalbourne Soaring Society (Rivar Hill)

EGGS-CITEMENT (geddit?) at Rivar Hill this spring wasn't restricted to our Easter weekend egg-hunt; a fantastic March and April saw some great soaring flights and loads of Silver heights with a special mention going to Sergey Zagrebnev for re-soloing on his first flight after a five-month lay off, then taking an hour and a half on his next launch! Also, many thanks to Lasham for their assistance during our temporary aircraft shortage.
Dave Hailey

Shropshire Soaring Group (Sleap)

AFTER a rather slow start to spring we are now getting some reasonable cross-country flying. Two of our

Club news

members got off to a better start by going to Spain. Those who stayed for the annual dinner nearly got snowed in, while some, from further afield, gave up before arriving. Ric Prestwich was awarded the Mack Trophy more for lifetime achievement than an individual flight. Nick Peatfield received the "Grotty Potty" for his "one wheel on my wagon" achievement. Sadly our ex-CFI, Colin Ratcliffe, has opted to fly from much nearer his home. Colin put in a lot of work for us in addition to being club secretary. I suspect that being able to fly in the Motor Falke during the week also has something to do with it. Chris Fox has taken over as secretary. Matt Woodiwiss has completed his Silver.
Keith Field

Southdown (Parham)

WINTER ridge running gave the cross-country squad plenty of practice, just in time for the glorious spring thermals. On a three-day task weekend at the beginning of April, we flew more than 8,500km, which included several 500km flights. Matthew Brighty has soloed and Guy Westgate won the Dan Smith Trophy at Dunstable for the eighth time. Our AGM was the shortest on record, with no complaints from the floor. The treasurer presented us with a healthy bank balance. Our retiring chairman Dick Dixon was thanked for his leadership during his period of office and we offer our full support to his successor, Craig Lowrie.
Peter J Holloway

South London Gliding Centre (Kenley)

OUR new club manager, Mick Hughes, and his wife, Pauline, have been busy getting the club into shape. With Mick's help, the club has started some improvements to the club's facilities, and the club has been very grateful for all his efforts so far. Our pre-season prizegiving saw Jack Edwards receive the cross-country trophy for having completed his Silver distance and duration whilst still only 16. The *ab initio* award went to Tom Arscott whilst the club award, for significant contribution to the club's operation, went jointly to Trevor Fielder and Russell King for all their hard work over the last year looking after the winches. The Alex Wright Award for outstanding contribution to the club went to Jill Oake for all her hard work running the office. A huge vote of thanks was given to our retiring Chairman Peter Bolton, particularly for all his dealing with our landlords, the RAF, and the club congratulated Adrian Hewlett on becoming the new club chairman.
Marc Corrance

South Wales (Usk)

OUR annual dinner was well attended this year with trophies awarded to: Diamond class – Colin Broom; Intermediate – Enzo Casagrande; Standard – George Robertson and Colin Broom best height gain. The most meritorious flight went to Rod Weaver, best *ab initio* – David Lewis and the Weekend Ladder shield was awarded to Enzo. We have now acquired a lovely Grob 103 to complement our club fleet, partly thanks to the generous bequest from Hugh Evans. This will be of tremendous benefit to Bronze pilots who will be able to fly cross-country and in the mountains with an instructor to improve their technique and skill. Young Adam Deacon now has his first glider – a lovely Libelle, and Ian and Claire a fab Cirrus. We have recently had an influx of new younger members to the club, which is a good sign! Dave Thomas, Si Lewis, Mark Thomas and George Robertson have embarked on their BI training and we hope to have more enthusiastic volunteers shortly! We have already seen a few 300kms and some good wave flights this year and are looking forward to a fantastic season ahead.
Jan Phillips

Staffordshire (Seighford)

MEMBERS have enjoyed a good start to the soaring season. The recent purchase of a Jeans Astir has given a

James Drewery (left) *and Graham Inch were both sent solo in the K-13 at* ***Rattlesden*** *by Bod Blanchard, James in February and Graham in March. Graham converted to the Puchacz a week later*

number of early solo pilots a nice introduction to glass glider soaring and cross-country. Derek Heaton has claimed the Early Bird Trophy for the first 100km of the season from Seighford. There has been some lengthy early cross-country flights – Pete Gill (Open Cirrus), Colin Ratcliffe (Ventus 2) and Rangi de Abaffy (LS4) have all managed over 260km... not quite a 300 day yet! A number of members have made good progress in both flying and theory on the early morning weekend *ab initio* course – thanks to Alan Jolly, Pete Gill, John Bates, Bill Henderson and helpers for their efforts. Alan Jolly is preparing to attend a Full Rating course, whilst Rangi de Abaffy is stepping up from a BI to an Assistant Rating. Following the recent AGM, Bill Henderson now takes over as club chairman. Many thanks to Brian Pearson for all his efforts during his six years in office. Derek Heaton continues as vice chairman and also supervises Friday flying. We will soon be starting our BI evenings – many thanks to Chris Johnson for coordinating operations. We are currently preparing for our annual open days over Easter Weekend. The annual Hangar Dance will take place on June 17 – for info and tickets see *www.staffordshiregliding.co.uk*
Paul (Barney) Crump

Stratford on Avon (Snitterfield)

SITE refurbishments and extensions are ongoing with a new winch and vehicle building attached to the main hangar to give excellent cover for servicing and repairs. We now have both drums of the Skylaunch winch converted to Dyneema synthetic rope following excellent results with more than 1,000 launches to date. Results so far indicate increased launch heights of more than 200ft in all conditions and longer average flying times, increasing club revenue. Congratulations to Martin Biddle and Barrie Smithson on first solos.
A special flying day on Wednesday, April 5 arranged for a few enthusiastic members, with support from volunteer instructor Alan Wright, resulted in a first declared 300km for Phil Pickett (ASW 24), a 100km out-and-return for Dave Searle (K-6cr) and a wave climb to 7,000ft for Martyn Davies (K-18). The task and badge week will start on Saturday, July 22 with emphasis on personal goals and badge achievements. Phil Pickett will be our resident duty instructor assisted by a team of regular winch drivers and ground crew.
Harry Williams

The Soaring Centre (Hus Bos)

CONGRATULATIONS to Nick Hackett on completing the first 100km of the year on February 18, to Tim Treadaway for his five hours and Silver height, and to Steve Turner on completing the first 300km of the year on April 4. Ron Beezer is our new course instructor for the season, and we welcome "Esi" – our Hungarian course tug pilot for this year. We have the following new committee members after the vote at the club's April AGM Richard Putt (Treasurer), Peter Burgoyne, Peter Davies, and Paul Armstrong (committee members). Thanks to the outgoing committee members Toby Wright, Bob Brown, Rory Ellis and Adam Gilmore for all their hard work in recent years. We have new diesel tanks now. We have also launched our new course structure and brochure. Our regionals start on July 22.
Siobhan Crabb

Trent Valley (Kirton in Lindsey)

AFTER much blustery cold weather we are at last seeing spring and the soaring season. Some of our recent Bronze pilots are making the most of the thermals and progressing towards Silver. We enjoyed a successful dinner-dance and prizegiving. Thanks to Ray Parkin for arranging a very informative and necessary first aid session, which we hope we never have to put into practice. Finally I have to report that our CFI Paul Holland retired on May 1 after six years of service and was succeeded by Steve Wilkinson.
Janet Holland

Ulster (Bellarena)

MARCH was an excellent month for wave flying with many flights over 10,000ft and greater heights would have been achieved had oxygen systems been fitted. One flight of over 190km, which included a new turning point of Tore Head at Ballycastle, was also flown in wave. The Bronze course is progressing well with a new group of eager pilots. Our open day was April 29. The refurbishment of our Capstan is well under way but more help is needed from all club members. Plans have been put in place for the re-covering of our Super Cub in September 2006. We have well and truly entered the 21st century with the change from the old paper log keeping system to the more modern computerised system. At the time of writing this we have less than seven weeks until our club trip to Jaca.
Finbarr Cochrane

Vintage Glider Club

THREE 1947-designed Slingsby Kite 2s are restored and airworthy, and their owners like them. The most recent one, at Wycombe Air Park, was restored by a group led by Robin Wilgloss. It is painted blue, has transparent doped underparts and the fin and rudder of a Skylark 2. Peter Underwood has been travelling weekly to the Shuttleworth collection at Old Warden to restore to airworthiness an EoN Eton (SG-38) Primary – believed to be the first glider Shuttleworth have restored. In New Zealand, Ian Dunkley has run two very successful vintage and classic glider rallies.
Chris Wills

Welland (Lyveden)

EARLY spring has been consistently active with the uncharacteristically dry field to fly from and this year's two new Cadets have been welcomed with experiences of soaring flight. The normally small select Wednesday group, first Easter holiday week, expanded to over half the membership and kept the fleet in the air all afternoon with the 6,000ft cloudbase and related their stories on the Yahoo club forum for those unable to escape work to read enviously. Paul Cronk is now an Assistant Rated Instructor and several of our members have passed Bronze Badges and await navigation exercises for the endorsement. Our liaison with NVGC has revealed developing bowling skills in our club, although we came second again, and we shared interest in the BGA Safety Lecture at their venue.
Strzeb

Windrushers (Bicester)

WINDRUSHERS' future is looking more and more secure following an extension of our current lease by

the MoD to at least Feburary 2009. Although still not quite as long term as we would prefer, this is a great step forward and has been achieved through the continued hard work of our committee, in particular Alan Jenkins, our chairman. Many congratulations to Windrushers' treasurer Tim Harrington, who was awarded the prestigious BGA Diploma at the BGA AGM – a very well-deserved award for someone who puts in many hours to help keep the club running.
Rachel Brewin

Wolds (Pocklington)

OOOOH, where to start? Firstly, congratulations must go to Kevin Green and David Wheeler on going solo over winter. A big well done is also due for Dave Holborn, who has just completed his BI course, becoming the club's latest instructor. The brand spanking new Skylaunch has arrived, as did the plasma rope (eventually). At the time of writing we have had only one, relatively wet, week's use out of it however it has already proved very popular with everybody who has had the chance to use it. Work is continuing on the new clubhouse/mansion at a blistering pace and we all look forward to seeing it in action. Early April saw the first of what I'm sure will be many fantastic flights for the club in 2006 with Charlie Tagg and Tim Milner completing a 273km task and Mike Fox a 300. Nice job guys! 2006 also sees the start of the Wolds Gliding Club's cross-country training and development programme, which has been welcomed with great enthusiasm. Later this year we will host the inter-university task week, August 5-13, which promises to be an enjoyable week. Oh, and don't forget to get your entries in for the 21st Two-Seater Comp: there are only a few places left!
Sam Roddie

Wyvern (Upavon)

SOME excellent early April soaring in unstable cool air from northerly winds, and a few short cross-country exploits, have already been flown. Only the LS4b has to complete its C of A programme and the Dyneema on the Skylaunch winch continues to perform with almost no cable breaks, although we are amazed by the damage that can be caused by commencing winching after an unnoticed cable over-run using cable of such high strength. A further QinetiQ Airmanship Programme student, Dan Taylor, achieved his first solo during a short course to provide some more intensive training than can normally be fitted in at weekends and Bryan Somerset converted to the Junior the same day. The clubhouse redecoration has been completed and a new floor laid behind and in front of the bar and in the kitchen and gents loos, making the clubhouse an even more attractive place to relax after flying and boast about 10-knot thermals and 100kt final glides! Finally, congratulations to Corporal Paul Wright, our clarinet-playing military bandsman, on completing his Basic Instructor qualification in time introduce to gliding the hordes that will hopefully descend on us during the summer season.
Andy Gibson

York Gliding Centre (Rufforth)

A glimpse of spring came early with lots of thermalling flights lasting hours rather than minutes from late February onwards. We'd hoped it would be dry enough for our new club companions the York Astronomical Society to locate their new observatory on one of our disused bomber pans in early March. The delivery lorry couldn't make it across the sodden grass and the Portacabin had to be temporarily located on another part of the airfield. So wet was the ground that even two massive four-by-four Manitou forklift trucks couldn't get it shifted. So if anyone knows a friendly Chinook driver who'd like to give her crew a little 'heavy lift' practice, just let us know! Seriously, we're really pleased to be able to offer the Astronomical Society the use of our excellent site at night, with its superb open aspect and low light pollution levels. Members are looking forward to the first Star Party of the summer! Our winter seminars attracted an eager band of Bronze candidates. Congratulations to Steve Atkinson, Terry Moran and Ed Watkinson on passing their Bronze ground tests first time. Special thanks to those who helped deliver the programme and especially to John Northen. Ed Watkinson is really on a roll now. Ed's first solo was reported in only the previous edition of S&G. Since then he's passed his Bronze ground tests and managed to get two qualifying Bronze soaring flights in the depths of winter. In a similar vein, 18-year-old Andy Batty has secured joint sponsorship from the Caroline Trust and the club to train as a Basic Instructor while following his Aeronautical degree studies at Leeds University. Apologies go to Tom Stoker, who was quoted as achieving a distance of 250km in the last edition of S&G. It was in fact 353km at an average speed of some 70km/h! Tom also made a phenomenal climb to 16,400ft in wave on January 11. Well done, Tom!
Keith Batty

Yorkshire (Sutton Bank)

THE gliding movement, the Yorkshire GC and its members lost a good friend with the death of Henryk Doktor on April 14. He shared his wisdom with generations of pilots and his influence on gliding in general and the Yorkshire Gliding Club in particular should not be underestimated. There will be an obituary in the next S&G. The last previous of months have seen plenty of activity at Sutton Bank. We have just taken delivery of a Super Super Falke from Germany, which we plan to use in our standard training syllabus as well as offering SLMG PPL courses from Sutton Bank: if you're interested contact the office. Anyone want to buy a nice Falke?
Annie Smith

Obituaries

Accident/incident summaries by Dave Wright

AIRCRAFT Ref	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
001	K-13	2285	Minor	02-Oct-05	Wormingford	47	None	1265
				1620		31	None	0

After a firm tail-first landing, which caused an unusual cracking sound, the instructor carefully inspected the keel and tailwheel area for damage. Finding none, he flew the glider again. It seemed OK except the trimmer was ineffective. Removal of the tailplane allowed them to see a detached trimmer cable and a completely fractured keel tube.

002	T-61F Venture motorglider	G-BUGV	None	10-Oct-05 1400	Enstone	69 40	None none	8190 0

While on a cross-country navigation training exercise the student had to fly a leg at low level. Over open country the engine of the motorglider stopped and P1 took over to make a safe landing in a field. The fault was a failed mechanical fuel pump. It was noted that the obsolete parts for this type are very hard to obtain or refurbish.

003	Dimona H35 Motorglider	G-KOKL	Minor	29-Oct-05 1355	Rufforth	53 –	None None	220 215

The pilot was being checked out by a motorglider instructor when, after two touch and goes and a go-around due to other traffic, he made a full stop landing. As he applied the brakes there was a noise, which stopped as the brakes were released. The crew then noticed that one wing was very low. They stopped and saw that the left-hand undercarriage leg had delaminated.

004	Ventus 2CT	4805	Minor	07-Nov-05 1500	Camphill	59	None	4411

The very experienced pilot descended into the circuit after a three-hour wave flight. Rather than lower the undercarriage at 2,000ft as normal, he started tidying his maps, notes, oxygen kit, etc. While doing this he flew towards high key, checking on an inexperienced pilot ahead of him. Distracted, he left the gear up then stalled in as he lowered it at 3ft.

005	LS4	5186	Minor	19-Nov-05 1410	Pocklington	–	None	200

Moments before the glider reached flying speed the undercarriage lever shot upwards, hitting the pilot's arm. The glider settled slightly and the undercarriage door contacted the ground and was torn off. It was considered that the previous pilot might have caught the lever with his parachute harness when he exited the glider.

006	SZD Puchacz	5051	Write Off	27-Nov-05 1229	Camphill	52 19	Serious Serious	376 0

After a winch launch to cloudbase the instructor turned into the valley before realising he could not get back to the field. He decided to land in a known emergency field but made a slow turn with wet wings, which resulted in a spin. Both pilots were seriously injured during the ensuing crash.

007	Twin Acro II	3077	Write Off	26-Nov-05 1505	Nympsfield	62 57	None None	392 0

At about 200ft on the launch the winch slipped out of gear. The instructor decided to turn rather than land ahead on the strip, possibly because he was pointing 20° into wind and saw trees and falling ground directly ahead. He initially failed to lower the nose and lost height in the turn, writing the glider off in trees. But neither pilot was injured.

008	Super Cub	G-BTUA	None	16-Nov-05 1500	Shenington	42	None	3000

The aerotow had just reached 1,000ft when the tug pilot moved his left hand down to adjust the trim. As he did so the engine cut out. The glider pilot noticed the tug had a problem and quickly released and landed back on the airfield. The tug pilot realised he had caught the magneto switches with his bulky fleece sleeve and restarted the engine.

009	K-21	–	None	–Nov-05 1457	Incident Rpt	63	None	3192

The club was operating in a restricted area, which resulted in launches taking place while gliders were being retrieved down the side of the launch strip. On this occasion the winch cable ran between two landed gliders and became trapped under a vehicle wheel when a launch was attempted. It was aborted at low altitude and a safe landing made.

010	Ventus CXT	5147	Minor	05-Dec-05 1330	North Nibley Glos	65	None	1700

While returning home after a ridge flight the pilot could not find lift and, below ridge top height, decided to attempt to extend and start his sustainer engine. He appears to have forgotten to switch the ignition on and so the engine failed to start. While making a hurried field landing he allowed a wing tip to touch, which caused a groundloop.

011	Astir CS	4185	Minor	07-Dec-05 –	Kirton in Lindsey	42	None	58

The club was operating three launch lines, which restricted the width available for landing. The pilot decided he would have to land short and to the right of the runway. While concentrating on clearing other gliders he failed to notice a small tree at the side of the runway, which caught the glider's wing. Regaining control, the pilot landed safely.

Eagle-eyed readers may notice that this column begins with the first accident reported in the BGA year 2005-6, which runs from October 2005 to September 2006. The remaining accident and incident statistics from 2004-5, not already summarised in S&G, will appear in a later issue. My apologies for the delay – Helen Evans, Editor

Ralph CG Slazenger – Cambridge University, Cambridge

RALPH Slazenger, founder member of the Cambridge University GC in 1935 and its principal backer both before and immediately after the war, died on February 20 at the age of 91. A scion of the sports-goods family, Slazenger (1914-2006) entered Trinity College, Cambridge, in 1933 and was in his second year at the university when he helped to found the gliding club. The undergraduates had tired of travelling to Dunstable, where Slazenger had a glider, for their flying and took the unusual initiative of founding a club away from a hill site. The very first entry in the minutes of the very first committee meeting, on 25 February 1935, records the election of Slazenger to the committee. He and Oliver Fitzwilliams, another founder member, brought a two-seater BAC VII to the club, and although Slazenger graduated in 1936 he continued supporting the club, becoming an Honorary Member in 1937 (a status that had to be renewed from time to time when club records proved shaky, most recently in 2005). By then he had added a Gipsy Moth to his aerial fleet, and the club used it for its first aerotow, at Duxford on March 5, 1938. The BAC VII did not last long, a minute of 24 April 1937 recording that "Slazenger magnanimously presented the club with £10 which Mr Dimmock had payed *(sic)* for the remains of the two-seater". Slazenger completed his Silver distance on June 26, 1938, one of the few before the war, with a flight from Oliver's Castle near Devizes during one of the club's Wiltshire camps. His generous support for the club was formalised by the creation of his wholly-owned company Cambridge University GC Proprietary Limited, which owned all the equipment until it was transferred to the new CU Gliding Trust Limited in 1952, by which time non-university members were being admitted in increasing numbers. Without this support the club would surely not have survived its early years. After the war Slazenger acquired a two-seater Kranich, which he stationed at Cambridge. It was the mainstay of advanced club flying, holding the UK two-seater out-and-return record at one time. (The pilots, Pringle and Grantham, did not quite make it back to Marshalls, but were within the 1km radius allowed by the regulations.) In 1960 he and his son Michael presented to the club the beautiful Slazenger Trophy, a silver model of the Cambridge I sailplane. When the club that he had nurtured for so long transformed itself into the Cambridge GC in 1996 the student members retained the old name of "Cambridge University Gliding Club" and invited Slazenger to their 70th anniversary dinner, at which he announced his presentation of a further trophy. Ralph Slazenger's passing removes a most generous benefactor, and his name will always be associated with the heroic age of British gliding club development through his patronage of one of the most famous of them both before and after the war.

Anthony Edwards

Geoffrey Haworth – Norfolk

GEOFF was a glider pilot long before he came to Tibenham, endeavouring to organise his work visits as a schools inspector to areas where there were gliding sites. He therefore met plenty of gliding folk, which was quite apparent when they visited Tibenham for competitions, when he would produce his logbook and point out their name entered in it. He never quite completed Silver, lacking the cross-country, but didn't really want to. He was just happy to have a fly and be one of the Wednesday Boys. He would have certainly lost a good talking point if he had, as it was always part of his stories and, my word, he had some wonderful stories to tell. Just after getting his five hours he was to give a lecture at an important function and mentioned this flight to the chairman in passing. He was introduced to the audience as: "The holder of the British Gliding Endurance Record".

AAIB Update

Geoff came well and truly into his own when he met Graham Parker. Geoff's interest in meteorology flourished under Graham's guidance and he became extremely competent. He could alternate with Graham and Jack in doing the presentation. He was a great help to me with competitions. Met Briefing with Geoff in attendance was a thing of pleasure no matter what the weather: roars of laughter and applause even when it was atrocious. Geoff was not afraid to write to the chairman or anyone else when he had a point to make. It was always done very politely, intelligently, and contained a lot of good sense; it always had to be given serious thought. It is impossible to replace a man like Geoff. He had lived a full life, which he had thoroughly enjoyed every minute of. He will live on in our memory for ever.

Woody

Evan Geoffrey Harris – Norfolk

IN THE 30 years I knew Evan Harris (1924-2006), I enjoyed his company, good counsel and friendship, his powers of leadership and achievements. Born into a family employed in agriculture, he attended elementary schools and at 14 left to become a farm worker himself. Along came the war and this was of course a reserved occupation, so he joined the Royal Observer Corps. When he discovered the sport of gliding he was soon flying solo. He progressed to Bronze and Silver, became an instructor and gave regular attendance and good safe instruction until age restrictions prevented him continuing. He still continued to enjoy his own flying, however, until ill health prevented it. Evan became our liaison with the 445th Bombardment Group veterans who were stationed at Tibenham, and became very much involved in the arrangements for their visits. The first large one was at the dedication of the Memorial on the airfield in May 1987, when Evan, as chairman, unveiled the memorial on the club's behalf; his name appears on that memorial. The club pays respect to the 445th and their own dead there on each Armistice Day. It also brought us closer to the villagers of Tibenham, and he cemented a very good relationship with them. He built up and was the creator of the memorabilia of the 445th that is now housed at Tibenham. Whatever project was going on, Evan would be willing to assist. He was elected club chairman in May 1985 and served for four years. Parts of the airfield were being dug up and unless the club could purchase part of it, the runways would be lost and probably the use of the airfield also. Evan took the lead in the negotiations, which covered a long and strained period. Loans had to be raised, all members brought into agreement and there was lots of running around to do. He handled it well and he and I signed the first purchase and agreement in 1987. It was only some time later that he told me he was having his first brush with cancer at that time. When in 1990, as the result of a clause in the previous contract, an opportunity came to purchase the remainder of the airfield, Evan again undertook that important task, which also involved selling of the surplus land. He tackled it with his usual expertise and in 1991 we signed the agreement that gave the Norfolk Gliding Club ownership of Tibenham Airfield – and its first security for 32 years. We shall all mourn the departure of this dear friend who did so much, and our thoughts are with Nell and the family at this sad time, but every time they visit, hear mention of, or read about Tibenham Airfield – and they will, as it is now registered as a site of National Importance for the Sport of Gliding – they can, as we will, think of it as a wonderful memorial to the man who negotiated and secured the airfield and the club's future, Evan Harris.

Woody

In the latest of our regular series gleaned from the UK Air Accident Investigation Branch, here are extracts from the first annual Progress Report on Safety Recommendations submitted to the Secretary of State for Transport by the AAIB. It contains all the recommendations made by the AAIB in 2004, including the responses received up to and including June 30, 2005

Puchacz Glider, Near Husbands Bosworth, Leicestershire, 18-Jan-2004 – AAIB Bulletin: 1/2005

Synopsis: The flight, with an instructor and student on-board, was planned from Husbands Bosworth. Although no-one overheard the pre-flight briefing, it is likely that the primary aim of the flight was spinning training. Witnesses saw the aircraft enter a spin at around 1,500 feet agl and continue in a normal, steeply nose-down, spin with no significant change in the flight path before it impacted the ground. A number of likely explanations for the accident were considered but no conclusive evidence was found. The investigation was unable to dismiss the possibility of pilot incapacitation or of a control restriction/malfunction, and so five Safety Recommendations are made:

SAFETY RECOMMENDATION 2004-065: The BGA require all Gliding Clubs to ensure that instructors and pilots establish and brief students on, minimum entry heights, minimum recovery initiation heights and minimum recovery heights, whenever intentional spinning is planned. These heights should take into account the characteristics of the glider type being flown, the experience and ability of the crew, and the possible need to abandon the glider.

SAFETY RECOMMENDATION 2004-066: The Civil Aviation Authority should review the National Private Pilot's Licence medical standards to confirm that the combination of the Driver and Vehicle Licensing Agency (DVLA) Scheme and National Private Pilot's Licence Information Sheets adequately address the risk of medically induced distraction or incapacitation for instructors and pilots authorised to carry passengers.

Response: The CAA accepts this recommendation. The CAA Safety Regulation Group (SRG) Safety Plan contains a Safety Intervention which requires an annual review of the National Private Pilot Licence (NPPL) Medical Standards with a report to the SRG Executive Committee. Two reports have been given since the Licence was introduced, and the 2005 report (due in March) will incorporate this recommendation to review the NPPL medical standards to confirm that they adequately address the risk of medically induced distraction or incapacitation for instructors and pilots authorised to carry passengers.

CAA Action: The report was presented to the Executive Committee of the CAA on February 21, 2005.

SAFETY RECOMMENDATION 2004-067: The BGA should undertake a review of their medical standard requirements to assess whether it remains appropriate for glider pilots with any valid instructional ratings to give flying instruction in gliders whilst only in possession of a valid DVLA Class 2 Medical Declaration.

SAFETY RECOMMENDATION 2004-068: It is recommended that the BGA require regular inspections to be conducted on the left wing bevel gear support structure associated with the airbrake actuation system of the SZD Puchacz glider, paying particular attention to the bond between the gear support web and the inner face of the wing root rib.

SAFETY RECOMMENDATION 2004-100: The Civil Aviation Authority should re-emphasise the advice to pilots concerning the need to discuss with their treating physician and/or GP, any changes in medical condition, treatment, or the need for additional investigations not previously thought necessary when renewing or applying for medical documentation in relation to a flying licence.

Response: The CAA accepts this recommendation. The explanatory notes to the Medical Declaration which pilots with a National PPL are required to sign, and the CAA website advice, have been changed to re-emphasise that pilots should discuss with their treating physician and/or GP any changes in their medical condition, their treatment or the need for additional investigations, at any time, not just when they are renewing or applying for medical documentation in relation to their licence. This will be further re-emphasised to all General Aviation pilots by an article in a forthcoming GASIL CAA safety publication.

Sports Vega Glider T65D, Wormingford Airfield, Colchester, 23-Jun-2002 – AAIB Bulletin: 7/2004

Synopsis: This accident was the subject of an investigation conducted on behalf of the AAIB by the BGA. Further investigation, concerning the apparent failure of the pilot's restraint harness, was undertaken by the AAIB. A practice 'competition finish' was being attempted when the glider descended below tree top level but failed to climb again due to insufficient energy. The aircraft crashed through the upper branches of the trees and came to rest in a field. The pilot was released from his harness during the impacts. He sustained serious injuries and the aircraft was damaged beyond economic repair.

SAFETY RECOMMENDATION 2004-046: The BGA should review the document "Maintenance of seat harnesses and belts" so as to reflect best industry practice and to provide clearer guidance for airworthiness inspection.

The following two accident reports come from recent AAIB Bulletins and can be found at *www.aaib.dft.gov.uk/publications/bulletins.cfm*

Scheibe SF28A, G-BARZ (Year of Manufacture: 1973)
Limbach SL 1700-EA1 piston engine
4 July 2005 at 1010 hrs, Lydd Airport, Kent
Nature of Damage: Minor damage to right wing
P1: PPL (Motor Gliders), 65 years old with 800hrs flying experience (of which 450 were on type)

The aircraft, a 16-metre span low-wing motor glider, was taxiing on Taxiway Alpha in preparation for taking off from Runway 21 at Lydd. Located either side of the taxiway were two posts set in the ground amongst weeds approximately three feet high. The post on the left supported a sign, whilst the sign for the one on the right lay on the ground. As the aircraft passed by, the right wing contacted the post on the right, which punctured the plywood skin of the aircraft's outer wing. The Fire Officer at Lydd, who was at the airport at the time of the incident, reported that the signs are being replaced and that taxiing procedures are under review.

Europa, G-SYCO (year of manufacture: 1996)
1 EA-81/118 piston engine
December 9, 2005, at 1430hrs, Draycott Farm, near Swindon, Wiltshire
Nature of Damage: Fracture in rear fuselage and damage to right landing gear leg
P1: NPPL, 69 years old with 846 hours (of which 33 were on type). Last 90 days, 5hrs. Last 28 days, 2 hrs

The aircraft bounced on landing and the right landing gear leg failed, causing the aircraft to 'ground loop'. The pilot was landing on Runway 18 at Draycott Farm, which is a grass runway 700 m in length. The weather was fine, with good visibility and light winds, though the runway surface was damp. A curved approach to the runway was required due to the presence of farm buildings in the approach area. The pilot reported that full flap had been selected and that the approach was normal. However, the aircraft bounced on landing and, as it touched down again, the right landing gear leg failed just above the wheel axle. The damaged leg then dug into the runway surface and the aircraft ground looped, coming to a stop. The first part of the landing roll was uphill and the pilot opined that this, together with the handling characteristics of the type and the rough grass surface, could have contributed to the accident.

BGA Badges

No	Pilot	Club (place of flight)	Date
UK 750KM DIPLOMA			
55	Robert Welford	Cambridge	7.8.05
DIAMOND BADGE			
709	Andrew Farr	Heron (Minden, USA)	29.8.05
Diamond distance			
1-1051	Errol Drew	London (New Tempe, SA)	12.1.06
1-1052	Andrew Farr	Heron (Minden, USA)	22.8.05
1-1053	Michael Pettican	London	8.8.05
Diamond goal			
2-3124	Colin Stevens	PNGC (Minden, USA)	26.8.05
2-3125	William Hosie	Lasham	16.5.04
2-3126	Peter Waugh	PNGC (Minden, USA)	26.8.05
Diamond height			
3-1660	Marcus Rowson	Midland (Minden, USA)	29.8.05
3-1661	Andrew Farr	Heron (Minden, USA)	29.8.05
3-1662	Peter Waugh	PNGC (Minden, USA)	29.8.05
3-1663	Bob Bickers	Lasham (Omarama, NZ)	17.1.06
GOLD BADGE			
2399	Colin Stevens	PNGC (Minden, USA)	28.8.05
2400	Andrew Farr	Heron (Minden, USA)	29.8.05
2401	Nicholas Woods	(Benalla, Australia)	31.12.05
2402	Andrew Cluskey	Buckminster (Omarama)	17.1.06
Gold distance			
Colin Stevens		PNGC (Minden, USA)	28.8.05
William Hosie		Lasham	16.5.04
Nicholas Woods		(Benalla, Australia)	30.12.05
Gold height			
Mike Slade		Dorset (Omarama, NZ)	7.12.05
Ian Surley		Borders	13.1.06
Andrew Farr		Heron (Minden, USA)	29.8.05
Nicholas Woods		(Benalla, Australia)	31.12.05
Andrew Cluskey		Buckminster (Omarama)	17.1.06
Bob Bickers		Lasham (Omarama, NZ)	17.1.06
SILVER BADGE			
11621	George Robertson	South Wales	16.7.05
11622	Mark Dawson	Bidford	7.8.05
11623	Adam Darby	London	21.8.05
11624	Anthony Bartlett	Black Mountains	28.1.06
11625	Stephen Riddington	Soaring Centre	21.1.06
AEROBATIC BADGE			
Spts Kwn	David Ockleton	Club not stated	28.7.00
Std Kwn	Kate Byrne	Scottish Gliding Union	1.4.06
Std Kwn	Peter Sharphouse	Scottish Gliding Union	14.4.06

Classifieds

Please send the text of your classified advert to Debbie Carr at the BGA office (not to the editor) – *debbie@gliding.co.uk*. Call 0116 253 1051 if you have any queries about classified adverts.

Please remember that, if you are emailing text, your advert may not appear unless we have received payment by post or credit card by the deadline. The deadline for classifieds to be included in the August - September 2006 issue of *Sailplane & Gliding* is **July 3 2006**, after which any adverts received will be published in the following issue.

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

FOR SALE

ASTIR 77 One or two quarter shares based at Lasham, modern instruments, trailer, covers, oxygen, one man tow-out. £1600 each. Contact 02380 553942

NIMBUS 4 DM Year 1997, 4.300 hours, Rotax Engine overhall, full panel including, LX5000 Transponder, LX20 logger, Oxigene, Jaxida many extras. Information e-mail: condor@grn.es Web: www.grn.es/condor

DISCUS CSWL 1994. Immaculate condition, Cambridge 302 and 303, Filser ATR500 radio, ipaq with winpilot, winter mechanical vario, ASI, altimeter. Horizon. Cobra trailer new 2005. £31 000 David 01798 867342

STEMME S10 – quarter share in a 1991 example of this high performance two-seater kept rigged in a private hangar at Lasham. £20 000 to include share in hangar. Jim Lyell 01962 868492, e-mail: jim.lyell@bitlink.co.uk

LIBELLE 301. 38:1, 15M, flaps, top/bottom airbrakes, Becker radio, Tail parachute, covers. CofA. Hangared and ready to go. Offers to Emma or John Dobson on 01604 585457

MAULE M7-235. Reg G-BKGC. Excellent tug, 3/4 seats, low hours, 9 / 10 . For full details contact Barry Walker 07836 779168. E-mail: sales@bwalker.com

VENTUS 2CT 18M, 1999, 300 hrs, L Nav, GPS, Becker, oxygen, full kit. Cobra. Contact 07812 108497 or 01772 783431

GRUNAU BABY 11B. Built 1941 in design factory with open German built trailer. New Cof A . 01252 512952

150HP SUPER CUB. Reg G-OTUG. Fantastic condition. For full details contact Barry Walker 07836 779168. E-mail: sales@bwalker.com

SHARE IN DUO DISCUS For Sale Based at Aboyne. £6000 e-mail to Richard.arkle@gmail.com

SAILPLANE AND GLIDING Volume 24 February 1973 – January 1974 (small format). Volumes 25 – 56 February 1974 – January 2006. Three missing (April/May 1979, April/May 1988 and December 2002/January 2003). Offers to Andy Anderson (East Yorkshire) Tel: 01964 542904 E-mail: andersonoldrec@btconnect.com

STD LIBELLE 201B. Wing tip extensions, flaps, 1975, new CofA. With trailer. £8500 Tel: 07718 761528

OPEN CIRRUS 17.7M – Low cost, 43:1 performance. Comprehensive instrument panel, trailer, parachute, one man rigging aids. Current CofA. Same syndicate 14 years. Pilot's age forces sale. £8950 Tel: 01237 431306

K6e (DHT) Full panel including radio, plus Garmin 55, EW barograph and Thomas parachute. Schofield metal trailer with tow out gear. CofA to end Feb 07. Based at Nympsfield. £4000 Tel: Dave Wilkinson 01453 842366

ASK23b Good trailer with recent overhaul, parachute, full instruments, Garmin GPS 97, total flying hours 2590, total launches 4405, recent CofA. £16 500 ono. Tel: 01384 834114

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HELLO REG GOLDSMITH (Ref Peter Tredaway's ASK13 syndicate). Do call me, Colin, on 0208 9546511 (or on planchette if you are now over there). Best Regards wherever you are.

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