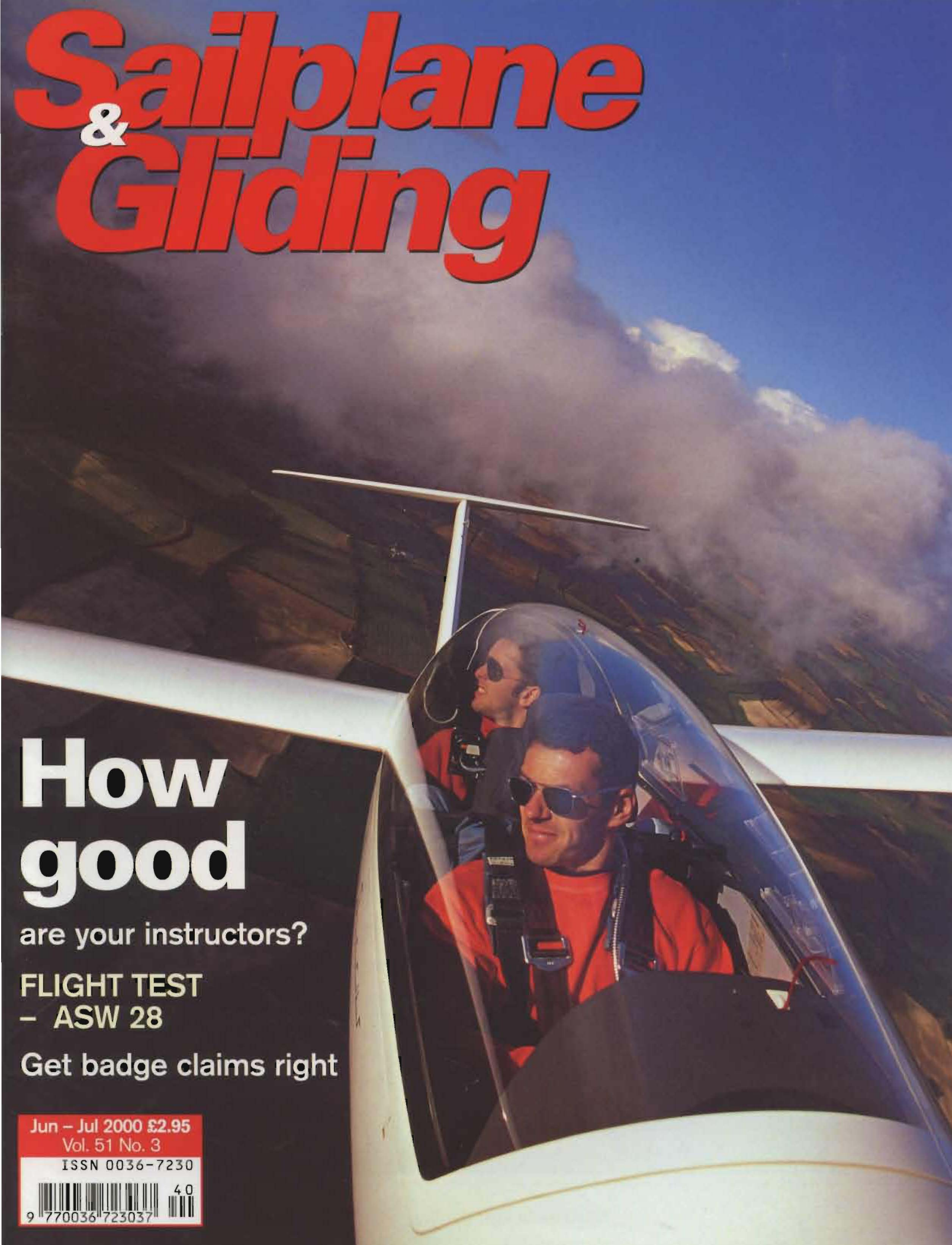
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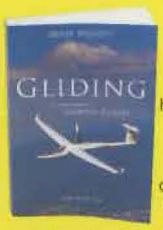


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The magazine of the
British Gliding Association

June ~ July 2000
Volume 51 No 3

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Your contributions are welcome. If you would like a guide for contributors or want to discuss your idea for an article with the editor, please feel free to get in touch by email, letter or phone.

Deadline Dates

August ~ September

Articles	June 13
Letters	June 13
Club News	June 13
Advertisements	June 26
Classifieds	July 5

October ~ November

Articles	August 15
Letters	August 15
Club News	August 15
Advertisements	August 25
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This glorious picture of a Duo Discus, which accompanies the article by Graham Morris about instructor currency, shows non-instructors Neil Lawson (front) and Pete Masson. You can see another image from this shoot on p22. Nose mount supplied by Terry Joint. the white planes picture co.

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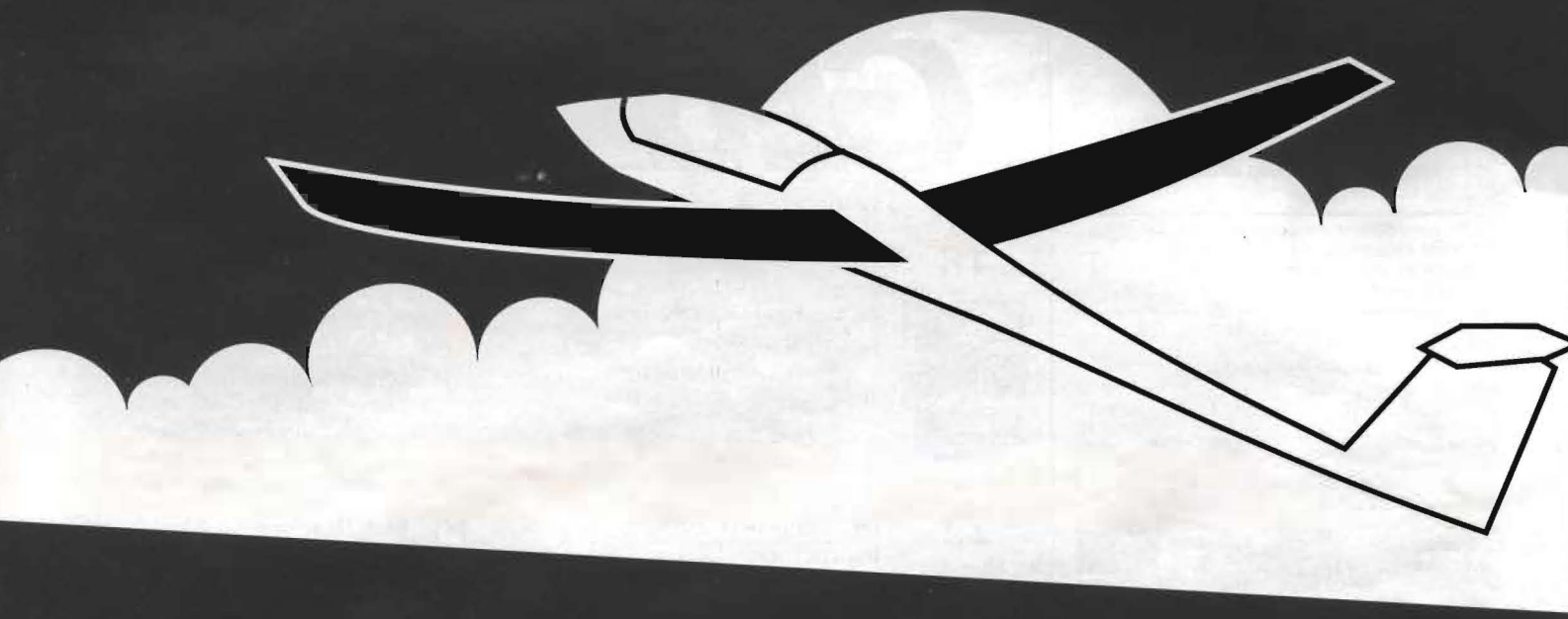
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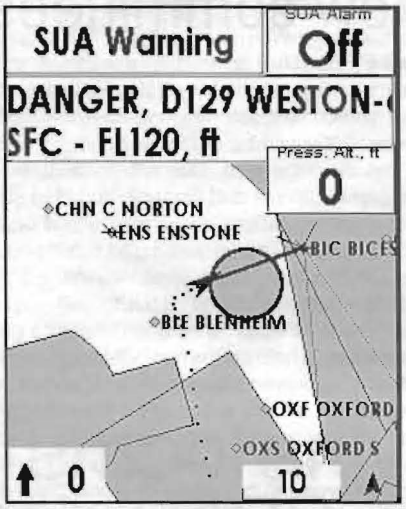
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BGA and General News

From the Chairman



LIFE SEEMS to be all about targets and deadlines. It must be fate that I end up writing this piece whilst my syndicate partner is enjoying the best day of the year so far, at least in the south and west of England (Sunday, April 30). But it's my day tomorrow.

When, after 18 months or so on the Executive, I became Chairman in February, I set myself some personal targets for the role.

First and foremost, I determined that the libel case brought against the BGA in 1997 had to be resolved without putting the BGA at risk of liquidation even though it strongly denied the allegations of libel.

Secondly, to set the BGA on a course for the future that would be of continued relevance and value to the Association's member clubs for the long term.

Thirdly, in a rapidly-changing environment, to work towards retaining and increasing freedoms for gliding in the UK and elsewhere within a framework of self regulation and responsibility, and, if appropriate, co-operating far more pro-actively with other airsports bodies to achieve that goal.

Of course I have other targets, too. But for the moment let me update you on the three I have outlined.

On page 12 of this issue the BGA has published a joint statement with Chris Rollings following the conclusions of negotiations to settle his libel claim against the BGA and my predecessor as Chairman. The High Court trial had been set for June 6 onwards. By working throughout the Easter weekend an out-of-court settlement was reached.

I should like to thank the Executive Committee for their solid support in this process and one member particularly, Mike Jordy, who worked tirelessly with me to achieve the conclusion to the case. With *S&G* approaching its production deadlines there was not sufficient space to publish further details and therefore at the time *S&G* is published I will have written to club chairmen with further information for club notice boards.

Chris Rollings has signed a non-disclosure undertaking in this matter, but he recognised the BGA is accountable to its member clubs for more details than are published on page 12.

Now that this case is settled, the BGA can focus on the future. To that end, and following on from the Project 2000 work in 1998/99 the Executive Committee met for two days early in April for a strategic workshop. This proved valuable in looking into the future to determine the priorities for the gliding movement, to establish a refreshed vision and a new set of goals.

The work is aimed at producing a long-term strategic plan which it is intended will be presented as a discussion draft to club chairmen in the autumn, following which, with their support, the intention is to present it at the AGM next February.

The detailed work will be taken forward through the new Strategic Planning and Finance sub-committee, for which a few suitably qualified volunteers would be welcome (contact the BGA Secretary, Barry Rolfe, at the Leicester office on 0116 253 1051 or email *barry@gliding.co.uk*).

Discussions and negotiations, led by Terry Slater, continue with the Civil Aviation Authority over the future regulatory framework for gliding in this country. The BGA is making good progress, but there is much detail to come. Indications from these discussions are that the old saying that the CAA stands for 'Campaign Against Aviation" should be put on the shelf. I believe the greatest challenge facing us now is the protection of airfields from which to fly. We need to work even more closely with other aviation bodies to counter the threats that arise far from CAA headquarters – in the local authorities and planning committees, and in communities close to airfields.

As we start what we all hope will be a good gliding season, let's remember why we take part in this sport and what we all need to do collectively to ensure its successful future. We need to work as a team with clear goals in sight.

Most important of all, please fly safely.

David Roberts
Chairman, British Gliding Association

Appointments to new committees

THE EXECUTIVE committee of the BGA, at its May meeting, appointed chairmen to the two new sub-committees resulting from the BGA's Project 2000 working group.

The formation of the sub-committees – Strategic Planning and Finance, and Marketing and Communications – was announced at the BGA's AGM in February and interested people were invited to put themselves forward.

BGA Chairman David Roberts will initially chair the Strategic Planning and Finance sub-committee, to help get the first five-year plan written and approved. Ian Godfrey, a committee member at Lasham, will chair the Marketing and Communications sub-committee, within whose remit *S&G* will fall. Ian leads Lasham's marketing task force and his professional background is in sales and marketing for the boating industry. He has a DG 800A based at Lasham. If you are interested in serving on either sub-committee, please contact the BGA.

Safety award for glider pilot

DUNSTABLE instructor Peter Goldstraw (below, right) was presented with a certificate and silver medal by Chris Mullin MP, Minister for Aviation, at the annual CAA General Aviation Safety Awards in April. The scheme recognises people whose outstanding airmanship, practical skills, quick thinking and common sense have averted a serious incident or accident. Peter, one of six finalists, was runner-up to Dennis Kenyon, a display pilot who had a tail rotor problem at Biggin Hill Air Fair. Peter's award arose from the K-21 lightning strike (February-March issue, page 26). Despite being dazed, he made sure that student Graham Cooper left the aircraft safely before jumping out himself. Peter's pre-flight briefing had covered procedures for abandoning the glider and using the parachute.



BGA and General News

Colditz PoW dies

JUST AS this issue went to press (and too late to alter Plat's column on page 16) we heard the sad news that Jack Best MBE has died at the age of 87. One of the Prisoners of War who built the Colditz glider, he was interviewed for the last issue (*How they did it at Colditz*, page 27). Jack took the trouble to ring me in April to say how much he enjoyed the resulting feature and its photos. For my part, I felt privileged that I had had the chance to interview him for that article. He was generous with his time: a charming interviewee with a good sense of humour and a fascinating story to tell. I am sure that everyone involved with the replica will be delighted that he lived long enough to see it fly. And John Lee, who made the replica's wings, says Jack would have been pleased it has found a home at London's Imperial War Museum, where it was due go on display in a temporary gallery from the end of April – a tribute to some brave and resourceful men. **Helen Evans**

Lottery results

Winners of the March draw were:	
JE Bowman (first prize)	£65.75
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J Delafield	£12.90
J Hewett	£12.90
K Moules	£12.90
PJ Fincham	£12.90
S Hill	£12.90

Thank you, Dick – welcome, Jim



AFTER 25 years of devoted service to the BGA, Dick Stratton retired as Chief Technical Officer at the end of April, handing over to Jim Hammerton.

The Association's thanks go to Dick for his many years of service and for managing our airworthiness system in a practical, no nonsense manner which has kept maintenance costs to a minimum while achieving an exemplary technical safety record over his years in the post. At the BGA Conference in February, the Association presented him with a watch to thank him for his loyal service. His enthusiasm remains undiminished and he will continue as a member of the Technical Committee. We welcome the retention of his knowledge and experience.

Jim (pictured at the head of the column) joins us after a distinguished aeronautical engineering career in the service sector of the airline industry, most recently with British Airways Plc. Over the past 14 years he has made his mark with the Association, helping run a BGA M3 maintenance facility at Parham which has given him exposure to our movement and the joys of maintaining tugs and motorgliders. He will soon become a familiar figure as he travels the country meeting inspectors and auditing repair facilities.

Temporarily more sure of your GPS position...?

YOUR GPS has been up to ten times more accurate since May 1 thanks to a decision by the US Government to discontinue "Selective Availability" (SA) – a deliberate degrading of the signals.

The decision, President Bill Clinton said, was "supported by threat assessments which conclude that setting SA to zero at this time would have minimal impact on national security. We have demonstrated the capability to selectively deny GPS signals on a regional basis when our national security is threatened."

The move will increase your existing receiver's accuracy from a previous best of 100 metres to at least 20m, perhaps 10m. No hardware or software upgrade is needed. If you want accuracy to within one to five metres, you will still need differential GPS.

The decision is part of an initiative to make GPS more responsive to civil and commercial users. Some of the new features are on up to 18 more satellites already awaiting launch or in production. The service will continue to be free in order to discourage rival entrants into an $8bn dollar industry (expected to double to $16bn by 2003) which has four million users.

Instructors "on duty" definition

A MEETING between BGA executive members and the Association's insurers is to be held to discuss the BGA policy's definition of "on duty" for the future. The Executive will report on progress as soon as it reasonably can.

IGC meeting at Lausanne

NEWS FROM the IGC's recent meeting at Lausanne is at *www.glidingmagazine.com* – the new website backed by the Soaring Society of America, and edited by Gillian Bryce-Smith, formerly of *Sailplane & Gliding*.

CAA and BGA agree tug pilot revalidation scheme

MANY OF YOU will be aware of the changes introduced into power pilot licensing under the "JARs".

One of the requirements for PPL revalidation, which is now based on a two-year cycle, is a one-hour "Instructional flight".

We are pleased to report that the Civil Aviation Authority has agreed the BGA can appoint Examiners and Instructors to carry out these flights within our clubs, thus removing the need to go to a flying club or school (and pay someone). We will shortly announce further details.

The system will be regionally based, managed by a "Chief Tug Pilot Examiner", and we currently envisage around 30 instructors will cover all of our needs. These will be BGA appointments, run in a similar manner to the Gliding Instructor Regional Examiner system.

Key personnel have already been identified, and will soon commence standardisation work with the first instructors.

We continue to negotiate with the CAA on other related matters, and in particular are working towards an easing of the onerous and expensive JAR Medical requirements, and an improved scheme for the regulation of motorgliders.

Contrary to many reports in other aviation journals, we can report that our relations with the CAA are very cordial and productive, so please try to be nice to them when you meet them.

Terry Slater
Chairman, BGA Instructors' Committee

Letters to the Editor

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

Credit where it's due?

IN RECENT months I have received through the post offers of annual travel insurance from several major credit card companies purporting to include cover for hazardous activities at a small additional premium.

On enquiry, it would seem that we pilots are being discriminated against because they refuse to cover individuals engaged in piloting either light aircraft or conventional gliders. At the same time, they are quite prepared to cover bungee jumping, hang gliding and parachuting!

Despite many telephone calls, I have been unable to elicit any reason apart from "it is not company or underwriter policy". Are our accident statistics really that bad?

By the way, I am 5,000-ish hours, accident-free glider/private pilot.

Ron Armitage, DOVER, Kent

Another way to help your juniors

READING Terry Slater's article (*How to help your juniors*, April-May, p6), it was very gratifying to see the BGA urging clubs to encourage young people to take up gliding. But there is a lot more the BGA can do to help.

We are a very small gliding club in an area where, in general, young people cannot afford to take up a hobby such as gliding, much less buy their own glider. However, we also try to encourage them as much as possible by offering a very low annual membership fee to juniors (£20) and by charging scouts and youth groups £10 for a trial lesson. Of this £10, we have to pay the BGA £1, or ten per cent. A larger club may charge £500 for a week's course, and of this they also pay the BGA £1, or .002 per cent.

Now, it doesn't take a genius to work out that there is something rather wrong here if the BGA want to encourage clubs to give young people the opportunity to fly. We simply cannot afford to fly people for nothing, but are penalised for reducing our rates. One wonders whether the BGA want gliding to be seen as an elitist sport by only encouraging those who have plenty of money? How do other clubs in our situation feel about this?

Geoff Hicks, CHAIRMAN, Channel GC

David Roberts, BGA Chairman, replies: The BGA Executive have been considering subscription revenue issues over the last few months and a consultative questionnaire on the whole issue is being prepared. This will be sent to all club chairmen.

Even older, bolder pilots

AMONG letters to the Editor in the February-March edition of *S&G* (*Old, bold pilots?* p8), Keith Mansell asks if 152 years constitutes an English aggregate record for the crew of a two-seater glider. The answer is – no.

On June 11, 1996 Bert Gallagher had his first flight in a glider at the age of 81, and promptly joined Shalbourne Soaring Society.

On June 19, 1998 he completed his first solo flights (three). At present he is still on checks and his most frequent checkers, Geoff Nicholls and John Day, are aged 70 and 72 respectively, which with Bert's present age of 85 years aggregates to 157 years. One hesitates to claim this is a record as all involved hope it will be improved upon!

Clive Harder, SECRETARY
Shalbourne Soaring Society

First flights in Scotland

I HAVE been researching a demonstration of gliding which was made on June 20-21, 1931 at Loss Hill, near Stirling, which included what I believe to have been the first soaring flights ever made in Scotland.

I am keen to obtain photographs of the pilot, Carli Magersuppe, and of the sailplane used, which was a Fieseler "Kassel" Doppelsitzer. This machine had previously been operated by the Scarborough GC, and was later sold to a group at Dunstable.

Any readers who can help me, please feel free to get in touch at:

10 Gordon Crescent
Newton Mearns
Glasgow G77 6HZ
tel 0141 639 4103
email: *bruce@flyinghigh.freeserve.co.uk*

Bruce Marshall, GLASGOW, Scotland

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

Raising the profile of gliding as a sport

IT WAS interesting to read Diana King's letter (April-May, page 9) on the Sports Council's perception of gliding. It seems to me that the main imperative of this debate is to secure additional funding for our sport and I agree wholeheartedly with that. But there are other reasons for raising our profile and various ways of disposing of any additional cash from a successful bid.

More and more often we hear about demands on UK airspace, such as the debate on the future use of RAF Finningley as a commercial airport. The greater our visibility in the general aviation arena, the better-placed we will be to compete on issues like that.

On a different tack, there are a number of adventurous pursuits widely available to our youth – such as scuba diving, sailing and mountaineering – which provide challenges of skill in their unique environments. Apart from hang gliding, perhaps, I believe only gliding provides a similar challenge in the air and so its availability is crucial.

We should also not forget that the UK has a vast aviation heritage. I for one am proud of our achievements in aviation and see enhancing gliding's image as one way to hang on to our piece of aviation history. Finally, we should try to maintain and enhance our international reputation, which is already impressive, through strong competition performances.

Turning to the 'how' of raising our public profile, I made a list of the usual tools: advertising, open days, public displays, and so on. Basic instructional flights are widely available, but how many are given as gifts to family and friends or as charity raffle or auction prizes? Corporate expeditions are again widely used to promote our sport. I am in the process of organising my second with a third on the horizon. I feel we should all be boring our friends to death with gliding! In the end they'll want to try it if only to shut us up. Our club offers 'cadetships' to young people, do others?

Lastly, how about charity fund-raising: 'flyathons' on midsummer's day or 10p/km on your next cross-country? These ideas may be a drain on short-term resources and effort, but they also create public awareness of gliding.

So, assuming the 'why we need it' and the 'how we get it', we turn to the 'what to do with it'. I personally don't want or need additional Sports Council funding and I suspect this is true for the majority of my gliding buddies. But gliding as a whole does need this public support if it is to flourish and allow wider public access. We need to consider less fortunate sections of our communities. I know gliders have been adapted for disabled use exist, but they are not common. Perhaps every club should have one? I am reminded of a chap I once met who organised a gliding trip for children from Chernobyl. It happens, so let's have more of it – its great PR! And finally, yes, let's have funding for our national team, especially the youth. They play a major part in flying the flag overseas and deliver the prestige and competitive achievement that the Sports Council will find it difficult to ignore.

Laurie Clarke, via email

European 1-2-3 wins women's team Royal Aero Club trophy



THE SUCCESSFUL team which took the top three places in the 1999 Women's Europeans was given the Prince of Wales Cup by Prince Andrew at the Royal Aero Club (RAeC) Awards in April.

Gillian Spreckley, Sarah Harland and Lucy Withall (*pictured above, from left*) won, respectively, Silver, Gold and Bronze in the Standard Class at Leszno: the only clean sweep of podium places in an international FAI gliding competition. "A stunning result for British gliding", the citation said.



Belgrave & Portman Photography

A Certificate of Merit went to Steve Longland (left) at the same ceremony. Steve's meticulous illustrations have been familiar to *S&G* readers for many years and are just a part of the work he undertakes for gliding. The RAeC citation said: "The clarity of his work has added considerably to the reputation of this well-known magazine. Steve Longland's contribution to British gliding instruction has been outstanding, whilst he has ably demonstrated his practical skills as a club instructor, CFI and Regional Examiner". His work on the BGA Instructors Manual and its future companion volume achieved new levels of best practice, it said.

BGA Executive

IN THE LAST issue we began a series of photographs of the Association's Executive Committee, featuring newly-elected members Malcolm Sanderson and Claire Thorne. Pictured now are Terry Slater (right), who also chairs the BGA Instructors' Committee; Keith Mansell (below right) from Midland GC, who is the BGA's treasurer and Lemmy Tanner (below) from Cotswold GC. The remaining members will feature in the August-September issue of *S&G*.







Dates for your diary

June

3-11	*Regionals* (Bidford motorglider)
10-18	*Championships (Club Class)* Wolds GC, Pocklington
23–25	***PFA Rally*, Cranfield, Beds Helpers required for BGA stand. please contact Terry Slater or the BGA Office (0116 253 1051)**
24-Jul 1	*Millennium Vintage & Classic Glider Rally* Derby & Lancs GC, Camphill
24-Jul 2	*Nationals (Open/18m)* Cotswold GC, Aston Down
30	*Deadline* for applications for Air League flying awards: see *www.airleague.co.uk*

July

1-9	*International Vintage Sailplane Mtg* Nat. Soaring Museum, Elmira, USA: email *nsm@soaringmuseum.org*
8-16	*Nationals (Standard Class)* London GC, Dunstable
15-23	*Regionals* (Bidford)
18-28	Guild of Aviation Artists' annual exhibition, Carisbrooke Gallery 63 Seymour St, London. Open 11.00hrs-19.00hrs (to 21.00hrs on Thursdays;14.00hrs on July 28)
22-27	*Rendezvous Rally (Vintage)* Kent GC, Challock
22-30	*Regionals* (Husbands Bosworth)
22-30	*Regionals* (Booker)
28-Aug 6	*Vintage Glide 2000* Norfolk GC, Tibenham
29-Aug 6	*Regionals* (Sutton Bank)
29-Aug 13	*European Championships* Lüsse, near Berlin, Germany

August

5-13	*Regionals* (Nympsfield)
7-18	*Regionals* (Inter-Services, Bicester)
14-Sept 1	*Two-seater comp.* (Pocklington)
19-29	*Nationals (15 Metre)* Lasham Gliding Society, Lasham
19-29	*Regionals* (Lasham)
19-29	*Regionals* (Dunstable)
19-29	*Regionals* (Gransden Lodge)
26-Sept 3	*Championships (Juniors)* Oxford GC, Weston on the Green

September

3-9	*Regionals* (Aboyne)
9-10	*Elliots of Newbury Rally* (Lasham)
16-17	*Design your own aeroplane,* Royal Aeronautical Society Light Aviation Group Conference, Bath University. Design competition also running. RAeS Conference Office, 4 Hamilton Pl, London W1V 0BQ

Provisional UK competition dates for 2001:
May 14-25, Overseas Championships
Jun 30-Jul 8, 15 Metre Nationals, Booker
Jul 14-22, 18 Metre Nationals, Tibenham
Jul 14-22, Club Class Nationals, Husbands Bosworth
Jul 28-Aug 5, Open Class Nationals, Lasham
Aug 11-19, Standard Class Nationals, Nympsfield
Aug 25- Sep 2, Junior Championships, Aston Down

The right to roam?

THE COUNTRYSIDE and Rights of Way Bill has just had its second reading in the House of Commons and is now at the committee stage.

The original intention of the Bill, as stated in the Labour Party Manifesto of 1997, was to allow public access, on foot, to "open countryside" – that definition to include mountain, moor, heath, down, extensive grazing land, forestry, woodland, foreshores, river frontages and cliffs.

Will gliding benefit?

There are unlikely to be direct benefits. The gliding movement has never supported the principle of unrestricted access to the countryside. Most farmers and country landowners appear to be opposed to this legislation and we have no wish to antagonise either our own landlords or those who frequently act as our unwitting hosts when we land out. The BGA has built up a very good relationship with the farming community and wishes to preserve that position.

Will gliding suffer?

It might. If unrestricted access were extended to include airfields and gliding sites, then we might have a serious problem on our hands in trying to control and exercise duty of care to people claiming a right to roam across our runways and landing areas.

However, the wording of the Bill currently with the Standing Committee protects such sites by providing for "exclusions" or "excepted land" which (at Schedule 1, Part 1) specifies developed land including "land used for the purpose of a golf course, racecourse or aerodrome".

Unless that wording is amended, the proposed legislation should not have any adverse impact upon gliding. But if amendments are introduced which remove the proposed protection for airfields and flying sites and allow unrestricted access to the general public, the gliding movement will need to make representations before the final reading in the House of Commons at the end of May or when the Bill progresses to the House of Lords, later this summer.

What about other airsports?

Proposed amendments define unrestricted access to prevent the new freedoms being used for the purposes of paragliding, hang gliding, hot air ballooning and other airsports activities where no previous permission exists. That has given rise to some concern, expressed by the relevant sporting associations, although existing arrangements do not appear to be threatened – only the unrestricted right to roam.

We shall need to keep a close eye on the passage of the Bill, which is expected to become law before the end of this year.

Roger Coote, BGA Development Officer

Beverley celebrates silver

Barry Rolfe, Secretary of the British Gliding Association, presents Beverley Russell with flowers from fellow workers at the Leicester office to mark her 25 years' service to the BGA.

If you have claimed your Silver Badge, ordered a competition number or subscribed to *Sailplane & Gliding* through the BGA, you have reason to be grateful to Beverley, who looks after these areas of work.

"We've very much appreciated all the hard work she has put in over the years," said Barry. "Beverley started when the Association moved from London to Leicester in Easter 1975."

Beverley – who is too modest to want to be quoted even in the magazine she works on – also received a Rotary watch and a crystal vase as a thank you from the Association.



Site updates

THE TRUSTEES of the BGA's Planning and Environment Fund have decided to support another gliding club threatened with the loss of its site. After months of wandering in the wilderness, North Wales GC found a new home (*Club News*, April-May 2000). The site is close to Llantisilio Mountain, near the Horseshoe Pass, about ten miles west of Wrexham. It has all the ingredients for a superb gliding site: large field, willing landowner, soarable ridges, wave, thermals – but it has no planning permission.

In 1999, the club occupied the site, obtained CAA cable launching consents and flew lawfully for 28 days, as a permitted development (under the General Development Order, 1995). The club's application for planning consent to change the use of the field from agriculture to a gliding site was recommended for approval by the local authority's planning officers but was rejected by the elected members of the Planning Committee.

Llantisilio has enormous potential. The club has been advised that it has a sound legal case to appeal, so a public inquiry is likely to be held later this year. The North Wales GC's future depends on this Appeal being upheld. This is yet another occasion when the fighting fund, to which all BGA members contribute, will be used to help a club in difficulties and for the greater benefit of the sport in general. That is exactly what the fund was created for.

THE SCOTTISH Gliding Centre's safeguarding officer, Tony Shelton, reports some successes in a long-running planning saga.

There are now no overhead pole lines across Portmoak airfield approaches. Sport for Scotland and the local council provided funds for a deal with Scottish Hydro Electric to bury all the high and low voltage supply cables around the airfield.

The principles of Portmoak's airfield safeguarding procedure are now accepted into the final draft of the revised Local Area Plan. These planning development guidelines are expected to be cleared through the public appeal stages later this year to give the airfield long-term protection from prejudicial neighbouring developments. The Scottish Gliding Centre will also have an aviation safety input into the council's future planning processes in the area.

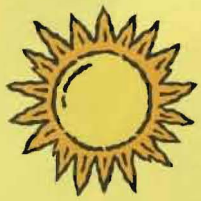
Conflict of use continues with the equestrian centre at the east end of the north field. Although planning consent for a house at the equestrian centre has been refused and the local authority agrees to refuse any further equestrian developments, the proprietors have a licence which entitles them to teach people to ride horses directly against the airfield boundary.

Visiting pilots please note that the club is obliged to maintain public safety in accordance with the ANO by restricting flying operations over the equestrian centre.

Roger Coote, BGA Development Officer

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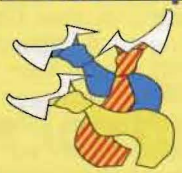


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VISA

BGA and General News

Lasham celebrates 50 years of gliding

A MILESTONE in British gliding will be celebrated over the weekend of 24-25 June 2000 when Lasham Gliding Society members, together with any and all other glider pilots who wish to join the festivities, will mark 50 years of gliding at the airfield.

A gala dinner will be held on the evening of June 24, at which 400-plus pilots and their friends will dine in a marquee. The following day, as well as displays normally seen only at major airshows, pilots will demonstrate the various arts of flying and gliding. There will also be ground displays and stalls.

Gliding at Lasham started when Tony Deane-Drummond, then Chairman of the Army Gliding Club, moved its operation there in 1950. A year later the Surrey and Imperial College Clubs also moved in. By 1954 other clubs had joined and in 1958 Lasham Gliding Society was created. Since then, Lasham members, together with the visiting pilots who are always welcome, have worked relentlessly to make Lasham a true centre of excellence and provide the best gliding (and fun) which members desire – and which makes the sport so appealing.

Last year, after 50 years of battle, sweat and tears, Lasham managed to buy the airfield 's freehold – making gliding secure there for ever. It is an irony of fate that Lasham, today probably the largest gliding centre in the world, will always be a fitting tribute to one of the great founders of our sport – Robert Kronfeld – who was killed testing a military glider from the site just two years before the Army Club moved in.

Walter Kahn



Derek Piggott discusses circuit planning at Lasham with Brenda Horsfield sometime in the 1950s. There is an anniversary exhibition of historic photos at the club

APPENDIX TO THE CONSENT ORDER SIGNED ON THE 26th APRIL 2000

JOINT STATEMENT BY THE BRITISH GLIDING ASSOCIATION AND MR CHRIS ROLLINGS

The BGA and Mr Chris Rollings wish to announce to the gliding community that, prior to trial, they have reached a legally-binding settlement in respect of the libel action initiated in 1997 by Mr Rollings against the BGA and Mr Dick Dixon, the then Chairman of the BGA.

Background Facts

Mr Rollings was employed by the BGA as National Coach from June 1988 until his employment was terminated on 5th November 1996. The BGA's action was confirmed by accredited representatives of BGA gliding clubs at an Extraordinary General Meeting of the BGA on 2nd February 1997.

In May 1997 the BGA reached a settlement with Mr Rollings in respect of his claim for unfair dismissal. The legally-binding settlement at that time comprised two elements. Firstly, a financial component and secondly an agreed statement to be published in Sailplane and Gliding magazine. The financial component was expedited on a timely basis by the BGA but the production of an agreed statement was initially delayed.

In the meantime Mr Rollings sought advice from new lawyers, as a result of which he initiated a libel action against the BGA and Mr Dick Dixon in connection with written statements made by the BGA preparatory to the EGM. The libel action had the effect of overtaking the outstanding issue of an agreed statement for publication. A statement was neither produced nor published by the BGA.

Interests of the parties in reaching a settlement

After nearly two and a half years of preparation for the libel trial, all parties now recognise that, whatever the respective merits of their case (as plaintiff or defendants), a jury trial carries risks that are not in the longer-term interests of either the BGA or Mr Rollings. Therefore the parties have agreed to settle this dispute out of court, with no admission of liability whatsoever.

With the benefit of hindsight, all parties regret that the commitment placed upon the BGA in May 1997 to publish an agreed statement was not met. Further, and also with the benefit of hindsight, Mr Rollings regrets that he allowed his lawyers to initiate the libel action before pressing home his right for an agreed statement.

Bar to further action

The settlement now reached is in full and final settlement by all parties of all claims (if any) howsoever arising against all or any of them, and precludes Mr Rollings taking any further action of any sort against the BGA and/or Mr Dixon, arising directly or indirectly out of his past employment by the BGA, or arising out of any act or omission or matter of whatever kind affecting the BGA, Mr Dixon or Mr Rollings up to and including the date hereof.

Settlement details

These comprise, firstly, a statement by the BGA, agreed by Mr Rollings, and set out below. Secondly a financial settlement which recognises a variety of factors that have adversely affected Mr Rollings since May 1997 and that affect the BGA's future liabilities whether or not the BGA were to be successful in its defence at trial. The form and quantum of the settlement is set out in the consent order a copy of which has been sent to Club Chairmen. The settlement will form part of the BGA's published annual report and accounts for the year to 30th September 2000.

STATEMENT BY THE BGA CONCERNING MR ROLLINGS

In his contract of employment Mr Rollings had the right to further certain of his other business interests in gliding and to have reasonable personal use of BGA-owned gliders, subject to certain conditions. Failures in communication in 1996 between the parties led to the situation whereby Mr Rollings' employment was terminated.

The BGA wish to make it clear that, genuinely, it has always had the highest regard for Mr Rollings' exceptional skills and experience as a glider pilot, coach and instructor.

Dated the 26th day of April 2000

Signed by Howell & Co
Solicitors for the
British Gliding Association
and Dick Dixon

Signed by Christopher Rollings
Plaintiff in Person

Aerobatic pilots beat the weather to start season

THE DAN Smith Memorial Aerobatic competition takes place at Dunstable at the beginning of each season. It is an excellent opportunity for aerobatic glider pilots to meet and to demonstrate how rusty or otherwise they are after the winter hibernation.

This event took place over the weekend of April 1-2 and was supported by some 14 entrants and the infrastructure of aerobatic judges and club members from the London GC to make it all happen. The contest was directed by Ray Stoward who demonstrated why he had been awarded the cup for the best aerobatic contest director by the British Aerobatic Association in 1999.

Order	Pilot	Overall %
1	Mike Woollard	76.575
2	Glyn Yates	74.359
3	John Gilbert	72.763
4	Jon Bastin	69.672
5	Roger Graham	69.175
6	Andrew Cunningham	67.202
7	Paul Crump	66.096
8	Paul Conran	65.905
9	Stephen Lewis	62.868
10	Malcolm Hodgson	62.465
11	Alan de Tourtoulon	62.348
12	Chris Cain	53.687
13	Daniel van Balen	47.285
14	Victoria Grayson	42.372

All pilots flew K-21s

Unusually, the weather was awful. By Saturday night only three competitors had flown. The prognosis for Sunday's weather suggested a contest scrub, which would have been the first since records began. However, after a good contest dinner on Saturday night and a clearing of hangovers on Sunday morning the clouds rose enough to allow a limited programme to be flown by all competitors before they once again rolled back by mid afternoon.

The overall winner was Mike Woollard with 76.575 per cent followed by Glyn Yates with 74.359 per cent who also took the Dan Smith memorial trophy for the highest placed sports category pilot. John Gilbert third with 72.763 per cent.

There was an encouraging number of new entrants to this competition including a Belgian Daniel Van Balen who only started flying aerobatics at Dunstable late last year and who came 13th with 47.285 per cent. Another pilot, Roger Graham – an accomplished unlimited power aerobatic pilot – came 5th with 69.175 per cent after only his third flight in a glider for ten years.The safety pilot sent up with him proved wholly superfluous to requirements. It is to encourage such pilots that this competition exists and despite the weather it achieved this purpose.

BGA and General News

Falling numbers close Enstone Eagles GC

SAILPLANE & GLIDING is sorry to report the closure of Enstone Eagles GC after more than 30 years of operation.

The club, near Church Enstone in Oxfordshire, has been struggling to attract *ab initios* for several years, according to chairman Mike Weston.

"The problems we went through certainly aren't unusual in the rest of the gliding movement," he said.

The decision to close was taken at its AGM in April, after soundings suggested that fewer than 20 people would renew their membership. The club is expected to be solvent on dissolution. A modified K-7 (K-10), all that remains of the club fleet, was for sale at the time of writing, and the grass strip and control tower used by the gliding club will revert to the landlord.

Members are expected to disperse to several different clubs rather than move en masse to one.

The last day of operations at Enstone was due on May 7.

S&G hopes to look back at the club in the August-September issue.

Scotland takes all Ladders' top rungs

THE MORE observant will notice that, aye, there is a somewhat northern feel to the Ladders at the time of writing. While other clubs have submitted scores, alas thermals down south do not generally start until March 15, so their results do not feature in the upper reaches of the Ladders.

The scores so far are very impressive for this stage of the season, so well done to pilots in Scotland who have used the wave for going sideways as well us upwards. The rest of us, I am sure, will be doing our best to catch up by the time the next *S&G* is published. Next submissions, please, by the end of May 2000.

John Bridge
National Ladder Steward

OPEN LADDER

Position	Pilot	Club	Score	Flights
1	Kevin Hook	Scottish Gliding Centre	5823	4
2	Steve Nutley	Scottish Gliding Centre	4871	4
3	John Williams	Scottish Gliding Centre	4172	3
4	Tony Brown	Scottish Gliding Centre	4088	4

WEEKEND LADDER

Position	Pilot	Club	Score	Flights
1	Steve Nutley	Scottish Gliding Centre	4871	4
2	John Williams	Scottish Gliding Centre	4172	3
3	Kevin Hook	Scottish Gliding Centre	3668	2
4	Tony Brown	Scottish Gliding Centre	2892	2

JUNIOR LADDER

Position	Pilot	Club	Score	Flights
1	Gavin Goudie	Scottish Gliding Centre	2394	3
2	Neil Irving	Scottish Gliding Centre	551	3
3	Alisdair Wilson	Scottish Gliding Centre	80	1

Brits in the Europeans

THE BRITISH team competing in the European Gliding Championships at Lüsse near Berlin from July 29 to August 13, 2000 has been confirmed as:

Standard Class
Peter Harvey, Ed Johnston and Tim Scott

Open Class
Ken Hartley, Mike Young

15-Metre Class
Steve Jones, Al Kay and Dave Watt

Ted Lysakowski Awards

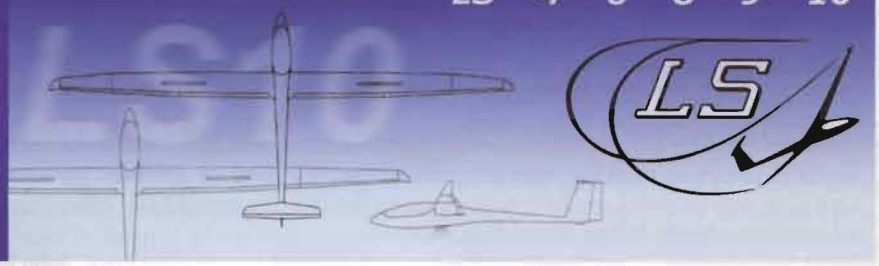
APPLICATION forms from the Ted Lysakowski Memorial Trust should be with your CFI in early June. The 2001 awards – open to UK-based pilots of any experience level – are expected to include a cross-country course, mountain flying at Rieti and competition experience with a nationals-level pilot. The closing date is October 31, 2000. You can also get forms from George Metcalfe, the grants committee chairman, on 01489 578603 or *George_Metcalfe@uk.ibm.com*

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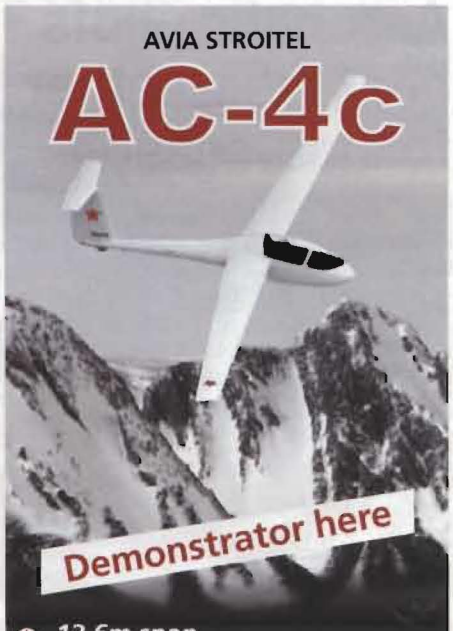
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- 16 Dec: 1550 km dist
- 29 Dec: 1833 km ▲
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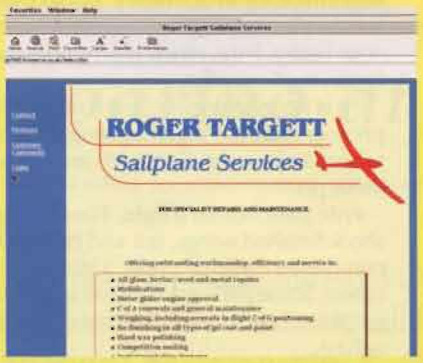
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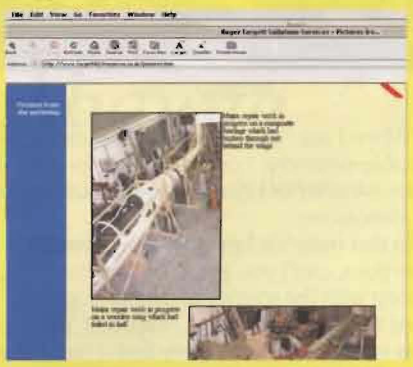
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Tail Feathers

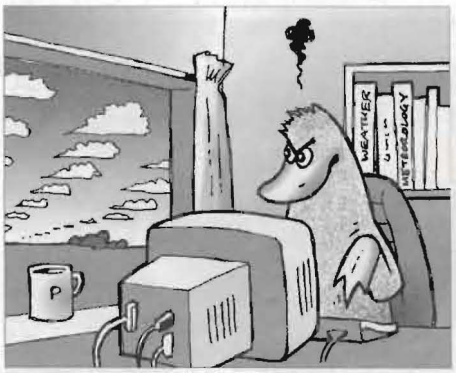
Platypus

Another superb soaring day down the tubes

I AM SEATED here bashing out this piece of trivia while fat cloud-streets, against a background of brilliant blue, gloat at me through the window of my London study overlooking the Thames. Ostrich-like – can you imagine a cross between a Platypus and an ostrich? Yecchh! – I have dealt with that humiliation by drawing the blinds. The damn cloud-streets are still there, though. I can hear them quietly sniggering at my rage.

"What happened? Wasn't it your day to fly? Was the glider unserviceable?"

Yes, it was my day. Yes, the glider was in good order, following months in intensive care after a prang not (for once) occasioned by me. I am not flying because I believed the forecast (steadily thickening cloud and then rain) and told my partner he could fly the ship, which he did with great effect. At least the aircraft did not sit there unused, which is something to be thankful for. He lives near the club and I live a good hour's drive away. The combination of a two-hour round trip and a poor forecast generally makes me plan other ways of using my day, such as charity work. Which is what I call churning out words for the BGA's organ.



fat cloud-streets

When I say "a poor forecast", I utter a *double-entendre*. I could mean a forecast of poor weather or I could mean a lousy piece of forecasting.

In this instance I mean both. Come on you guys, can't you get it right? What is wrong with the science of meteorology?

At the time of the total eclipse of 1999 it was noted with some irony that it had been possible to predict the precise hour and minute of the celestial event two hundred years ago, but it wasn't possible to predict even two hours ahead whether the crowds gathering in Cornwall would be able to see the eclipse. (They couldn't see it but had a great party anyway.)

You could retort that if I lived in the country, just five minutes from the club, I could have made the decision to fly at the last moment, as soon as the weather changed and the sun came out and made fools of the forecasters. But I am an unabashed Townie. I absolutely love the countryside when viewed from 5,000ft, but I don't actually want to live in it. It is full of mad cows, rabid foxes, chronic thieves and trigger-happy landowners. If I make it to age 75 I shall do the opposite of my friends who take off to Dorset or Devon, and retire to a service apartment in Piccadilly, with easy access to fine restaurants and free art galleries, free buses, free trains. By then, of course, I shall have stopped whingeing about the gliding weather – even if you guys have learnt how to foretell it, which I very much doubt.

Why they never uncovered the Cock

Colditz Castle 1945, night-time. A grey-haired German sergeant stumbles urgently into the bunkhouse where his colleague is sleeping.

"Heinz!! Heinz!!"

"Sheisskopf, it is three o'clock in the verdammt morning! What is it?"

"I have discovered something going on amongst the prisoners. The Tommies are building a segelflugzeug in the belfry!!"

"You think I am total Dummkopf? Pull the other leg!"

"Nicht verstehen. What is Pull the Leg, bitte?"

"Ach, I have been listening to the prisoners for months on my bugging-phones, and have picked up too much Englander slang. I almost speak like one myself. Pull the leg is Tommy-speak for having a joke at someone else's expense. You pull my leg most frightfully well with the joke about the segelflugzeug in our belfry. But to use another Tommy saying, you have bats in your belfry, Fritz. Hoch Hoch, now the joke is on you!"

"It is no joke, Heinz, it is stark fact. I have photografiert the segelflugzeug through a schpei-hole in the floor with my Leica. See these pix!"

Fritz switches on a light. Pin-sharp prints show finished wings, tail and partially-completed fuselage under a steeply-sloping rafters. Some parts are covered in a distinctive gingham cotton fabric. At this sight Heinz is aghast.

"Schwein-hundts!! Sons of b-"

"That is no way to speak about our guests. They are offiziers and gentlemen."

"The bleeding offiziers and gentlemen have nicked the Commandant's pyjamas, two table-cloths and six bed-sheets to cover their wings. Last month the Kolonel sent Private Schnitzler to the Eastern Front for thieving, and now I realise poor Schnitzi was innocent as he claimed."

"We must tell the Commandant immediately!"

"Do you think that is a good idea? Just think, use your noddle. What happens if we all zoom up the old apples and pears, storm the belfry, arrest the would-be escapers and wreck the segelflugzeug?"

"We get the Iron Cross third class, or maybe second class, from a delighted Commandant."

"The best thing that can happen is he that he refrains from shooting the two people who mistakenly denounced poor Schnitzi as a black-marketeering tea-leaf – namely you and me. If we survive that, all the energies that the Tommy prisoners are now putting into constructing a glider to go over the wall will be diverted into digging tunnels under the wall. And that means..."

"Anti-tunnel patrols down in the cellars. Listening on headphones in the cold and damp for days and nights on end! All that sort of thing gives me the most dreadful rheumatism. It's like the trenches in the old days. No thanks."

"I like the way you're thinking. Now, matey, what is the absolute worst thing that can happen in the next few weeks?"

"The Russians get here before the Americans?"

"You're dead right, old fruit. And if the Reds get into this place before the Yanks, what will you and I need most, my dear old oppo?"

"A means of escape!"

"Spot on, my dear boy. And where is our means of escape?"

Fritz pauses, then silently points at the ceiling.

"That's right. Up in our little belfry, waiting for its captain and passenger. So what do we tell the Commandant?"

Fritz silently presses his forefinger to his lips.

"You've got it in one. Shtumm, laddie. Shtumm! Now go to bed."

Heinz lies back in his bunk and switches off the light. In the darkness, listening with great care, he now understands the strange nocturnal noises he has been hearing recently.



pin-sharp prints

"Oh I say, what delightful music that is!"

High above, the muffled but unmistakable sound of hammering, sawing and drilling can just be discerned.

I'm Alabammy bound – hang on, no I'm not!

I was browsing (am I still allowed to use that expression in its old sense of idly surveying what's available, as in a real bricks-and-mortar-and-cats-and-dust-everywhere second-hand book shop, or has Bill Gates copyrighted it and slapped a fee on anybody using the word?) through gliding-related items on the internet a couple of years ago. I wondered if entering my name in Yahoo! would generate any results. To my horror, it did. "Why horror?" you ask, "surely your bloated ego can stand any amount of mentions on the World Wide Web, assuming they are not defamatory or threatening personal harm?" Well, what horrified me was a series of highly-flattering announcements that I was very shortly to be a major attraction in some faraway location (a good 7,000-mile round trip) where I would be giving a brilliant speech to an audience of about a thousand soaring pilots and their spouses. I sank back into my chair in hard-breathing relief when I discovered that I had already given that brilliant speech in Alabama many months previously. The announcement on the Web had simply not been deleted after the event had passed into history. If I'd had my New York lawyer friend with me I would have sued for the near-seizure that the careless web-master had caused this frail old geezer to suffer.

One English club, which I looked up by accident because its initials are the same as my home club, is still regaling us with the innocent fun and games it had in Jan 1999, but nothing of note seems to have happened in the past 15 months. (It is April 18 as I write.) If anything has happened, they are keeping very quiet about it. Maybe the fun and games became a lot less innocent but we're in no position to pursue that line of enquiry. Talk about throwing stones from glass-houses... However, it is time that this site, charming though it is, was updated or deleted.

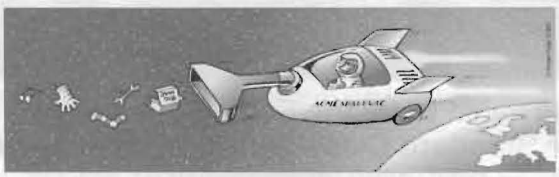


a major attraction

Defunct bits of web pages are like space junk. I have always thought that there ought to be a gigantic Hoover going round the Earth scooping up all that dangerous detritus, except how you operate a vacuum in a vacuum I don't know. Similarly, used-up web sites ought to binned automatically. Wake up there, spring-cleaning required! Think about the frail old geezers, and if that doesn't move you, think about their far from frail New York lawyers.

More thoughts about copyright

Nothing to do with gliding, but Madame Editor says there is a column-inch or two spare, so I'll share this idea with you. Our Chancellor of the Exchequer hopes to make some £20 billion (that's £20,000,000,000) from auctioning UK mobile phone licences. As soon as he has spent this (about a couple of months, I should guess) the next,



a gigantic Hoover going round the earth...

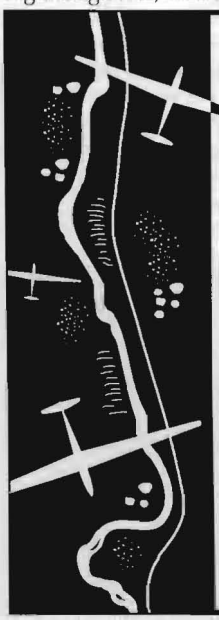
Playpatented wheeze for raising funds, on which I only wish a tiny percentage for myself, is for the Government to take all great works of English literature back into copyright and auction them off to private companies. The collected works of Shakespeare could probably bring in £50 billion, Dickens maybe the same, and the King James Bible £100 billion at the very least.

Anybody using even two words from a famous author, however inadvertently, would be charged a fee by the new owners, especially if the words were uttered in print or on television. "More sinned against than sinning" would cost you a fiver for raiding King Lear. Misquotes would attract heavy penalties on account of the damage they do to the originals. Thus "Fresh fields and pastures new" would cop a £10 Milton-abuse surcharge on top of the fiver, since as you all know it should be "Fresh woods and pastures new."

"But of course private conversations, such as in the pub or on telephones, would not be subject to this monstrous impost?" you splutter. You must be joking. That's where the real loot lies, since Bill Gates himself would, at a price, soon show writers how to circumvent the more expensive quotations while at their word-processors. Casual speech would be a costly minefield, under day and night surveillance by the Quote-Police. "Privacy?" they'd snarl. "What's that?"

"Silence is golden" (Thomas Carlyle, £3.47 plus VAT) would take on a new meaning. But Platypus would be able to afford the next generation of Eta at 33m and 77 to one, for just one million smackers. So there would be a silver lining.

The Platypus Papers: fifty years of powerless pilotage (160 pages, 100 cartoons) costs £19.95 plus £3.50 p&p from *www.hikoki.dircon.co.uk* tel 01252 319935, email *hikoki@dircon.co.uk* and from the BGA shop (see page 40 for more information)



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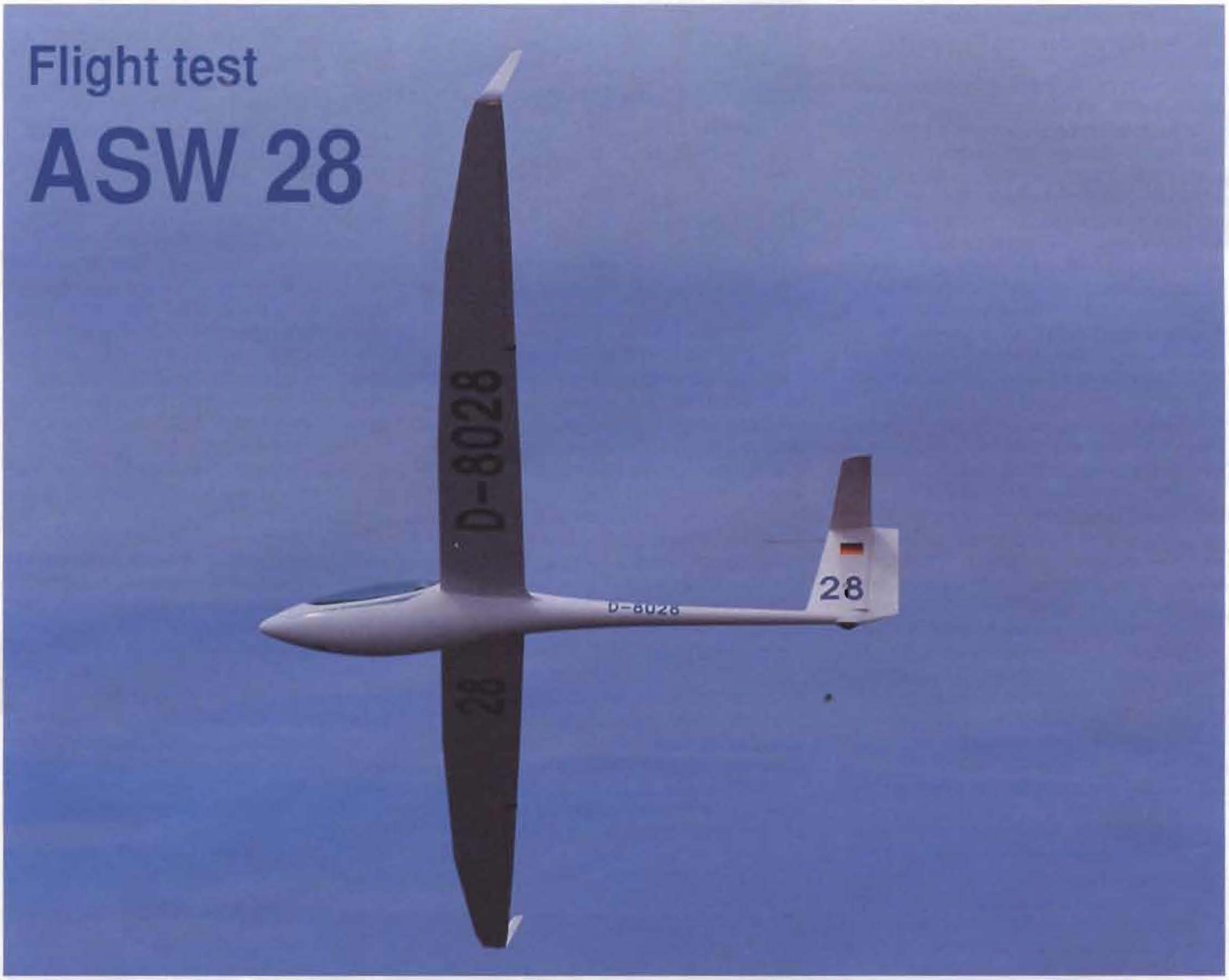
Wave Bookings
Mary-Rose
Tel: 01569 730687

All Other enquiries
Roy Dalling at the Club
Tel/Fax 013398 85339

DEESIDE GLIDING CLUB

Flight test

ASW 28



Jochen Ewald was the first journalist to fly the Schleicher ship which joins the Discus 2 and LS-8 in the 'new generation' of Standard Class gliders. Here he gives his first impressions

THE MARKET for Standard Class gliders is big. Competition pilots and clubs are among the many customers always looking for new, better equipment. Improvements not only in performance but also in handling characteristics have led to a new generation of Standard Class gliders, competitive at World Championship level yet so safe and easy to fly they can be used as first single-seaters by clubs. Over the last few years, the LS-8 and Discus 2 filled the competition rankings (and the order books of their manufacturers). Now Schleicher hopes to pull into the overtaking lane with Gerhard Waibel's new design, the ASW 28.

On March 23, 2000 after final touches in the factory, such as drilling the "blowing holes" to the correct points calculated by Loek Boermans (who came from Delft in The Netherlands for the birth of his latest wing) the ASW 28 was taken to the historic Wasserkuppe site for its maiden flight. The factory's airfield in the valley below was too wet after heavy rain the day before.

Following this first flight, by factory boss Edgar Kremer, the Schleicher test crew tried it, including his son Peter, Martin Heide and Gerhard Waibel. They all climbed out of the cockpit with broad smiles – apparently it behaved just as they expected. A month later, I was offered the chance to try the prototype for myself with a test flight at Schleicher's Huhnrain factory airfield.

Familiar feel

If you've flown one of Schleicher's recent creations, like the ASW 24 or ASW 27, you will find that the ASW 28 has a familiar feel. The elegant fuselage with its characteristic canopy shape was taken from the ASW 27. The structure of this fuselage is optimised for safety, using polyethylene and carbon fibre composites – a combination which is lightweight and highly energy-absorbing in the event of a crash. The undercarriage, too, has been designed to take high loads and absorb energy in controlled deformation should the worst happen. The controls are self-connecting. As usual with Schleicher gliders, the tailplane is secured by a vertical screw (as in the ASW 27), fixed to it when derigged. The head of this stands above the surface when not screwed in so that a disconnected tailplane is easily identifiable. (The factory can retro-fit this system to older Schleicher gliders). The winglets are each held on by a screw which I hope will be replaced by a non-loose part for production.

The wing, with its high winglets and 10.5-metre^2 area, is completely new. The DU 99-147 profile was developed for Schleicher by Loek Boermans. It has a long laminar section and blowing holes as turbulators to kill the laminar separation bubble. It is designed to resist the effects of microturbulence often found in thermals but hard to simulate in wind tunnels (see *Tackling microturbulence*, page 21). It really is the latest technology.

In the wing, big integral water tanks allow up to 230 litres of water ballast, enough for even light pilots to reach the maximum

take-off weight of 525kg (empty weight is 235kg). This enables the wing loading to vary from 29-50kg/m². An additional five-litre tank in the fin allows the c of g to be adjusted when the ballast is in; its dump valve operates automatically when those of the main tanks are opened.

The cockpit with its adjustable backrest is ergonomically designed – even allowing a bit more space for tall pilots – although the waterballast lever is going to be changed as it is not very comfortable to operate. To reach the baggage shelf (with boxes for two batteries), you move the headrest forward. A further battery box is fitted in the fin, which can be used by heavy pilots to adjust their c of g. The canopy swings down with the mushroom-shaped instrument panel, and is closed at the frame by two white levers. The two red levers in front of them jettison the canopy. They disconnect the canopy from the panel and pull it backwards. The rear of the canopy is designed to hook into the fuselage frame, acting as a 'Röger-hook' to make sure it would fly off upwards without hurting the pilot.

While the prototype ASW 28 is equipped with a four-point harness, Gerhard Waibel is already aware of Tony Segal's tests (see *Six-point belt on test*, April-May, page 30) and is awaiting JAR certification of any six-point harness before using it in his gliders.



Above: ASW 28 in flight. Below left: landing on its first day of flying. Below right: the cockpit from lower than eye level

Take-off

I flew the ASW 28 at about 325kg take-off weight and a normal-to-slightly-heavy c of g position. For the aerotow, I used the nose-hook which, as in most Schleicher gliders, is under the front of the fuselage and nicely protected by an elastic cover. The winch hook is in front of the main wheel and covered by the undercarriage doors when the wheel is retracted.

My first impression on take-off was that, with immediately-responsive ailerons and a light but well-damped elevator, the ASW 28 behaves just as instructors would want a first single-seater to. In spite of a crosswind, and turbulence behind the trees along the narrow factory strip, the glider was calm and stable. Although the cockpit side seems higher than in other gliders, visibility is good and the canopy design is no problem. The ventilation system, with inlets in the front of the canopy and on the right hand wall of the cockpit is quiet and provides a good atmosphere for the pilot. Retracting the wheel, the lever on the right, is very easy; though at the end of the travel the elbows of tall pilots may touch the rear end of the console.

The ASW 28's flight characteristics are a testimony to the design experience of Gerhard Waibel: if you include the Akaflieg Darmstadt D-36 which he built with Klaus Holighaus and Wolfe Lemke while studying, the ASW 28 is his tenth design and his fourth Standard Class glider. (He is also responsible for the ASW 15, 19, and 24.)

Minimum speed is signalled by the controls starting to feel soft, a little bit above 70km/h; slight buffeting starts and becomes stronger as the glider approaches the stall at 68km/h. With the stick fully back, a slight staggering starts, but is very easily controlled. If a wing drops, moving the stick forwards stops a spin developing. The ASW 28 is just as docile in turns.

With the airbrakes out, the stalling speed is indicated at 73km/h and the stall is stable. The opened airbrakes make a significant noise – a deliberate feature to alert pilots flying with the brakes out by mistake.

The controls feel light, with little friction, and control forces clearly increase with higher speeds. This gives the pilot a good feeling of being at one with the glider, and makes flying the 28 really fun. The roll rates add to the enjoyment: at about 3.5secs from 45° to 45° degree bank at 95km/h, the 28 is a handy glider with excellent control harmonisation. Rolling it at slow speed with full aileron and rudder produces nearly no sideslip; at normal speeds rudder is a bit more effective than aileron – a configuration which should mean good harmonisation when the 18-metre tips are available.

There was a weak, rough thermal over the quarry close to the airfield, which was easy to exploit with 30° of bank at 80km/h. At high speed – when I flew it was still limited to 200km/h as the flutter recalculations were not yet complete – the glider also gives a good impression of safety, stability and comfort.

Landing

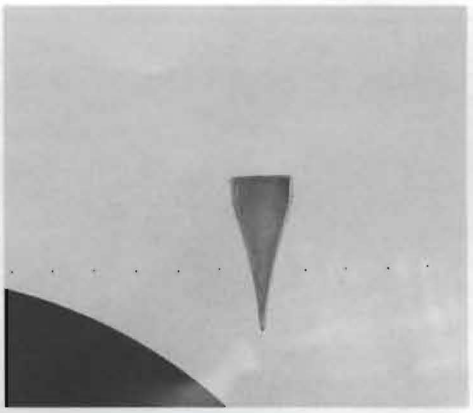
Before landing, I checked out the glider's behaviour in landing configuration. The undercarriage deploys as easily as it goes away. Trimmed for 80km/h, the nose goes down and speed increases to 100km/h when I extend the very effective two-bladed airbrakes. This is just the right amount to reach the recommended landing speed in normal conditions of 95km/h without changing the trim setting. Sideslipping is also very effective and causes nearly no trim changes without airbrakes. With airbrakes out, the nose goes down a bit, but the ➢



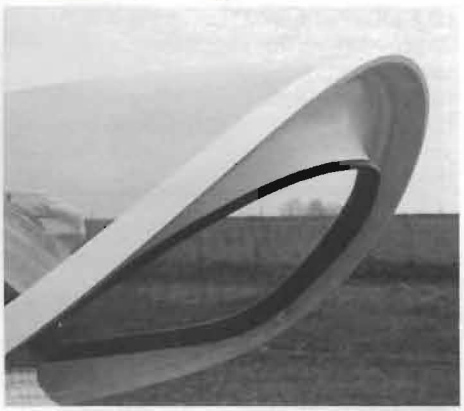




The tailplane fitting stands proud if disconnected



Blowing holes, turbulator tape and air inlet on wing



The rear of the canopy serves as a Röger hook

➢ speed can easily be held constant by moving the stick back.

The touchdown is soft with the main and tail wheels touching together. The undercarriage is well-sprung and has an effective and easy-to-use hydraulic disc brake. Two little steps in the floor between pedals and seat are a nice touch which help you climb out of the cockpit.

The ASW 28 is the first German glider to be certified under the new, internationally-accepted JAR scheme. Certification follows automatically in all the signatory countries. But, according to Gerhard Waibel, the paperwork has increased.

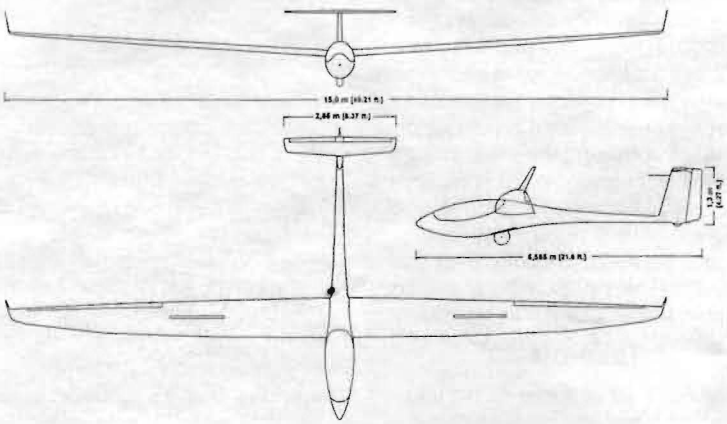
The new glider is priced at DM93,400 and the UK agent, Peter Wells, says he already has 20 orders from the United Kingdom; four due to arrive this year and around double that number in 2001. US orders are said to total more than 70.

Joining the new generation Standard Class, it replaces the ASW 24 and is part of the sailplane family which includes the basic/aerobatic trainer K-21; the single-seater K-23; the flapped 15-metre span ASW 27; the 18-metre ASH 26; and the Open Class ASW 22 and ASH 25. The final three are also available as motorgliders.

Will Schleicher offer a motorglider version of the 28? Probably not in serial production as the Rotax engine which had been used for the 24 is no longer being made. Modifying the system for another engine would be quite expensive and is probably not economic, as most people ordering a retractable engine motorglider prefer flapped 18m designs such as the ASH-26E. Standard Class self-launchers, no matter which factory has produced them, have never sold well compared to their 18-metre flapped rivals.

Two extras are planned, however, for the ASW 28: one is an increase of wingspan to 18 metres with interchangeable winglets to offer even better performance for non-competition flying (these cannot be fitted to the ASW 28 built in the pure 15-metre version: the 15/18 metre version will have a different spar). This feature was first introduced to the Standard Class by the LS-8 18 and it has been greatly appreciated by pilots. The first job of new Schleicher employee Michael Greiner (who like ASH designer Martin Heide, comes from the Akaflieg at Stuttgart University) will be to stress the ASW 28 wing for this purpose. The wing's aerodynamics were designed to take 15-metre or 18-metre tips. The second extra is the introduction of a parachute recovery system, as soon as one becomes ready for certification. It would be fitted into the "engine box" built in ASW 24 fuselages to take the engine for the ASW 24e variant.

Based on their experiences with the ASW 24 and 27, Schleicher say that the calculated polar published in their brochures should be very accurate. With this performance and with its good handling characteristics, I think that the ASW 28 would be well on its way to becoming a new bestseller for Schleichers.



Technical data: ASW 28

Wingspan incl winglets	15 metres/49.21ft	Max take-off weight	525kg/1,157.4lb
Wing area	10.5m²/113.02ft²	Weight of one wing	60kg/132lb
Wing aspect ratio	21.43	Max wing loading	50kg/m²,10.24lb/ft²
Fuselage length	6.585m/21.6ft	Min wing loading	c29kg/m, 5.93lb/ft²
Cockpit height	0.8m/2.62ft	Max waterballast	230 litres
Cockpit width	0.64m/2.1ft	Max useful load	130kg/286.6lb
Height at tailplane	1.3m/4.26ft	Max useful load (seat)	115kg/253.5lb
Winglet height	0.5m/1.64ft	Max speed	c 285km/h, 154kts
Wing aerofoils	DU 99-147	Manoeuvring speed	c 200km/h, 116kts
	DU 99-147M1 & M2	Min speed	70km/h, 38kts
Winglet aerofoil	DU 99-125	Min sink	0.55m/s, 108.3ft/min
Empty weight	235kg/518lb	Best glide @ 92km/h	45

Preliminary figures from the manufacturers



Gerhard Waibel in the cockpit of his tenth design

Words and all photos: Jochen Ewald

Tackling microturbulence

THE BEHAVIOUR of the ASW 24 in turbulent thermals was a puzzle for the designers. Initially, Professor Loek Boermans, who works at Delft Technical University and designed the aerofoils of both ASW 24 and ASW 28, assumed that the problem was caused by the 'shoves' the pilot feels when flying in disturbed thermals.

These 'shoves' change the angle of attack continuously. Loek Boermans presumed that this angle can become so large that the airflow separates from the wing. This would increase the drag and with it the rate of sink. In the ASW 24B he tried to diminish sensitivity to these angle of attack variations by adjusting the shape of the nose of the wing profile.

As the ASW 24B in practice was not better in turbulent thermals, Boermans hunted for the possible cause. His quest led him to a Russian report that presented measurements of the degree of turbulence in the atmosphere. According to this study, the flow in the convective atmosphere (the part of the atmosphere where thermals develop) has a more turbulent structure than was assumed in the design of aerofoils.

What exactly is this turbulence? In a turbulent stream the air particles move in a disorderly way, contrary to laminar flow, where the particles move smoothly, layered. The disorderly movement of air particles can take place at any scale: an example of large-scale turbulence is the weather, with dimensions in the order of magnitude of hundreds or thousands of kilometres.

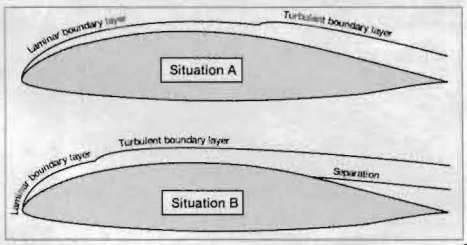
On a much smaller scale, the flow around a thermal is a turbulent process. The 'shoves' mentioned earlier, in an order of magnitude of metres, are significant there.

The turbulent disturbances in the thermal gradually disintegrate into ever smaller disturbances that the pilot cannot feel any longer. These disturbances, on a scale of centimetres or smaller, are usually described as microturbulence. The energy of movement of the smallest disturbances is in the end transformed into heat. The decay of large-scale disturbances into microturbulence and, ultimately, heat is called the Cascade Process. This process follows Kolmogorov's Law: according to this law it also appears – according to Boermans – that microturbulence is more intense than was assumed until now and more than what occurs in wind tunnels.

Microturbulence has an important influence on the behaviour of flow round the aerofoil. Turbulent disturbances, however small, are always present in the atmosphere. A part of these disturbances in the laminar boundary layer will grow into the direction of the chord; this ultimately leads to conversion of the laminar boundary layer into a turbulent one – at the so-called transition (or conversion) point.



Test flying the ASW 24 behind Schleicher's factory in Germany Ary Ceelen



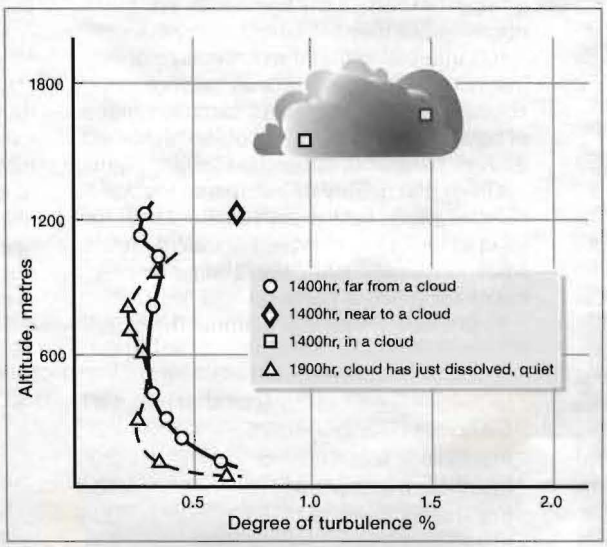
Boundary layer behaviour on the ASW 24's aerofoil. Situation A is valid for a free flow with a low degree of turbulence; situation B applies to flow with a higher degree of turbulence. The transition point (kink in the line) moves forward.

During a flight in a thermal, the flying speed is relatively low and the angle of attack large. With this angle of attack, the boundary layer on the lower part of a modern aerofoil is very stable and hardly sensitive to the degree of turbulence of the free flow: for a large part of the length of the chord it will be laminar. The boundary layer of the upper side of the wing is much more sensitive, however. While the boundary layer of the ASW 24's profile, in air with a low degree of turbulence, converts to turbulent at roughly 55 per cent of chord length, the conversion takes place much earlier when the turbulence of the free flow is higher. This leads to early separation of the turbulent boundary layer near the trailing edge and that increases drag considerably.

Loek Boermans has tried to design the top side of the new aerofoil for the ASW 28 in such a way that it is substantially less sensitive to the degree of turbulence in free flow. An important aid is XFOIL, a computer program developed by the Massachusetts Institute of Technology (MIT) in Boston. He utilises a special version of this program, together with a model developed at Delft Technical University, to predict the position of the transition point. With the aid of this model the influence of a higher atmospheric degree of turbulence can be simulated. Wind tunnel tests over the last few years have shown that XFOIL is an accurate program.

Loek's greatest uncertainty is not the predicted properties of the aerofoil; the question is whether the degree of turbulence in the convective atmosphere is really as high as the Russian researchers maintain and, more importantly, how high the degree of turbulence is in a thermal. That is why he prepared a plan to investigate the latter himself by flight tests to produce data for further development of laminar profiles for gliders.

Gregor Flüggen
Translation: Bruno Zijp

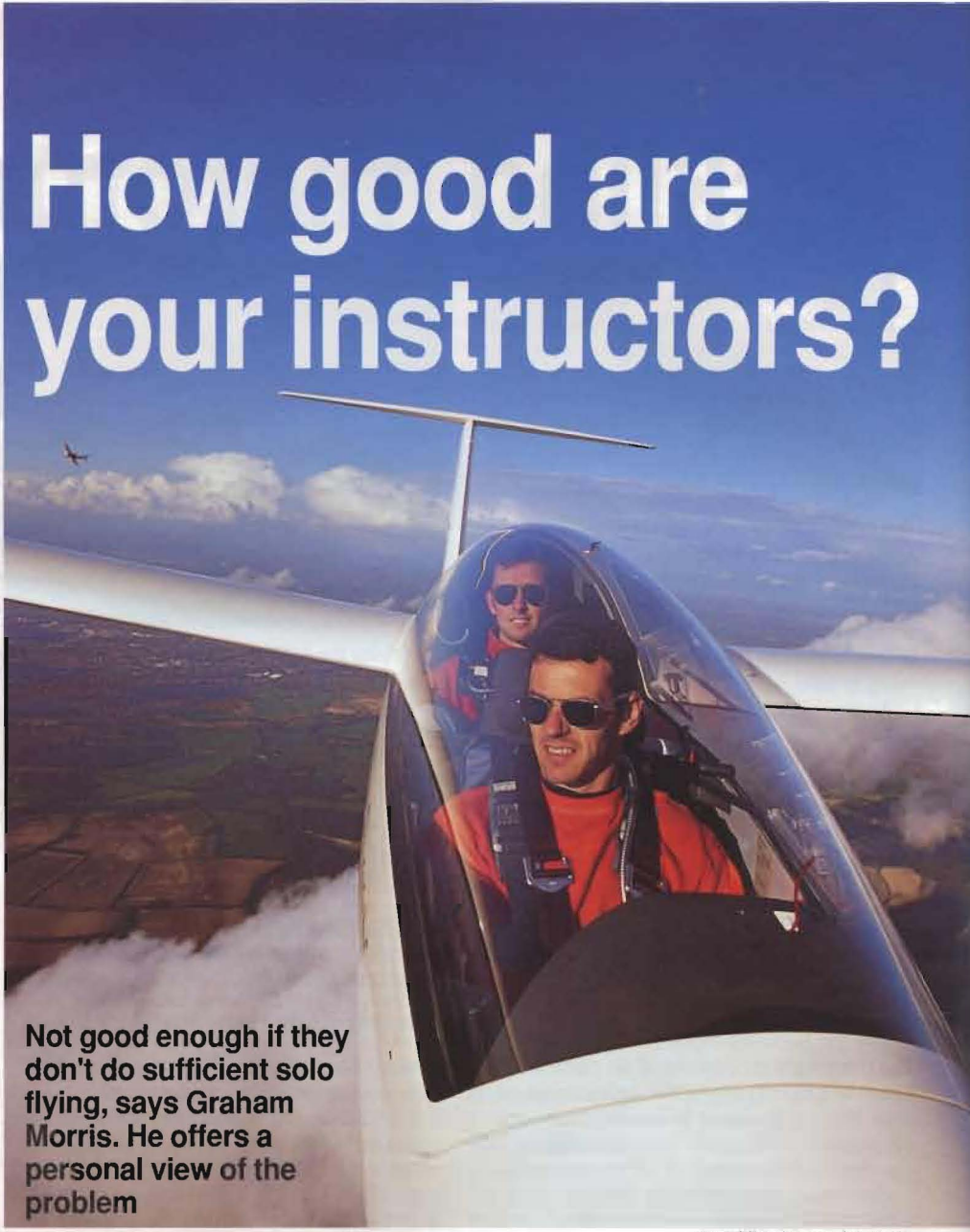


Turbulence in the convective atmosphere[1]. Compare this to modern wind tunnels where it is less than 0.1 per cent!

Acknowledgments

1. Zanin, B Yu, "Transition at Natural Conditions and Comparison with the Results of Wind Tunnel Studies", Institute of Theoretical and Applied Mechanics, Siberian Branch of the USSR Academy of Sciences, Novosibirsk 630090, USSR
2. Article with thanks to *Thermiek*
3. Diagrams enhanced by Steve Longland

How good are your instructors?



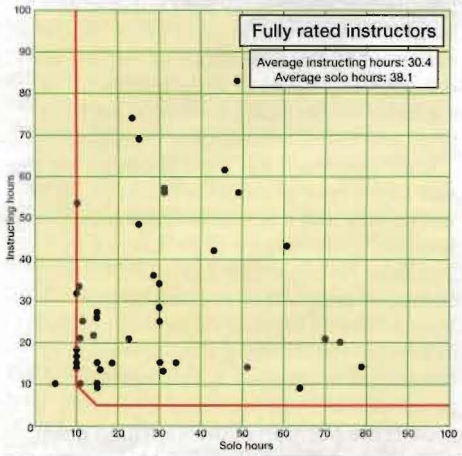
Not good enough if they don't do sufficient solo flying, says Graham Morris. He offers a personal view of the problem

the white planes *picture co.*

I BELIEVE that too many instructors don't do enough gliding. The result? The standard of instruction is often very poor – below what pupils have a right to expect – and less safe than it should be. As a Senior Regional Examiner, I take a keen interest in the instructor renewal statistics; each year the picture is similar. This article details the problem, proposes changes to the renewal requirements and will, I hope, spark a productive debate.

The three graphs (Figures 1 to 3) illustrate the most recent renewal statistics for my region, the South West and South Wales. Each pilot's instructing time is plotted against their solo time. There are 179 instructors – 64 Full, 74 Assistant and 41 Basic (BI) – for 1,268 members. Nationally, 1,766 instructors support 8,802 members. The red lines represent the BGA minima for annual renewal: 5hrs instructing, 10hrs solo and a total of 20hrs. The nine instructors the wrong side of the line have either not been renewed or have satisfied a Regional Examiner or BI Coach they were fit to do so.

Most striking is the large number of instructors doing very little solo gliding: 30



The three graphs show instructor currency in the South West and South Wales region at annual renewal. Each dot represents an instructor. Figure 1, above: Full Rating solo (horizontal) and instructing hours (vertical)

per cent reported less than 15hrs solo. Many totals are also very low: 24 per cent did less than 30hrs and 11 per cent did less than 25hrs. (12 instructors flew off the scale.)

Based on my view of suitable renewal requirements, the table (below right) categorises the instructors into groups and outlines the instructing they do.

The biggest group does at least sufficient gliding to enable them to be competent instructors and many of these are very good. Fortunately, they do more than half of all instructing. A tenth of the instructors did sufficient solo gliding but too little instructing. This group is generally of an acceptable safe standard but would probably improve if they did more instructing. Just over a third did sufficient instructing and too little solo, but still found time to do over a third of the instructing. Sadly, those who do insufficient solo are commonly very poor instructors. Needless to say, the small group doing insufficient gliding (solo or instructing) contains few effective instructors, but fortunately only does a few per cent of the instructing. If you are in one of the latter two groups, I'm sorry if my comments seem offensive but they are based on experience.

It is interesting that the percentage of the instructing launches made by each of the above groups closely relates to its percentage of hours: high instructing hours are achieved through hard work rather than lengthy flights.

Given that quality of instruction today directly affects how many people stay in the sport as well as tomorrow's accident rate, what constitutes 'sufficient' gliding for instructor renewal purposes?

Firstly, how much instructional flying is needed? BIs teach a limited range of exercises and can do all of them quite a few times in the existing five-hour requirement. This is therefore sufficient to maintain their instructing skills. However, Full and Assistant Instructors cover a much larger range of exercises. Most *ab initio* pupils take about five to ten hours to get solo. By then, they should have seen all of the pre-solo exercises and been given appropriate time for practice. It seems unrealistic, therefore, to expect to maintain an acceptable instructing standard unless doing at least, say, 15hrs per year. Even then it would be necessary to specifically practise some exercises to stay current.

Secondly, what solo time is required?

	Instructors (number)	Instructors (%)	Instructing Hours (%)	Instructing Launches (%)
Sufficient Gliding	76	42.5	55.3	53.7
Insufficient Total Hrs	5	2.7	2.0	2.1
Insufficient Instructing	18	10.1	3.7	4.5
Insufficient Solo	66	36.9	36.1	36.5
Insufficient Everything	14	7.8	2.9	3.2

Total Instructors 179. Total Instructing Hours 5,099. Total Instructing Launches, 20,695

Some instructors resent a requirement to fly a certain amount of solo time, even at the current minimal level. When I fly with instructors it is plain that there is a very good correlation between the amount and quality of solo gliding they do and the quality of instruction given. Without enough solo gliding, the amount of instructing makes little difference to the quality of the instruction. I am convinced the handling standard of instructors doing the minimum amount of solo gliding as per the current renewal requirements is often inadequate. If the minimum is the norm, year on year, it is often seriously inadequate. Frequently, such instructors are unable to handle familiar two-seaters well enough to demonstrate effectively the required exercises, and not just the difficult ones. Handling ability has a direct effect on safety.

This is a damming indictment of many instructors who are often doing significant amounts of instructing. But if this is put to a body of instructors, several excuses are offered. As well as time and money, pleas for tugging or motorglider hours to be taken

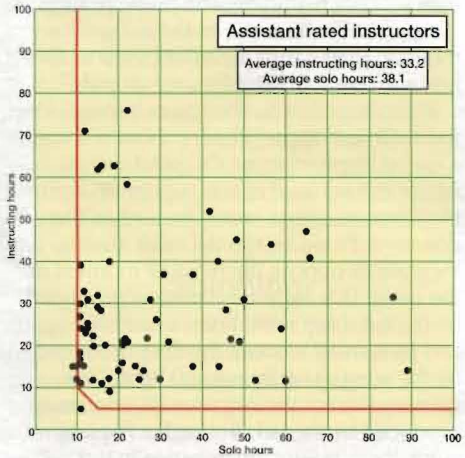


Figure 2: Assistant Rating instructors' solo (horizontal) and instructing hours (vertical) on renewal

into account are often made, as are references to 'high' levels of experience, implying no need for currency.

I sympathise if time is a problem, but I find this excuse is often made by those who spend a great deal of time at their clubs, instructing poorly.

If the problem is cash, I sympathise, but as instructors we must stay in practice to instruct, not the other way round. Instructing should be viewed as a privilege, to do well, not a right, to do poorly.

Tugging and motorgliding broaden experience but there is no evidence that they contribute to glider handling standards.

As for high levels of experience, this is an excuse often used by instructors who do little meaningful solo gliding. I repeat: it is recent flying that matters. Handling tarnishes without constant polishing.

So how much solo gliding is required to ensure an adequate handling standard for instructors? Certainly more than the 10hrs currently required. Bill Scull wrote in *S&G* more than 25 years ago that at least 25hrs a

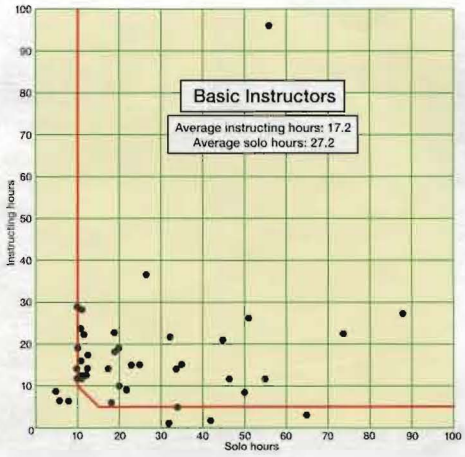


Figure 3: Basic Instructor solo (horizontal) and instructing hours (vertical)

year was required just to stay in practice – more to progress. I asked our two National Coaches what level of gliding typically marked a break point below which candidates struggle to complete Assistant Instructor courses. One suggested about 30hrs a year, the other 30 to 40. As instructing does involve some, albeit very limited, handling I believe that 20hrs solo should be an absolute minimum for instructor renewal purposes.

I would, therefore, require the following renewal minima: For BIs: 20hrs solo, 5hrs instructing with a total of 30hrs. For Full and Assistant instructors: 20hrs solo, 15hrs instructing and a total of 40hrs. Renewal via a Regional Examiner, or BI Coach for BIs, would be retained, so that if an instructor can demonstrate the required standard, despite lacking the hours, they can still renew. Where soaring really is impractical, instructing time should be credited at 1hr per 10 launches. It is worth noting that the average of Regional Examiners' renewal returns, excluding the few professionals, are 50hrs instructing and 54hrs solo.

So what would happen if this proposal were introduced? No doubt a few instructors would leave, but evidence suggests very few. In the mid-eighties Nympsfield introduced – and still maintains – a local renewal requirement: double the BGA requirement plus 500 National Ladder Points. The latter was intended as the equivalent to a very slow 100km triangle in a Std Cirrus, just to ensure that instructors left the circuit at least once a year. (The best place to improve handling is of course at 1,200ft, 20 miles from home!) The result – all instructing ills cured overnight? Hardly, but only one instructor departed as a direct result. Those who had struggled to make the BGA requirement now struggled with the new one: in other words, they tried harder and were at least current, credible pilots in the process. Occasional concessions have been made for good reasons. Rumour says some instructors who hadn't flown away from site for decades actually enjoyed it!

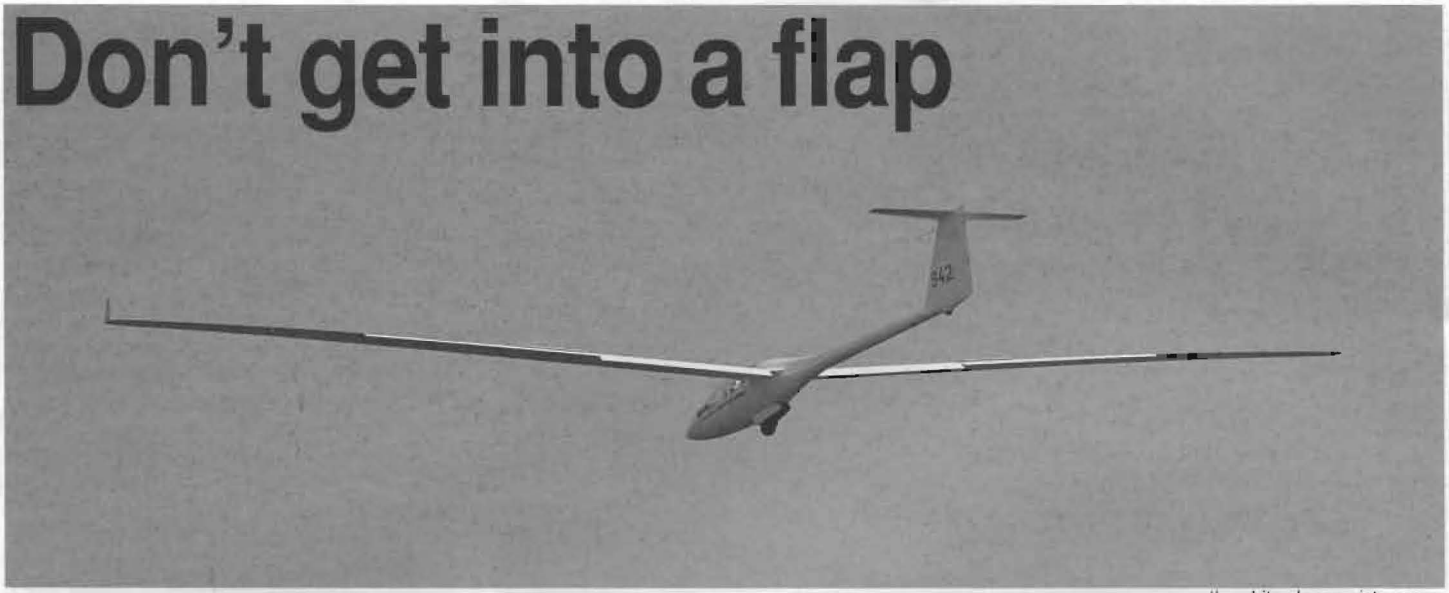
Instructors must do sufficient gliding, both instructing and solo, if they are to remain safe and effective. It does not mean they automatically will be, but in the absence of sufficient gliding it is highly unlikely. In proposing an increase in the renewal requirements, I am not suggesting overnight implementation. I would like to suggest a series of steps over several years to allow time for a new culture to be established: instructors earning and working to keep the privilege of instructing, not instructing by right regardless of ability.

Graham, a former CFI, is on the BGA instructors' committee and last year did 123hrs solo and 60hrs instructing. He has logged 2,450hrs solo and 1,080hrs instructing and is also a tug pilot and motorglider instructor

If you're a CFI or an instructor ...

ARE you gliding enough to be safe and effective? If not, you owe it to yourself and, above all, your pupils to improve. You are most likely to achieve this by more solo gliding in a deliberate attempt to improve your handling. If this is difficult at your club, either it needs some reorganisation, or you must do some soaring elsewhere. If you're a CFI, are your instructors doing enough gliding? Try plotting them out as on the graphs. If some are on the minimum solo hours line then you almost certainly have problem instructors. It is highly unusual to find "exceptions" who do not need more solo gliding. Look also at previous renewal records. Are many low timers year on year? Some instructors have good years and bad years, but too many only have bad years. You owe it to your club members to ensure they do better. Do you have instructors you simply can't get out of the two-seater and who complete the minimum solo just before renewal? I am forced to conclude that they don't really like solo gliding! If I'm right, how will they inspire pupils? How about your own renewal requirement? If you cause instructors who do insufficient gliding – especially solo – to do more, you will create an environment conducive to higher instructing standards and greater safety – a vital part of a CFI's job. Finally, beware of the Smashing Bloke Syndrome. The Bloke can be of either gender, but is of course the proverbial good egg. This is often true of instructors who are not up to scratch and can make it difficult to tell them so. Once, after I explained to a CFI that his candidate for a full rating had been found wanting, his immediate response was: "He's a smashing bloke, you know!" And so he was, but that's not the point. It is potentially dangerous if the instructor's handling is not up to scratch, and poor instruction can result in accidents long after the pupil is solo. We must test our instructors in the air and, no matter how nice they are, we must tell them when they are inadequate.

Don't get into a flap



the white planes *picture co.*

Phil Jeffery, of Cambridge GC, advises pilots new to flapped gliders or who have to give briefings on how to fly with flaps



SOON after restarting gliding in 1986, I became aware of a lack of basic understanding about the use of flaps and their effects. Most briefings for a first flight in a flapped glider are along these lines: there's the wheel brake; don't use full flap except in an emergency; it is nicer to fly than ... [whatever it is you've been flying]. I hope this article will help.

Flaps on high-performance gliders are of the plain variety, consisting of a fairly narrow hinged portion at the rear of the wing. The standard reasons quoted for fitting flaps are: to increase the maximum lift available thereby permitting slower flight, and to aid approach control by increasing drag. Flaps also have the desirable effect of lowering the nose for the approach and landing, resulting in an improved view for the pilot.

In gliders, the use of flaps is more sophisticated: they move up, to improve high-speed efficiency, and in most cases mirror the movements of the ailerons when roll control is applied. The aileron neutral position normally varies up and down to keep them aligned with the flaps, so maintaining the optimum aerofoil shape over the entire span of the glider.

New to flapped gliders and wondering what to do first? Before even contemplating a launch, study the glider's flight manual where you should find a great deal of very helpful information including much about making best use of flaps.

The first important fact to grasp is that you now have several VNE speeds, and that's ignoring the ones above 3,000m which rarely apply. As flaps move from maximum negative to full positive, VNE will reduce to a surprisingly low figure. High-speed flight after forgetting to change from thermal flap can result in expensive repairs and might even damage your health.

Next, I recommend sitting in the rigged glider, with flaps connected, to get used to the position of the flap lever for the various settings and ensuring the locking mechanism is fully engaged. There has been at least one recent serious accident in the UK due to flaps unlocking on approach.

Now to the fun bit, in the air. The following gives basic information for operating flapped gliders together with explanations of their advantages. *These comments are of a general nature and must not overrule any procedures contained within the approved Flight Manual.*

The launch

For winching, flaps are normally set to zero or, in conditions of light wind, the first positive selection, and remain unchanged throughout the launch. The aerotow gives the first opportunity to benefit from flaps. The marginal roll control during the tricky initial part of the ground run is significantly improved by starting with negative flap, thus raising the ailerons and improving their low-speed efficiency. Having accelerated enough for adequate roll control, move the flaps to the recommended take-off position. But for your first flight in a flapped glider, pick a day with sufficient breeze down the runway to ensure adequate control without employing negative flap. This avoids the added complication of moving the flaps during the ground-run.

In flight

In the cruise you should notice a difference. To keep overall lift approximately constant as speed increases, the coefficient of lift must reduce appropriately. In unflapped gliders this is done by lowering the nose to reduce the angle of attack. With flapped gliders, most of the reduction in coefficient of lift is achieved by progressively raising the flap with little change in the angle of attack or pitch attitude. The fuselage stays fairly closely aligned with the airflow for minimal drag whilst the pilot's view of the horizon remains virtually unchanged.

There are other performance benefits from flaps. On unflapped gliders, there is always a speed, dependent on CG position, at which the tail load is at an optimum zero. However, as speed increases further, the downward load on the tail must also increase to oppose the twisting moment of the wing. This increases the drag produced by the tail, frequently known as trim drag, and by a small amount the drag produced by the wing as lift increases slightly to compensate for the negative lift now being produced by the tail. But with a flapped wing, there is very little change in the twisting moment of the wing with speed variation, keeping tail loads low. A flapped aerofoil can also achieve much lower parasite drag around the coefficients of lift associated with each flap setting than an unflapped section. These effects improve significantly high-speed glide ratio.

The need to trim the glider with varying speeds is greatly reduced: partly due to wing aerodynamic changes but also because certain manufacturers connect the trim control springs to the flap change mechanism, automatically making appropriate trim changes as flaps are moved. Normal trimming is of course still required for speed alterations made without changing the flap setting.

Thermalling

The most efficient way to transition from cruising to thermalling is by use of flap. Reduction of negative flap will cause the glider to climb with further movement towards positive as the speed falls. When approaching thermalling speeds, select about half negative flap momentarily to level out before going to thermal flap

and cranking into the climb. A neat trick when it works! When you finish thermalling, and before accelerating back to warp speed by reducing flap, make sure no one is underneath you.

Upper air exercises

When making an approach and landing, the drag-producing and nose-lowering attributes of flap come into play. At height, first evaluate the stall characteristics, as you should when converting to any glider. This is slightly more involved as it needs to be done at different flap settings, particularly the thermal and landing positions (the latter with and without airbrake). Take care when recovering from a stall not to exceed VNE. If speed is rapidly rising towards one of the lower VNE values, reduce the flap setting and smartly recover from the dive; it's no problem when carried out with plenty of height. Next, establish the glider in level flight at 60kts with landing flap selected, using the first position if it has more than one. Now select zero flap. This normally produces a pronounced sink, which could sting if it happened near the ground. Do the same thing again but this time, whilst raising the flaps, simultaneously pitch the nose up to the attitude for steady flight at 60kts with zero flap. If you co-ordinate correctly there will be no sinking feeling at all. Practise maintaining 60kts whilst changing the flap setting between all the thermal and landing flap positions until you can do it smoothly and without that sinking feeling.

Spinning

To the best of my knowledge, all modern high-performance gliders will spin when provoked. With flapped gliders, the propensity to spin increases as the flaps change from negative to positive settings. Remember this when making final turns and particularly when thermalling with others gliders below. During a recent Open Class Nationals, one pilot managed to spin his ASH 25 when thermalling in a gaggle. I have no doubt this seriously alarmed the occupants and provided interest for those lower down the thermal who happened to be looking out as twenty-five metres of spinning ASH went by.

If your glider is cleared for intentional spinning (a few, mainly the very large span ones, are not) try it out at various flap settings. Steve Longland discovered, when doing this in a PIK 20, that he was unable to provoke a spin with negative flap selected. With positive flap it was very different as it now spun easily, in his words: "the more flap the merrier". As with stalling, take care during the recovery to avoid exceeding a low VNE limit: a judicious raising of the flaps may be required.

The approach

The approach path of a flapped high-performance glider need not differ from a similar unflapped one. There are, however, extra decisions to be made regarding what flap settings to use and when to make them. Convention appears to favour selection of thermal flap when slowing to circuit speed thereby lowering the nose for an improved view, and also making circuit judgement easier by reducing the glide angle. A word of caution here. Some of the very large Open Class gliders, particularly the single-seat Nimbus 3, suffer from less-than-crisp aileron control which deteriorates markedly at approach speeds with flaps in thermal and landing positions. For such gliders, when conditions are turbulent, I would recommend that selection of thermal and landing flap be delayed until wings level on finals. It is better to minimise changes of flap setting during the final turn as it is just that bit safer done when straight and level either before or after the turn. If you have mis-judged things and find yourself undershooting with flap selected, reducing it may improve the situation. This depends entirely on having maintained adequate speed for sustained flight at the reduced flap setting. You would need to be fairly desperate to risk it before satisfactorily completing the upper air exercises.

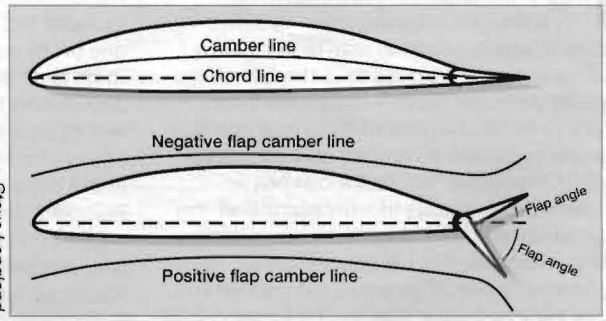
Landing

The only significant difference is that touch-down occurs in a roughly level attitude, as opposed to the modern Standard Class glider's tail-first arrival, and at a slightly slower speed. If the wind is light or across the runway, roll control in the latter part of the ground run can again be improved by raising the ailerons through selection of negative flap. This is not required when flying a Schleicher product as the ailerons automatically move up to the zero position on selection of landing flap. It is a clever idea that improves roll control for the approach and landing. The slight downside is a reduction in tip clearance during the round-out caused by the outer wings having flexed downwards as the lift reduced in the vicinity of the ailerons.

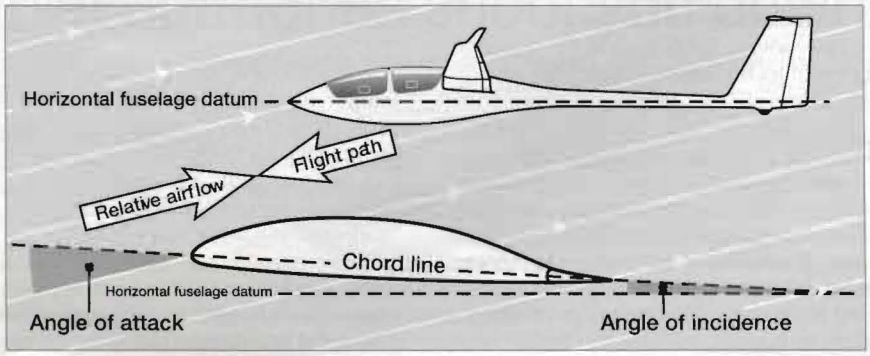
I am most grateful for all the help which I have received in writing this from Steve Longland, who is working on the latest Instructors' Ground School and John Gibson, who has attempted to straighten out some of my twisted aerodynamic misconceptions. If you disagree with anything, please let me know: I've recently acquired part of an Open Class glider and need all the help I can get. Until now, apart from brief dalliances some years ago with an ASW 20 and a Nimbus 3D, I've stuck to the Standard Class

Glossary

Angle of Attack – the angle between the aerofoil section chord line and the relative airflow in the direction of travel.
Angle of Incidence – the angle between the chord line and the horizontal fuselage datum.
Camber – the curve of a line drawn equidistant from the top and bottom surfaces of an aerofoil section which, on a glider wing, will be predominantly towards the top surface.
Chord Line – a straight line drawn through the leading and trailing edges of the basic aerofoil section.
Coefficient of Lift – the measure of an aerofoil's ability to produce lift. It varies with angle of attack reaching a maximum at the stall angle. Varying the camber, by lowering flap, also increases the coefficient of lift and, not surprisingly, the converse happens when they are raised.
Flap Angle – the amount in degrees, relative to the chord line, that a flap is deflected from the zero degree position of alignment with the basic aerofoil section. Movement of flaps down is measured in positive angles and up negative ones.
Horizontal Fuselage Datum – a reference line from the fuselage nose to the tail.



Steve Longland





The arrival of the French Open Class at the World Championships in Bayreuth last year: an impressive example of team flying

Team flying techniques

Jean Molveau/Vol a Voile

In the third and final article of his series about competition flying, double World Champion and US Team Coach George Moffat explains why phoning a friend (or two) could help you win the big prize

TEAM FLYING has been around for 30 years and more, first practised systematically by the Poles in the Sixties. It was used rather spasmodically by leading soaring countries until the late Eighties when the French embraced it and took it to levels of almost mythic proportions. Nowadays almost no serious contenders for World Championships feel it can be ignored. While purists like my old friend Justin Wills and most American pilots (team flying is forbidden in US contest flying) might wish it would go away, the successes in the Nineties of the French, the Germans and the Italians are hard to ignore.

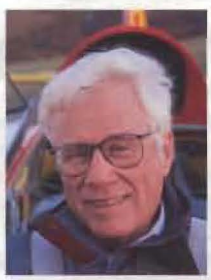
In fast-moving fields such as flying neither successful technologies nor techniques are likely to vanish. This article will cover contemporary methods and the problems which can arise. One word: if you are dubious, give it a try. Done correctly, it is a very enjoyable form of soaring.

Team flying must be based on trust if it's to work at all. Each pilot must be convinced that by sharing information to the utmost extent he or she will benefit in points by the end of the contest. Initially, this is difficult, since all our most primal instincts tell us to hoard, not share, valuable information. Team flying will soon break down if one pilots starts thinking: "Well, I gave the last bit; now it's his turn". Give as ye have to give and trust that ye shall receive in kind. Sounds downright Christian, doesn't it? Works rather well in marriages, too ...

Problems, and there certainly will be some, need to be aired before they become major. Ideally these should be taken care of during the practice period. If major, there may be need of a moderator, a respected pilot friend or the Team Coach on international teams. What sort of problems? My years of World Championships flying and coaching result in quite a list:

- the chap who always finds some pretext to go back for an unannounced re-start, using his mate as a forerunner;
- the team-mate who always parks himself in the five or seven o'clock position between thermals where he is difficult or impossible to see – and keeps useful information to himself;

MY BACKGROUND in team flying goes back to the Seventies, and includes two World Championships where it worked, one superbly, one pretty well; two Worlds with team-mates who flatly refused to try (both fairly paranoic types); and one where it just didn't seem to click. I have also been the US Team Coach for the last two Worlds with special emphasis on organising team flying.
I have absolutely no doubt that team flying is mutually beneficial, with a point advantage over a contest in the 300-500 point range. For example, Ben Greene radioed me information about a thermal up ahead which gained me 20 mins over Klaus Holighaus who was wingtip-to-wingtip with me 30 miles from the finish. Four Nationals' worth of two-place flying, two as pilot, two as tactician – a different kind of team flying – has proved interesting and valuable, especially in communication modes



Adrian Hobbs

• the one who seems to give ever so much information that turns out to be useless to his team-mate.

There's lots more I could add, but it's easy to see the picture. Trust, once lost or even grown shaky, is rarely recoverable. For team flying to work there has to be a sense of pride in team work, a sense of mutual achievement.

Codes

Pilots must work out codes for position, altitude and climb rates. Since in the United Kingdom there are only four legal channels, communications need to be simple and quick. Even in the Worlds, where each team has its own channel, brevity remains the soul of effective communication. An example might be: *353, 5 right, blue 37, red 3*. Translation: 53km from the turning point, 5km right of track, at 3,700ft, climbing at 3kt. (The initial number in the distance is arbitrary and meaningless to confuse the enemy.) Obviously, colours can be changed from day to day in the interests of secrecy. Note the absence of call signs. Team-mates should be familiar with each other's voices. Colour codes for important items such as start times need to be arranged, but keep the whole thing as simple as possible. In international flying the use of lots of slang confuses those listening in on scanners. In France in 1997 the French slang for an extra-good thermal was: "a big fart".

Leadership

Ideally, perhaps, each team should have a leader, chosen for amount of competition experience, familiarity with the contest site, etc. This is the leader-wingman format familiar from the military. If this format is used, the leader must lean over backwards to help and share information with his wingman, or confidence will very soon break down. Conversely, the wingman must make it known – and right away – if (s)he feels short-changed. The leader will be quite busy enough without having to be a mind-reader.

In point of fact, most pilots – being the independent-minded souls they are – seem to find this set-up too threatening. The widely-used alternative is the equal partner approach. In this case the partners need to come to some agreement – before the contest starts – concerning such sticky problem areas as:

• start times

• different ideas on proper inter-thermal courses and/or ridge use

• altitude bands

• departure heights in wave flying (the French, at least at St Auban, seem to have fixed heights for departure)

• and there are quite a few etcs...

The more problem areas that can be worked out in advance the smoother things will go in the heat of battle.

Types of team flying

The famous French method is **wingtip-to-wingtip**, flying usually but by no means always in close proximity. In actuality, the lockstep aspect of this technique has been exaggerated by the myth that has grown up around French success over the last ten years. Those familiar with Gallic individuality will hardly be surprised that all in-the-air decisions are highly democratic, often arrived at after impassioned discussion. The fundamental rules are: always team fly; help the low man recover; discuss all major decisions; and never wait. Each pilot must always be absolutely convinced that he personally will gain from team solidarity.

Traded information is the method most often used by the US Team, hampered as we are by our very far-flung geographical locations and the concomitant lack of opportunity to practise. It has the following advantages:

• far less practice-intensive;

• allows a greater degree of individual freedom;

• allow each pilot to have access to two – or more – sets of eyes, instruments and judgements;

• provides a strong sense of mutual support and is especially valuable on blue days and in wave flying.

Techniques

Starts should generally be within a minute or two of each other. The maximum should be five minutes. At normal speeds, a minute equals one and a half miles.

a) It is very important that one pilot does not always start second or circle back for an unannounced restart. Such practice soon erodes confidence, which in turn dries up the information. This happened repeatedly on one major team in Bayreuth last summer, effectively ending team flying by mid-contest, causing a precipitous drop in the pilot's final score.

b) The pilot locating the first thermal gives the strength and GPS position in team code.

While **thermalling** discuss course options such as: "Black ten right?" (which would refer to a cloud 10° right of course). The top ship in a thermal normally makes the decision to leave and choice of course. Ships usually leave together, fanning out laterally, more so in blue conditions.

If flying in close proximity always turn in opposite directions on entry, unless the position of the core is clear from other gliders. First one in calls vario readings, second ship calls his/hers if better. Each ship keeps the other informed during the climb, for example: "better core 100 (yards) north". If in your partner's blind spot, always report your position. It's unnerving and causes a lot of inefficient head turning if the lead pilot has no idea whether his partner is still there. Each pilot should report leaving the thermal, with the second saying: "On your left" or whatever the case may be.

In **inter-thermal flying**, the leader should call out his vario readings several times a minute. The object is to allow the trailing pilot to catch up by avoiding sink areas. This is the French method but most find it too talky. All major decisions should be discussed between the pilots. This sounds chaotic but in practice there turn out to be few problems. In the initial stages of team flying with a new partner, too much information is better than too little. Hold post-flight discussions to evaluate progress. Have patience. Don't expect perfection immediately.

Team flying is most helpful in **blue thermal conditions**. Use a line-abreast formation 150-200 yards apart (more makes it too costly to join up in new-found thermals). A major advantage is the ability to spot minor lift or subsidence. If possible, maintain visual contact; if not possible the trailing glider must report conditions and position frequently. Failure to do so is extremely destructive of confidence. Both ships should fly ten to 15 per cent slower ➢

The T-factor – don't let hormones shoot you down

HALF the world, give or take a bit, seems to be afflicted with a condition which has, historically speaking, caused most of the murder, rape, plunder and genocide which mankind seems heir to. Looking at the whole thing in a more positive light, it has had a large part in the creation of every human, not to mention spurring on most of the major art, architecture, technology, discovery and world-champion-level soaring pilots. Testosterone, that's the culprit/benefactor. And what's all this got to do with team flying? Just this. Men are well known, to their non-T plagued consorts, to drive around in circles for hours rather than stop and ask for help. This is merely exasperating on the ground. In team flying, this apparently genetic inability to seek aid leaves team mates in the dark and coaches pulling their hair out. In the last two World Championships, top-placed American pilots, team flying effectively up to that point, have gotten in trouble on the last day, turned off their radios and failed to complete the tasks despite the ready availability of aid from both team mates and the team coach and local knowledge advisor. One dropped to the 20s, the other to the teens in standing. It does happen to the best: maybe especially to the best, with their well-developed egos. When everything goes to hell – and it does occasionally, even for the best – forget the T-word and ask for help. A code word will do, something like: "Daisies", maybe. Use whatever form suits: communicate!

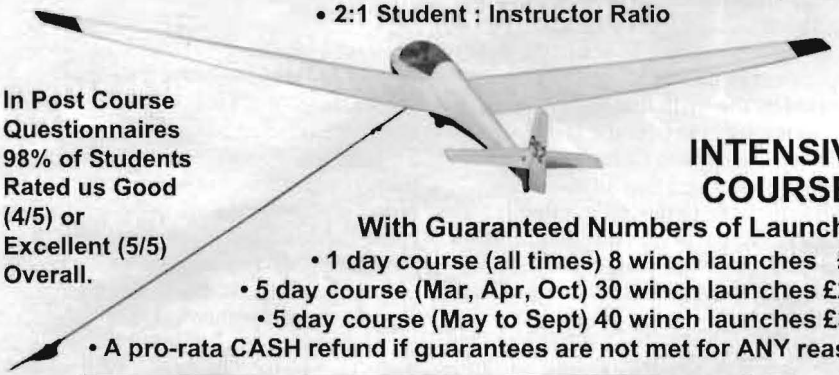
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Team flying techniques

than MacCready in order to extend searching range. Mathematics show that this technique will up VMG (velocity made good towards destination) by around eight per cent.

There are a number of special techniques used by teams competing at international level. The British favour the **leapfrog** approach. In it the lead ship pushes hard, seeking the best 20 per cent of the thermals. When he falls into a hole, the trailing man passes on to become the new leader, looking for the thermal which will help his team mate. Obviously, a much looser formation is used, with more reliance on radio than visual contact.

In the **wait** technique, if the first ship falls in a hole, the second one waits, scouting the area for a better thermal. He does not push on until the first ship is OK. The first ship must tell his partner if recovery is doubtful or looks slow.

If the wait method is used, should it be used only for the first half or two-thirds of the task? The Italians have had good success with this method, according to Carlo Ponti.

'There's a steep learning curve before the gains kick in'

A modification of this technique might be used if one pilot is substantially ahead on points by the middle of the contest. If used, the Lo- (point) man leads for Hi-man, becoming primary scout. Wally Scott did this for me on the difficult last day of the Marfa Worlds, considerably upping my winning score. Lo-man presses harder than normal, stretching the operating band while looking for major lift.

The French never use the wait technique although they do their best to help the Lo-man close the gap. The enormous success of the French over the last decade certainly makes us look closely at their methods. One must remember, however, that the French teams of the last several years have been dominated by St Auban instructors, superb pilots who have unparalleled opportunities to practise together.

Finally, let me say that team flying is an extremely interesting and, once you get used to it, a very enjoyable type of flying. As in flying in general and soaring in particular there's a steep learning curve to be surmounted before the gains kick in. For those who are serious about competition flying, especially on the international level, it is too valuable a skill to be left untended.

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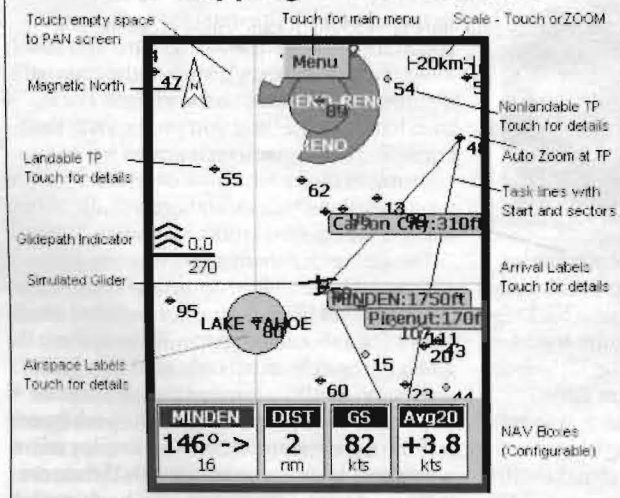
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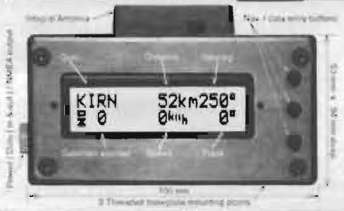
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Photos : Tom Bradbury



Shallow cumulus: These conditions are ideal as the cloud distribution is low (probably less than two-eighths) and ground heating is not impeded by cloud shadow. Unfortunately, the thermals can cycle quickly, meaning that often the best climbs are found by flying towards developing wisps. Conversely, promising-looking clouds can produce little.

- If cloud centres fail to work well look for edges that show the most rotation or movement.
- Only search the areas of cloud that are clearly growing.
- If a cloud shows signs of decay, look to the sides for signs of new wisps forming, especially upwind or downwind in breezes stronger than 10kts.
- When low, finding heavy sink can be a good sign: look carefully at the cloud for a building edge and the corresponding lift.
- Allow for wind drift – that is, when low look slightly upwind.
- Prepare to leave before cloudbase due to small latent heat generation (heat energy released by vapour condensing to cloud forming water droplets).

Moderate cumulus: When the clouds grow higher they tend to occupy a larger proportion of the sky, perhaps four-eighths. If the airmass is moist enough with a strong inversion, there is a risk of spreadout. Cloud shadow covers more of the ground; indeed, the clouds now grow big enough to block ground heating and can starve themselves. If this happens, the cloud dissolves and once again the sun can heat the ground to produce another thermal. This is known as cycling. Generally, if you're getting down to below half the height of cloudbase, you need to look for cores under edges of good clouds where the ground is still in sunlight. If there's no sun, you could be in trouble!

- Stay high to use latent heat effects.
- Look for the darkest, most defined base with a concave shape.
- Look for tendrils of cloud and centre directly underneath them.
- When there is a recognised step in cloud base always search under the higher side.
- Be very wary when there is no sun on the ground underneath a promising cloud, especially if you are low: watch out for cycling.

Getting to the

Top international pilot John Coutts offers tips on how you can improve your thermalling



THE ART of thermalling begins well before you even start circling. It can be divided into two phases. First, you must locate the general area within which you think the core could be. Second, you must find – and keep the sailplane in – the strongest part of the thermal column. Many pilots can recognise a good area, but can't locate the strong core quickly enough.

Techniques for searching and centring vary from pilot to pilot. However, the fundamentals of successful thermal centring are the same so, rather than recommending any one method, I have simply detailed some rules that seem to work for me.

When you watch the pundits, you will clearly see that they have an uncanny knack of locating a good core instantly, requiring minimal amounts of centring. This is not purely luck: they have been carefully studying the indicators which help pinpoint the core. If it is a reasonable day for soaring, there will be cumulus marking the next search area. As you glide towards it, you should be carefully studying all the clues, such as the development of the cumulus ahead or, on blue days, searching for signs of a thermal leaving the ground.

Understanding clouds is perhaps the most important skill in gliding, since the majority of our flying is in conditions where thermals are marked by cumulus. As a general rule, the larger the size and depth of the cumulus the more studying and searching is required to find a good climb. Two examples: on a day with small cumulus marking the top of the thermals, the area in which the lift should be is relatively small so the lift is found quickly. On the other hand, a cu-nim may have an excellent core or even cores – however, there is an extensive cloud shelf to search under.

Techniques for searching under cumulus therefore differ according to the size of the cloud. Consider the four situations shown in the photos, along with some basic rules that I employ while searching for the best lift.

If you have read the situation correctly to this point in your flight, you should be flying in the most probable area for a respectable thermal. The next task is to centre in it and keep the glider there. Visualise the thermal's distribution, then move the glider's circle, by whichever method you prefer, over the core. There are many techniques for centring in thermals, some of which can seem rather technical, so here I shall suggest what I find works for me.

The strength of thermal decides the action required. Generally, anything less than 3kts is going to be of limited size and therefore small corrections should be made. Try to fly the glider accurately, using only moderate bank angles (up to 30°) – moving the circle centre by widening out the turn seems to work best.

If the lift is greater than 3kts, employ more aggressive techniques, especially if the core is really strong. Usually, steeper bank angles are required (45°-60°) and even tightening up the turn more in the best bits works well. Occasionally (especially in blue conditions) you will hit an extra surge: by turning really tightly you can stay with the bubble for a few hundred feet. It is common to climb right through a gaggle in such a bubble.



Large cumulus: These clouds normally indicate that the airmass is unstable and by late afternoon areas of over-development can be expected. More than four-eighths of the sky can be covered by cloud. Now you really need to consider the effects of cloud shadow. However, cloud shadow alone is unlikely to starve the thermal, because large cumulus may begin sucking the air upward: that is, the instability within the cloud promotes and prolongs convective motion. This, combined with plenty of sun on the ground, can give phenomenal climbs that improve near cloudbase. It's crucial to study large clouds carefully before you arrive underneath because, as well as finding the lift, you also need to avoid the sink. Exploding cloud tops should indicate the general search area, and you should hone in on tendrils once underneath. Use the same techniques as for moderate cumulus, plus the following:

- Look for climbs against the downwind edges of rain showers, usually marked by a small line of tendrils.
- Fly under cloud domes that seem to be rising fastest (that is look the freshest).



Blue conditions: Unless you see gliders/birds circling or a haze dome, you must rely on ground features to indicate where a thermal might be. Following high terrain is also necessary, especially if there are narrow valleys. In the blue, with no obvious signs of lift, all you can do is fly on track, taking in any town or field that looks like it attracts more heat. Once you find rising air, it can be hit-and-miss whether you locate the core. In winds of more than 10kts you can consider looking upwind or downwind for blue thermal streets. If the thermal is on its own then you should turn into wind, unless there is a clear indication the thermal is downwind. In droughts and dry environments like Australia, dust devils offer the best clue to the thermal's location. Sometimes the best ones are in the middle of two or more dust devils. These develop as individual cores that feed into the main core. Smoke, dust or the waves on a lake can also indicate possible ground winds feeding a thermal core. It's usually quite hard to locate the core on the ground surface alone unless an obvious trigger point can be seen: a high or moving object, or the downwind edge of a likely thermal reservoir.

core of clouds

It is very rare that you come across the perfect thermal that is round and is going up all at the same rate. Often the thermal is a little broken, elongated and irregular in shape. When thermals are like this (that is, most of the time) remember it is physically impossible to get the glider completely within the thermal climbing smoothly. The key is to centre on roughly the middle of the thermal and use only minor adjustments to feel the best of the air, slowly working your circle into the best parts and keeping it there all the way up. You may even elongate your circling to mirror the shape of the thermal.

- In strong conditions your priority is get the glider in the core as quickly as possible!
- The reverse turn centring technique is one of my favourite tools in larger thermals.
- Don't be afraid to crank it over: many pilots don't turn tightly enough when a reasonable core is found.
- If you lose the core, widen out the turn to extend your search area.
- At the beginning of a thermal cycle, the thermal may be wide and smooth but not very strong. However, hang in there if the strength slowly increases with each turn.
- At the end of the thermal cycle, you may get half a turn in good lift but the rest in rubbish. If the next turn is worse you have probably arrived too late.

> Reading clouds is a difficult skill, taking years to gain a modest understanding. Probably no one has truly mastered it. If you're serious about competition flying, try to learn when you're on the ground. From your window study the sky. Watch clouds developing for a few minutes, then tell yourself how each will change. Five minutes on, see if you were right

While circling in a balanced turn (with the yaw string straight), you may notice that you need to hold a slight amount of opposite aileron, that is, out of the turn. This is because the inboard tip is travelling slightly slower than the outboard tip. While circling in this manner a portion of your wing section is not in an efficient form for circling flight. To centralise the ailerons during circling flight use a small amount of top rudder. This will result in the glider slipping around the turn. This increases the angle of attack of the inboard wing and so produces more lift. The amount of slip depends on the angle of dihedral: more dihedral requires less slip.

Don't compromise on instruments. I prefer my mechanical variometer for visual and the electric variometer for audio and average climb. However, variometers tend to respond to horizontal air motion as well as vertical, hence those times when the instruments indicate good lift for momentary periods when the seat of the pants tells you otherwise. Your instincts are a valuable tool that should not be underestimated.

Climbing has to become second nature. You need to be sufficiently current to instinctively centre and re-centre the glider without thinking about it. Time circling should be spent concentrating on your next plan of attack, observing the conditions ahead and looking at secondary options. Last but not least, don't forget your lookout.

New Zealander John Coutts began gliding in 1991 at Auckland GC, aged 15. He won the Standard Class in the NZ Nationals twice. He arrived in the UK in 1999, and flies LS-8 KM from Booker and Cambridge GCs. The youngest pilot in last year's Worlds, he came second in the Standard Class

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About Assigned Area Tasks

Mike Young, who won the 1999 Overseas Nationals where four AATs were flown, explains this new type of task for UK comps



LIKE IT or not, there is a general drift away from more traditional racing (fixed-course) tasks in international competitions. Brian Spreckley originally developed the idea of the Assigned Area Task (AAT). Conscious of the IGC search for a new type of task, he was anxious to put forward something that would be enjoyable to fly and give fair results.

"The original concept was to design a task which was still a race, but with pilot flexibility," he explains. "I did not like POST or distance tasks: they were too random and often irrelevant to racing. However, there was a lot of pressure to have tasks that reduced gaggling and following. This was further reinforced in preparing for the Worlds in South Africa: we needed a task which allowed for possible thunderstorms. Conventional tasksetting has a big problem with these storms and getting a fair result."

So just what is an Assigned Area Task? It has pre-set areas that have to be flown in a set sequence and within a fixed time limit. These areas (see below) may be defined by:

1. A radius from a designated point
2. The area between two radials originating from a point, with a maximum distance
3. The area between two radials originating from a point, with a minimum and a maximum distance

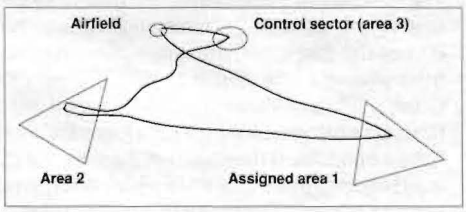
The idea is that everybody will be tasked in the same general direction, but has the choice of how far they fly into each area (see right). Do I carry on flying in area one, or go to area two where I think conditions will be better? Confused? You will be.

First impressions

At the Overseas Nationals at Ocana in Spain last year AATs were generally well received by the pilots. There were no unusual results: the points spread was very similar to a fixed-course task. The main problem was not having an idea of how you'd done until the provisional scores were issued. With traditional tasks you have a fairly good idea of how you have done on the day compared to the rest of the field. In Spain, maps were spread out after towing the gliders off the field and there was much measuring with makeshift rulers to try to get an idea of distances flown within the pre-set time limit. I was initially sceptical but, having flown four, found them an interesting alternative to a fixed-course task. However, they were all flown on fairly consistent cumulus days with good visibility, no showers and no problems with controlled airspace.

Scoring

For UK competitions the scoring system aims for similar effects to a fixed-course task. The points are divided in two: up to a maximum of 800 points for distance/speed within the assigned task time (for these points, it is not necessary to have flown into all the areas) and up to 200 points for completing the task, having flown in the correct sequence through all the assigned areas. The 800 points are sub-divided between speed and distance depending on the percentage number of pilots achieving a predetermined distance (Y). There is a maximum of 75 per cent available for speed, as per the current 1000-point scoring system for fixed-course tasks. The Overseas Nationals this year will use a slightly different system for calculating speed points – see the *BGA Competition Handbook*. The remaining 200 points are available for completing the task and are purely linear: that is, if the fastest finisher does 100km/h there are 2 points per km/h.



Assigned Area Tasks – what they look like

Pre-flight Planning

More initial planning is certainly needed. I found it useful to draw the areas on the map and put a route in the moving map to show the areas. Defining the points of an area as a place, bearing, distance and then joining them together with the route function does this. A little bit crude (it does not show the arcs of a segment or circles) but at least it identifies the radials of an area. I believe that WinPilot are working on user-friendly moving-map software which will display all the areas. I have not heard of such developments from Cambridge Palm-Nav but hope for some in time for the Europeans.

From a tasksetter's standpoint AATs offer flexibility, not to be confused with indecision which, as you know, is the key to flexibility. The task might have a minimum distance of 150km (shortest possible completion distance that can be flown) and a maximum of 500km. So the tasksetter can simply alter the fixed time on task, depending on the time of launch, rather than fall back or reset.

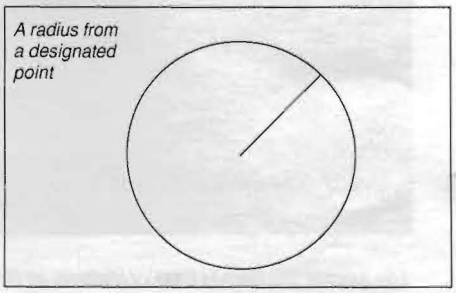
Flying the task

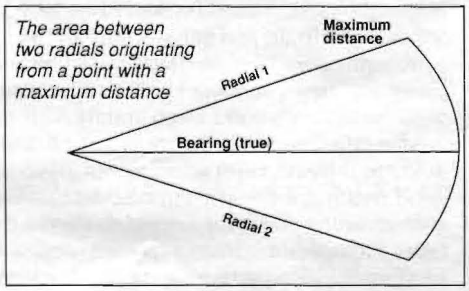
I found it important to have a strategy prior to launch and then revise the plan during the flight. Surprisingly, I kept fairly close to my initial plan on most of the flights. Fairly consistent conditions helped: fickle UK weather may not. My aim was to be at least on final glide at the end of the fixed time and ideally crossing the finish line, which I managed on just one flight. On one flight I was 14mins over, on the other two, up to 7mins under, which if you assume 4km/min on final glide could have cost 28km. It is surprising how far you go in the last hour: this is well worth thinking about in your pre-flight planning. Assuming you complete the task, the penalty for finishing early is far greater than for landing back after the fixed task time.

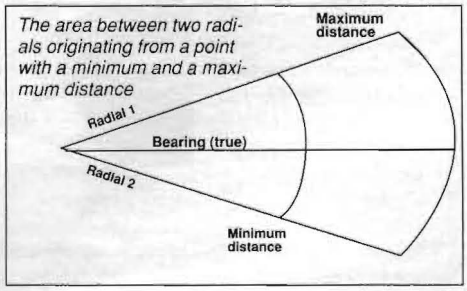
Conclusion

Used wisely, AATs should offer a useful additional type of racing task. I suspect they will be most suitable on days with showers, in effect giving the pilot an infinite number of alternative TPs in the prescribed areas. To allow the pilot to make sensible decisions on how far to fly in each area, they should be set only on days with good visibility.

See the BGA Competition Handbook *for definitive rules*







Self-contain



I HATE the cold. One October in pursuit of Gold I went to Aboyne: lovely place, lovely people but my abiding memory is of dressing like the Michelin Man and scraping ice off the wings with a credit card. Who wants Gold, anyway?

After retiring, with the kids gone, I realised I didn't have to suffer British winters any more. We have spent three of the last four in Oz. The first couple of times, I borrowed a glider, but it's not the same as flying your own. Jean and I tried several clubs and at Benalla, home of the Gliding Club of Victoria (GCV), I met Brian Bateson and Sue Hill of Southdown GC, who have been taking their Ventus 2 to Australia, via Holland, in Gerritt Kurstjen's container. How much more convenient if a container went from England – I could take my glider as well. So on our return to England in summer 1999 Brian and I bought one. Oliver Spreckley made the fittings to Basil Fairston's design and in late September we packed six gliders for shipping to Benalla: three LS-8s (Paul Crabb's C64, Iain Freestone and Richard Johnson's S6 and mine /Ron Davidson's D4); an LS-7 (Rogier Weekers', from Holland); an LS-6 (registration LS6, owned by Basil Fairston/Anne Stotter); and Brian and Sue's Ventus 2 (2B).

Benalla operates seven days a week in an excellent cross-country area. If you get bored with the flatlands you can go and fly with the wedge-tailed eagles in the mountains that start 30km to the east. Most important of all it has good weather, a comprehensive Met briefing each morning and is the only club I know that takes a temperature trace every day – an invaluable aid to predicting the day's potential in Australia. Andrew Ward, GCV's manager, was enthusiastic about our visit. Hangarage was made available for our gliders and the club converted the open Junior trailer to a universal one for us.

Jean and I arrived early in November 1999 and rented a two-bed unit in town. Ron Davidson, my syndicate partner, came a few days later. All we needed now was a glider. The container sat on Melbourne docks for 12 days. In desperation, Ron and I took a flight in a club IS 28; 8kt thermals to 7,500ft under beautiful cu whetted our appetites. When the container finally arrived on site, with much trepidation we pulled open the doors – perfect, not a



The strip at the Gliding Club of Victoria, at Benalla,

What it costs to ship your ship

THE COST of living at Benalla, where the Gliding Club of Victoria is based, is cheaper than in the UK, *writes Derek Westwood.* The town itself is easily accessible by bus or train and the airfield is close to its centre. There are many motels at c. A$50/night. New backpacker rooms will open at the airfield at c. A$15/night.

If you are staying for longer, an unfurnished two-bed unit would cost c. A$150/week.If you aren't fussy, you could probably get somewhere for c. A$100. It's unusual to get furnished accommodation but it's amazing what you can get from garage sales, secondhand and charity shops. You can also rent furniture by the week. The club has a number of bikes for members, and there is a local car hire establishment.

Completely fitted out, the container came to



Home from home: the container the sailplanes were shipped in and the hangar they stayed in

c. £2,400. It could last ten years but, then again, if the wharfies drop it, it might last only one. The cost of transportation to Oz and back, with all the insurance and paperwork, varies. The freight cost changes according to the cost of oil, and other charges, payable in US or Australian dollars, are affected by exchange rates.

We don't yet know the final cost of our 1999/2000 trip, but an educated guess puts it at c. £1,500-£1,800 per glider. Compared to the price of hiring one in Oz, it comes out rather well. An LS-8 or equivalent costs c. A$270/day at Benalla (more elsewhere), so at A$2.50 to the pound, 17 days' hire is break-even point. If, like Ron and I, you are going for an extended period, it's no contest, but even if not, you can always rent out your glider to cover costs.



Derek began gliding in 1964 at London GC, returning to the sport 18 years later at The Soaring Centre, still his club. He has 1200hrs, Gold Badge and two Diamonds. He retired early as an airline pilot to do some real flying

Picture: Shepparton News

ed soaring in Oz

WEATHER
Fine. 27°
Details page 35

If you hanker after warm winter flying, now is the time to make your plans. Derek Westwood reveals how to take your own glider – and save money



Five UK gliders and a Dutch one were shipped by container (left) to Australia. The pilots achieved badge flights, tried for records and flew in comps

Benalla, 200km north of Melbourne, is a typical rural Australian town, very friendly, with excellent facilities. The airfield (right) is just 1km away

scratch. The next three-and-a-half months were brilliant.

Ron stayed until January 3 and then went to New Zealand. He flew 7,000km, including two 860km flights, in pursuit of the elusive 1,000km, and we flew as a team entry in the Victoria State comps. Altogether, I flew 12,000km and 160 hours, landed out twice and only dropped below 100km/h on completed tasks three times. We had one spell of three days in February where I flew 500km at 140km/h on the first day, 300km at 151.5km/h on the second and 600km of a 750km on the third – and finished that Gold.

Thereby hangs a tale. On the day I did the quick 300km, I had actually declared 750. The day started quite late, at 13:00hrs, and who pulled off too early and had to take a relight? Moi. It really was too late now so, after eating my sandwiches, I thought I would have a go at the British National 300km O/R record of 147km/h. Declaration completed, I set off from 8,500ft. By half-way round, cloudbase was 11,000ft with 10kt thermals. As Sod's Law has it, the turning point was between two streets and going down, whereas everywhere else was going up, and I just couldn't find the core in that last thermal. The net result was 303km at 151.5km/h but I finished at 4,600ft, around 600ft lower than the 1000m allowed, so of course it didn't count. Never mind: it will be something to aim for next year. As it was still only 16.45hrs and booming, I had a sudden thought: how about a nice, warm, Gold height? I flew a little north to clear airspace and spiralled down a thermal to 800ft. Fifteen minutes later I was at 11,500ft and still warm. That's the way to do it.



seen from the cockpit of Derek Westwood's LS-8, D4

I was even able to indulge my passion for competition flying at Benalla. The Australian Nationals were held while we were there, enabling me to take part in a great comp with nine out of 12 days, and really good flying. The Standard Class was small but the quality was excellent, including Ingo Renner, four times World Champion, John Coutts, second in the Standard Class in the 1999 Worlds, and John Buchanan, fourth in the 1999 Open Class Worlds. With a couple of exceptions the format is much the same as for UK comps: the scoring system is different and instead of a start line they use multiple start points. There were 16 of these, each with a one-kilometre "beer can" around it. Each competitor is given, in confidence, four start points to choose from each day – you can keep them confidential or disclose them if you wish – the idea is to stop gaggling and leeching and is quite successful. However, one day I had just started my run to the start point when who did I see in front of me, also clearly about to start, but Ingo Renner? "This should be good," says I. "I might just learn something here." Then he turned sharp right. "Bother, he's got a different start point!" Oh, well... Twenty kilometres up the first leg I saw the glint of circling wings and joined the thermal just above the other glider.

'Who did I see in front but Ingo Renner, also about to start?'

Oh good! It was Ingo again. I *will* learn something today. And so I did. As we got to the top of the thermal and it was obviously time to leave, I watched him like a hawk. Then, suddenly, he was gone – vanished into thin air. The next time I saw him he was putting the finishing touches to cleaning his glider as I rolled to a stop. He'd been back 20mins. What did I learn? You don't get to be four times World Champion without knowing how to get rid of unwanted company, but it would be hard to find a more pleasant, unassuming gentleman.

We packed the container the day the Nationals ended; I saw it off on March 14, then left myself. I am already planning next winter. We pack and ship the last week in September for another trip to see The Wizard.

Overleaf: how the other pilots fared in Oz ➢

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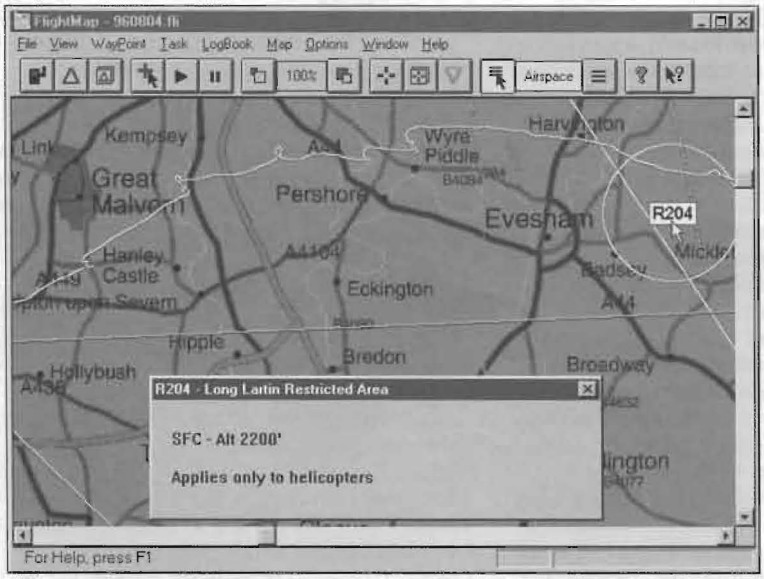
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On track for an Oz 500km



IN THREE years of gliding, I've flown in Holland, France, Lithuania, and Spain, always taking the rain with me. My first visit to Oz was no exception: it was the worst gliding season the locals could remember. Having said that, I had some tremendous flights: 13, nine of them cross-countries. Having completed 300km in Spain I was after Diamond goal and 500km.

On my third flight, I climbed from 600ft to 4,000ft in blue, rough conditions only to be violently sick five times. On my fourth, with eight octas cloud and an 18kt headwind, I did 300km O/R – using a bush fire to round my TP. The next days were blue and a challenge. Desperate for 500km I would declare one no matter what, even when there was a 30kt headwind. Not until my last two flights did it happen: cloud streets and stonking thermals. I did the task in five hours but don't recall it well, I was so tense.

The forecast for the next day was that if it got to 35°C there could be 10-12kts to 10,000ft. I declared 750km and was the first to launch. It was *not* 35°C. The first 100km was slow and difficult: not all the clouds worked and I was relieved to hear someone say so over the radio – good, it wasn't just me. Across the Murray River, though, it was truly awesome. I was up at 10-11,000ft in cloud streets, dolphining. After my first TP at 268km I realised that I had to fly even faster: 120kts with a ground speed of 188km/h. It was exhilarating but about 40km short of my next TP it died as quickly as it had started due to the arrival of a cold front. At Benalla, conditions died at 15:30hrs. I was



Lyn (above) and husband John, of Lakes GC, contributed towards the shipping costs of the LS-6 they flew in Oz. John did his 300km in the blue from Benalla, despite a hitch at the first TP. "The penalty for attempting to litter Australia was instant loss of ASI and speed-to-fly as my sweet wrapper lodged on the pitot where it stayed until I landed," he says. "The rest of the flight was a slow and careful affair."

140km out. To press on was stupid. I saw one huge grey cloud which I reckoned was my last climb. If I could get to cloudbase I could go a long way – I might even make it home. I reached the end of the cloud at 10,000ft with 132km to run, having dumped water and wound the MacCready down. I flew at best L/D with the string in the middle, picking up bits of lift. I reached the Murray River at 5,000ft with 80km to go. Everyone else had landed hours before. They were listening on the radio expecting me to land out – O, ye of little faith! I did get back, not quite completing 600km. It was the most incredible flight.

I felt it was all meant to be: if it had been easy to start with, I wouldn't have pushed myself. As it was, I gained so much experience and confidence. We will definitely go back. **Lyn Martindale**

The scent of eucalyptus in the clear air

LIKE Derek, I loathe the cold and damp UK winter and love flying in warm climates. Australia is a very easy place to live, with friendly people and good infrastructure and accommodation. Outlandings are no problem: the fields are mostly huge and flat; the farmers are very helpful. The downside is the distance and time-shift from the UK, but this applies anywhere south of the Equator and temperate.

Why Benalla? Inland of the great dividing range, it is dry and largely sheltered from the southern oceanic influence while avoiding the wet, cyclonic weather that affects the north in the southern summer. There is ample hangarage; excellent facilities; and the local pilots are great fun to fly with. Conditions allow long flights – Sue and I have done many over 750km – and, if you enjoy hurtling round short tasks, high speeds can sometimes be achieved.

I especially like Benalla because long, mountainous cross-countries can be done. We fly every year in the French Alps; the Australian Alps are very different, and gentle by comparison, but do go to almost 8,000ft. One particularly memorable flight was a 500km triangle flown in a loose group with four local pilots. We turned the highest mountain in Australia, the highest in Victoria and the nearest major ski-ing resort to Melbourne. You must be acutely aware of the hordes of paragliders in the mountain valleys, and know exactly where to go if it all turns to worms over totally unlandable forests. The immensity of the landscape and the clarity of the air is wonderful. Add in the faint scent of the Eucalyptus below and you are truly at one with your world.

Brian Bateson, Southdown GC

SITTING outside the clubhouse, I'm watching the lovely Anita go by. An innocent asks who she is. I say: "Anita, she's Basil's crew". He says: "Is that Basil's crew, or Basil's screw?" so I say: "I'm Basil's screw". (My apologies, but you only get one chance like that). So that's who I am. Basil and I share a lovely LS-6C.

I'm one of those sorry pilots who admires the view, likes circular rainbows in clouds or thermalling with the wingtip pointing at a windmill or watching the birds, and thinks fast is more than 70km/h. No competitions. But even I have some gliding ambition and you get old waiting for work to go quiet. It was time to walk away from it all and do something I really wanted.

With only three weeks in Australia's spring, it could have been a disaster: jet-lag, glider delayed, poor weather, 'flu, weather too hot, not to mention the peeing problem. (Can you believe you can walk into a chemist's in Benalla and someone knows all about female incontinence equipment for glider pilots? Ask for Rhoda). The LS-6 arrived the day we did, immaculate, and I had it to myself, with Basil flying an LS-8. No jet-lag, just a bit disembodied for a day or three.

The weather was lovely and got better. The trick when it's over 30°C is to get high and stay high. Excellent briefings (why did it take me so long to believe the thermals wouldn't work over irrigated areas?), airfield help, launches and company. Cloudbase went up and up to a very relaxing greater-than-10,000ft. Flew more cross-country distance each day, culminating in 525km. I loved it. The most fun I've had with my clothes on – ever.

Anne Stotter, The Soaring Centre

A model cross-country

In the first of an occasional series on soaring airsports, David Simmonds describes a cross-country with a difference

PHIL TURNS up the volume on his new audio vario. The afternoon is getting on but he thinks he can hear what he's listening for. Yes, there it is: a strongly rising tone. His ASW 27 is entering a good thermal. Wait another 60 seconds... *now* – a steep banking turn to port, the evening sun glinting along the wings. A little bit of elevator, not too much: this is great! He can see the outer turning point for his first out and return. The club secretary will be watching as Phil makes the mandatory 720° turn over the marker.

That difficult turn completed, Phil is worried the lift will die before he gets back to the ridge which took the ASW 27 so far, so late in the day. The vario isn't reassuring – are the batteries a bit low? No, according to the computer there are plenty of volts left.

What's this? We've got company. The young honey buzzard is back in formation, he's enormous – and he's soaring! A gentle shallow bank to starboard, and he gets out of the way. (Buzzards are cowards: a peregrine might have attacked the glider.) The audio starts its encouraging rising whine: this thermal isn't as strong as the last one but it might start us on our way home.

The ridge looms up out of the evening haze. Steep mauve-coloured slopes face the south-west wind coming off the West Dorset coast a few miles away. If he reaches that lovely smooth lift, he will be able to make his objective.

Done it! The ASW 27 settles into a steady

David Simmonds



Soaring the ridges of West Dorset – the ASW 27

flight path on the ridge, using a friendly bit of thermal to cross a notorious outcrop.

Phil's legs are feeling tired, but he can now see today's landing strip and starts to concentrate on the approach pattern and landing. The last few turns have pushed the glider far too high, so with a big grin he pushes the stick forward then smoothly back

> 'If he reaches that lovely smooth lift he might be able to get home'

to perform a perfect large loop... then up again – it seems for ever – and full left rudder to complete a satisfying stall turn. Still plenty of altitude – let's try to perfect my chandelles, he thinks. One chandelle bleeds off enough height so he flies the ASW 27 downwind off the ridge, does a crosswind leg over the field, turning onto finals, moving the undercarriage lever and selecting airbrakes.

He's glad now of the new computer system that progressively mixes the pitch as brakes are selected. A little more – the ridge lift must extend this far out – straighten up those elegant wings, hold off, more back pressure on the stick... The glider floats on and on then, as the speed bleeds off, gently settles into ground effect. The first and last bump on the ground: the glider quivers in the red evening light, finally stopping before the starboard wingtip gently drops into the summer grass.

Phil is pleased with himself, his glider and his choice of equipment. A glowing feeling of satisfaction replaces the fatigue from his intense concentration. He opens the cockpit lid and switches off the radio gear. Deciding to dismantle his aircraft before fetching his car, he bends over the wings and removes the covers concealing the wing bolts, picking up a wing panel in his right hand and the fuselage in the other...

Phil's ASW 27 is, of course, a quarter-scale computer radio controlled model, and to do his first club out and return goal, he has walked about five miles, encountering hazards such as stiles, gates and animals as well as braving sink and turbulence.

The British Model Flying Association has 28,878 members: around 10,000 fly gliders but probably only about 600 fly radio-controlled scale models of modern or vintage sailplanes.

Most pilots who try radio-controlled model flying agree it tends to be more difficult than full-size at first, especially when the machine is coming towards you! It is easy to become disoriented. Experienced model pilots intuitively "think" from the cockpit of the model to make the correct control inputs.

The largest model soaring club uses the Ivinghoe hills for ridge soaring, sometimes sharing them with gliders from London GC.

David Simmonds



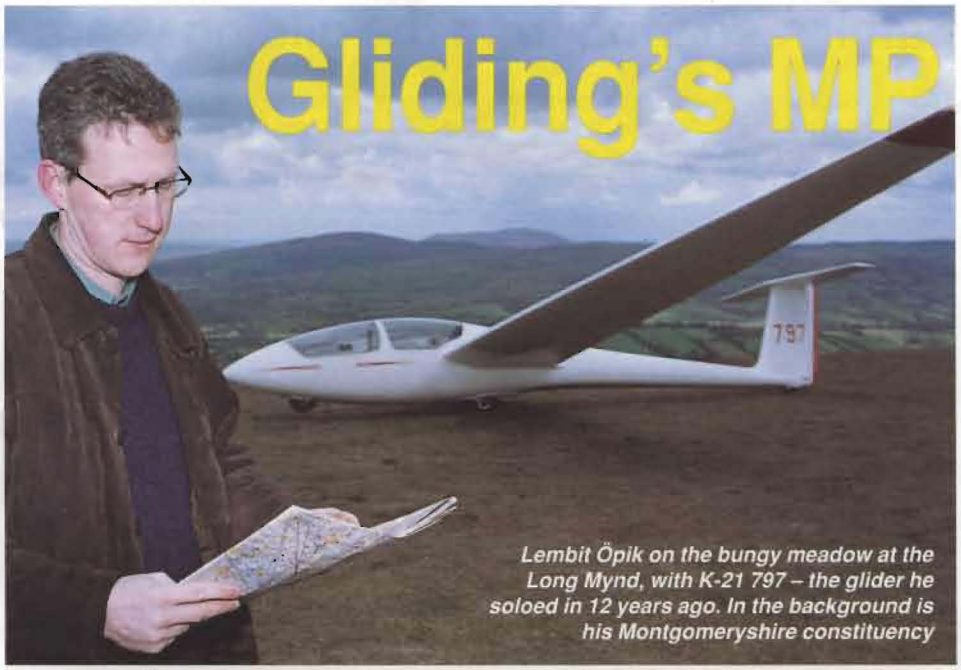
The second-largest, Meon Valley Soaring Club, use Butser Hill. The Southampton Soaring Society is the only UK club dedicated to radio controlled scale model flying. They fly the excellent ridges of West Dorset and aerotow with a quarter-scale Piper Cub and Frische Wilga. In September they will repeat last year's model aerotow event at Lasham (see above) and will take part in June's anniversary celebrations there.

FACTFILE: scale soaring

Regulatory body	British Model Flying Association on behalf of the Royal Aero Club	0116 244 0028 *admin@bmfa.org*
Main clubs	Southampton Soaring Society	02380 233605 *SSSRCSoaring@compuserve.com*
	Ivinghoe Soaring Association	01908-614095 *mikew1010@hotmail.com*
Training requirements	BMFA "A" Certificate	General flying
	BMFA "B" Certificate	Displays/public demonstrations
Sources of training	Most model clubs	Usually free and by volunteers – may take time
	ATS Ltd (professional training)	01264 771100
Typical cost (1/4 scale)	Modern (GRP/carbon fibre)	£1,500-£3,000 plus
	Vintage (wood and fabric)	£300 to £700 and lots of hours!
Radio control kit	State-of-the-art, 12ch.computer	£1,200-£2,000 including servos
	Good used equipment	£150-£300
Radio frequencies	Mostly 35Mhz	25 spot frequencies (10KHz separation)
Radio range	If you can see it, it's in range!	
Audio vario frequency	Telemetry Regulations	434.025 to 434.775 MHz (25KHz spacing)
	Glider to pilot transmission	Cost £300-£400
Air Navigation Order	Mostly applicable to models	Mandatory third party insurance usually via club/BMFA membership
Competitions	Club, national, international levels	Cross-country, O/R, aerobatic, etc

S&G meets the BGA's man in Parliament – Lembit Öpik MP

Gliding's MP



Lembit Öpik on the bungy meadow at the Long Mynd, with K-21 797 – the glider he soloed in 12 years ago. In the background is his Montgomeryshire constituency

PICTURE the scene: the House of Commons restaurant, all wooden-panelled walls, gold-embossed green leather chairs and exclusive views over the Thames. An interview with the Liberal Democrat spokesperson for Northern Ireland, Lembit Öpik. It all sounds terribly worthy – perhaps a little dull. But gliding's MP has a gift for the unexpected. Worthy, maybe. Dull, no.

We start conventionally enough: why does he want to represent the BGA? It's not a paid job, and 9,000 or so glider pilots are unlikely to decide the next election.

"I've been interested in aviation since I was five or six," he replies enthusiastically. "I began by making paper planes – and, if I may say so, rather good ones. I was putting winglets on them long before anyone else."

Could *you* resist making a politician prove a claim? I couldn't. So as his lunch began to go cold, the PPP-1 (Parliamentary Paper Plane) was created from a sheet of A4. Flight tests after the meal, in the corridor outside the restaurant – under the amused gaze of a passing fellow MP – were entirely successful.

The 35-year-old MP does, of course, have experience of more than paper planes. He took a gliding course at the Long Mynd in March 1988 and soloed in a K-21 after 7hrs 20mins. "The landing wasn't anything to write home about but the circuit was OK," he says. "The best flight I ever made was in a K-8 over the Long Mynd. Even Concorde, though it's exciting and fun, didn't come close. This was my first long solo flight, 1hr 10mins, on one of those days when you just can't get it wrong. A lovely, booming summer's day, a bit hazy, thermals everywhere. I could see the whole world from up there. You feel you're in partnership with the air and the wind and the sun, and the big lazy bubbles of air floating up from the ground. It's hard to explain to someone who's never been gliding. And then my landing was absolutely perfect!"

Lembit left gliding because he wanted to try flying "things with engines", did his PPL and clocked up 130hrs power. A five-year love affair with paragliding – he got to club pilot level – was abruptly halted two years ago ("April 13, 11.21hrs," he rattles off without hesitation) when he fell 60ft in an accident in mid-Wales. He broke ribs, his sternum, 12 vertebrae and his jaw – in four places. "Since then, I've been campaigning for softer mountains," he jokes – but he was lucky to live. "I got hundreds of letters and cards from people in Parliament," he adds, "and I realised what a good heart our democracy has." Although still attracted to paragliding, he has rejoined Midland GC – his nearest club – which he visited on his day off so that we could get photos for this article. After the formal pictures, he took up an invitation to fly in the club Falke and went to see his house from the air. Like the rest of us, he'll be trying to escape from work this summer long enough to fly. One ambition is to glide above the clouds – he got to 7,500ft once in a K-13 and loved it. He wants his Bronze by 2001.

Lembit – tipped as the next Lib Dem leader for Wales – was president of Bristol University Students' Union then a councillor

> 'Making a difference is why he wants to represent gliding'

in Newcastle Upon Tyne before being elected for the Welsh constituency of Montgomeryshire in 1997. Born and bred in Belfast, of Estonian extraction, he was picked by Paddy Ashdown for the Northern Ireland job. Other political causes he's interested in are fox-hunting – he's in a cross-party group trying to preserve the sport while addressing animal welfare concerns – and asteroids. Yes, asteroids. A keen amateur astronomer, he convinced the Government to set up a task force to look at the risk of asteroid impact with Earth. European harmonisation in favour of glider pilots should be easy after that.

He has been dubbed 'the human anagram' because his name spells *I like to b MP*. And does he? "I love it," he answers with unquestionable sincerity. "You can make a difference if you focus on outcomes rather than process, you can make friends in all parties and you can be listened to. Even the bad days are interesting. You set targets for things you want to protect or change, create a strategy like any business would. If I thought I could no longer make a difference I wouldn't be here."



After the formal photos, Lembit (who once had a Falke share) flew Falke G-KGAO with Chris Ellis

Making a difference is why he wants to represent gliding. So what does he see as the biggest threat we face?

"Regulation, intensified by privatisation of National Air Traffic Services," he replies. "It would be dishonest of the Government to privatise NATS having made an explicit promise not to do so. Given the amount of money involved in the travel business, the potential limitations on the use of the air for all general aviation pilots could be depressing."

Thus far, his BGA work has been *ad hoc*, but that's about to change. A small working group is being convened to agree what needs to be achieved and plan how best to do it. "Bureaucrats and politicians do feel duty bound to bring in laws rather than repeal them," he says. "We shouldn't ban areas that are a matter of personal choice. When people get into gliders they are taking a risk in the same way that someone who drives a car does. We need to influence legislation before it's drafted. You can get up and have a rant in the House, but by then it's too late. We must convince the Government to buy into a strategy which maintains people's freedom to use the air."

So, does this champion of individual liberty want to vet what *S&G* writes about him? Most MPs would. "Not really," he says, before being tempted by one last joke: "But please don't write: I've just met the BGA's man in Parliament. The BGA's in trouble." Well, having met the BGA's man in Parliament, I think the BGA's in luck.

Helen Evans

Fafnir – soaring from the gliding years



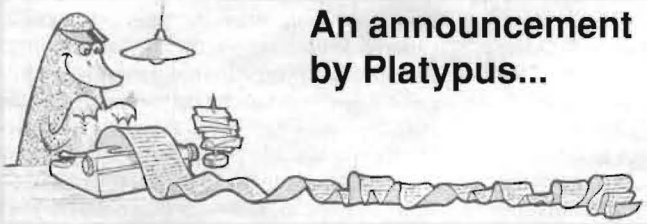
TO MY MIND, soaring became accessible to the public through the Rhonadler, Meise, Weihe leading to the Nord 2000, Olympia 2B and others which are still flying regularly. But where did they come from?

Well, in 1930 an exceedingly clever designer called Alexander Lippisch came up with the Fafnir (see right), itself the culmination of many years of evolution through successful types such as his flying wing Storch.The Fafnir was truly sensational then as it would be now, and is accepted as the origin of our now traditional sailplane design layout. It was vastly complex and had a span of 62ft 6in with no airbrake! But its wing loading was a mere 3.2lbs/sq ft; glide angle c. 1:25.

In 1931, the Fafnir broke the distance record by flying 169 miles. Its pilot, Günter Groenhoff, was of small stature and had the curious habit of standing on his head on top of the tallest chimneys he could find. He was dating the sister of Peter Riedel, and she was killed when he overturned his car. Possibly disturbed by this, he made a rash flight in the Fafnir, broke off half its tail, crashed into the trees and was killed himself. Peter Riedel was to take his place in the repaired Fafnir, and later in the Fafnir 2, Sao Paulo, a less distinctive machine.

Ten years ago, I researched the design of the Fafnir and completed 1/5 scale drawings. There are the usual gaggle of contradictory experts, some so expert they even contradict photographic evidence. I had an excited Peter Riedel on the phone from South America, but he remembered only cockpit detail. At that time, my interest in building was thwarted by experts and contradictions, but I am older now and less concerned with the rabble that fight over detail. Perhaps my vision will take on the symptomatic blur and I shall be once again up to my neck in wood shavings. Who knows?One thing is for sure: that the Fafnir 1 is the most worthwhile project left to be taken on. It fulfils all my criteria: is a one-off, is a classic design, has never been copied, has a huge place in history, and is probably the most difficult enterprise one could contemplate. Best of all, I have been advised against it.

John Lee



An announcement by Platypus...

THIS ADVERTISEMENT IS NOT INTENDED FOR GLIDER PILOTS

It is aimed strictly at the wives, husbands, boyfriends, girlfriends, constant companions and live in er, um, er, of glider pilots

WHAT IS THE IDEAL BIRTHDAY OR CHRISTMAS PRESENT FOR YOUR GLIDING-OBSESSED HUSBAND (etc, etc)?

No, not a book! Be sensible!

The ideal present is a brand new, competition-ready sailplane

Or a book

They may think a book is a bit of a let-down when all year they've been expecting an LS-8, but explain to them the advantages of a book. A book needs no insurance, no C of A, no gelcoat repairs. A book works well in all weathers and is especially good in unsoarable conditions. No batteries needed either, unless you are in the habit of reading under the bedclothes with a torch

Well, that's settled then. A book it has to be

"But which book?" you ask impatiently

I am so glad you asked me that question! My objective advice, influenced by no other factors than that I am the author and have invested the price of an ASH 25 starboard wing in getting it printed, is that you buy for that person

The Platypus Papers: fifty years of powerless pilotage

IT'S NO CONTEST!

PS: If you are a glider pilot and have accidentally read the above, then just leave this copy of *S&G* lying around ostentatiously open at this page until he, she (or they, if you live in a *menage a trois*, or any advance on *trois*) get the message

What if you are one of those many pilots who are the solitary type? What if there's nobody to buy prezzies for you? Aaaaahhh

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Make sure of your claim

FAI Certificates Officer Basil Fairston reviews the procedures, highlights the common mistakes he sees in badge applications – and lets you in on cheats' secrets

THERE HAVE been many changes to the rules about badge flights over the last few years and the current OO's Handbook is rather out of date. The rules attempt to provide a reasonable degree of certainty that the flight being claimed was in fact done and to provide an audit trail so that facts can be checked in the event of any doubt. They call upon a combination of observation by official observers (OOs), use of equipment such as barographs, cameras and loggers and lots and lots of paperwork and signatures to achieve this.

Equipment used to verify flights

Barographs record height against time and therefore show continuity of flight (no intermediate landings), provide heights for checking height gains and for checking height loss between the start and finish of a flight (the one per cent rule that can plague Silver distance pilots).

Cameras are used to prove your position at the start, TPs (turning points) and finish zones. Because the film is in a continuous strip it also shows that the sequence of declaration, start, TPs and finish were in the correct order.

Loggers show position and height against time and so combine the functions of barographs and cameras. IGC-approved loggers are required for FAI badges but for UK diplomas (100km, 750km and 1000km two-seater) and for UK records the non-approved version of the EW logger is also allowed.

A fundamental part of the proof provided by each piece of equipment is that it was actually in the glider that was flown by the pilot on the flight that the claim is based on. The way this is done varies according to the type of equipment and the year it was introduced (glider pilots in the early years were all sporting gentlemen but those of today are unscrupulous swine who will stop at nothing).

Barographs

As the oldest bit of equipment, barographs have the fewest rules relating to them. They must be sealed before the flight except for electronic types where these are considered as self-sealing. For the drum-type barograph this involves an OO dating, signing and putting their OO number in a corner of the trace prior to reassembling the barograph and sealing it. The most common seal is brown paper tape applied in such a way that it would have to be broken to open the barograph. The OO signs this tape to ensure that it is not removed and replaced by another similar tape.

There is no requirement for the barograph to be sealed in the glider but there is a requirement (except where the barograph is also an IGC-approved logger) that it should be out of reach of the pilot during the flight. This is probably because drum-type barographs are susceptible to the effects of gravity and you could gain a few feet by turning the barograph the other way up during the flight so that gravity was helping the needle reach the high altitude at some time after the low point had been reached. It also stops the pilot giving the barograph a good suck as the high point is reached, which could be worth a couple of hundred feet. It is understood that people don't suck IGC-approved loggers – they are expensive and there is a risk of short circuit – so they don't have to be out of the pilot's reach.

The barograph trace produced at the end of the flight needs to show certain data. Firstly, it needs to show information that relates pressure altitude to time in the form of a plot or numerical data. Next, it needs to show that this relates to your flight. Pilot's ➢

FAI and BGA badges and awards

THE FAI badges are Silver, Gold, Diamond and the 1,000km Diploma.

Silver requires: a gain of height of 1000m; a duration flight of five hours from release to landing; and a straight distance of 50km (which doesn't need to be declared) or a flight round TPs where one leg is greater than 50km (which does need to be declared). This could be for example a 100km out and return or a flat triangle where the middle leg is 50km or greater. The flight doesn't need to be completed but you must have done at least 50km of the greater than 50km leg and the one per cent rule applies to the total distance completed (see *The one per cent rule* on page 43 before you get too depressed.)

Gold also consists of three parts: Gold duration (if you've already got your Silver duration you don't have to do it again); Gold height, a gain of height of 3,000m; Gold distance, a distance flight of at least 300km. This can be an undeclared straight-line flight for those with low performance gliders and very good friends or a declared flight round one of the courses listed on page 43. As it is not a goal flight you don't have to declare your finish point.

The three Diamonds are: a height gain of 5,000m; a distance flight with the same rules as Gold distance but over a minimum of 500km; and a goal flight over an out and return or triangular course of at least 300km when you must declare your start, TPs and finish; start and finish must be the same point.

The 1,000km diploma, awarded for a distance flight of at least 1,000km has not yet been achieved in this country.

BGA Diplomas, which must all be done on flights that start in the UK, are the 100km Diploma parts 1 and 2, the 750km Diploma and the 1,000km Two-seater Diploma.

The 100km Diploma part 1 is for a flight of at least 100km over an out and return or triangular course. The rules are similar to the Diamond goal but the photographic or logger evidence can be checked by your OO and doesn't need to be sent to the BGA.

Part 2 is for a similar flight to part 1 but at a handicapped speed of greater than 60km/h. The rules for timing the flight and calculating handicapped speed are given on the application form.The 100km diploma is designed to be a stepping stone between Silver and Gold distance. Once you can fly a 100km triangle with satisfactory TP evidence and a speed of greater than 60km/h you will be in a good position to fly a 300km.

The 750km Diploma is a distance flight of at least 750km. There are in fact diplomas for single and two-seater flights so you can take a friend if you wish.

The 1,000km Two-seater Diploma is for a greater-than-1000km flight with two people in the glider. Only one has been done so far – by Chris Rollings and Chris Pullen in an ASH 25. Strangely enough, both the regional competitions that day set less than 300km.

If you were on your own in a two-seater you would qualify for an FAI 1,000km diploma.

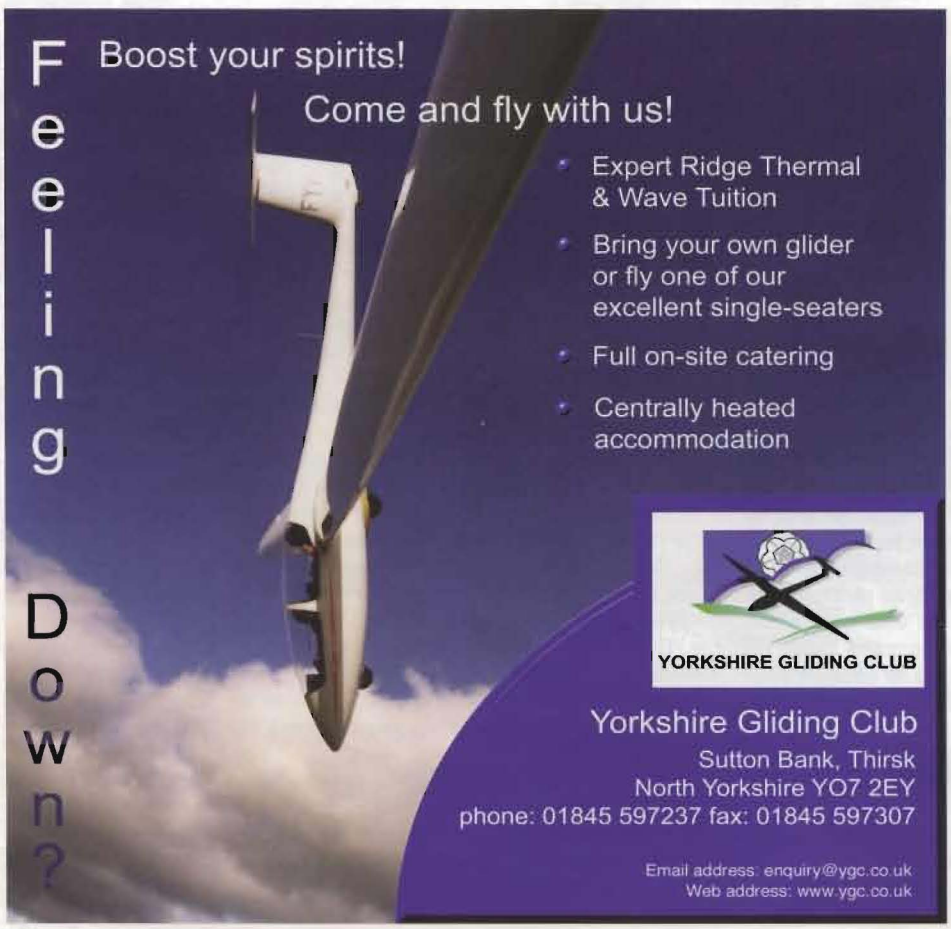
You must be alone in the glider for all badge flights. Although it would probably be comforting to have your CFI in the back it is not allowed, even if they don't say anything.

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➢ name, glider type, glider ID (comp No or trigraph as displayed on the fin) and date of flight do this. It may need to be checked against a calibration chart, so must show the barograph type and number so we know we have the right chart. Finally we need to know that the whole trace isn't a fiddle cooked up in a pressure chamber or with a needle and a steady hand – or, if it is, then at least it should be done during the period of the claimed flight. With smoked barographs this is done by having an OO date and seal the barograph on the morning of the flight. Electronic barographs usually have an internal clock so the OO printing the barograph can simply check if the clock is correct when printing and therefore knows that the flight was done at the time claimed. Loggers achieve the same thing by getting their time from the very accurate GPS system. Finally, it needs the signature and number of the OO who removed/opened/printed them so we know who to blame for being gullible if it all turns out to be a fake.

Cameras

The camera should be in a fixed mount looking down the wing for all photos except the final fin photo. For records, the camera should be sealed in the mount by the OO but this doesn't apply for badges. The lens should be within 25mm of the canopy so that any marks on the canopy are well out of focus and don't obscure the picture. The OO should then put a random mark on the canopy with a wax pencil or felt tip pen in front of the lens and hold the declaration while the pilot photographs it. The random mark will appear as a faint blurred line on the photos and, having appeared on the declaration, it would be very difficult for the pilot to move the camera to another glider (flown by the competent but bribable club pundit) and reproduce a similar random mark on subsequent pictures.

The first photo must be of the declaration. Unless this is in very large letters on the side of the launchpoint bus it should be taken from as close as the camera will focus. I need to be able to read the declaration and have no interest in the hat and shoes being worn by the person holding it. The TP photos need to be taken from in the sector (see diagram on page 44). Go a little way past the TP but not miles past and then bank until the wing is pointing at the TP. It is hard to identify the TP from a very shallow and distant view but it is even harder if the TP is not in the photo so practise locally before your first 300km. The final photo is of the glider's fin with a recognisable feature of your landing field in the background.

The film should be given to the OO for processing. The processed film should be sent with your claim form. Including the prints makes it easier to assess the photos. (See also *Paperwork Problems* on page 45).

Loggers

The approvals for each type of logger and the requirements for its use for badges and

records are available on the IGC web site. OOs should make sure they are familiar with the types of logger they intend to download. There are too many types to list here but there are common requirements.

Firstly, there should be some proof that the logger was recording the flight being claimed and not some other pilot and/or glider. The OO can seal the logger in the cockpit (which of course doesn't guarantee that the right pilot was flying) or, better, be present when the combination takes off.

Secondly, the correct flight should end up being examined and sent to the BGA. If you were the OO who sealed the logger in the glider or saw it take off with the logger on board then this is easy. You can take charge of the logger after the flight, download it onto a floppy and record the file name and barograph type and number on the green form and on the floppy disk (so I don't lose or confuse it) and send it to the BGA. If you weren't the OO involved then you should satisfy yourself that you are downloading the barograph from the claimed flight. You should be sufficiently familiar with the computer/software/logger being used to avoid being tricked with regard to the flight that ends up on the floppy disk.

Motorgliders

If the flight was done in a motorglider you need to prove the motor was not used during the soaring performance – that is, between the start and the finish. Get an OO to sign a means of propulsion certificate. There is an example in the sporting code but any piece of paper signed by an OO will do that confirms the means of propulsion was rendered inoperable or was sealed and the OO checked that this was the case before and after the flight, or that there was a means of propulsion recording system installed and the OO checked it before and after flight.

Declarations

A declaration is required for all badge flights which round TPs or claim a goal. It should be in the form shown (*above*). If it is to be photographed it may be on a blackboard or on paper, at least A3 size. If it's to be used with logger evidence then paper is better, as a blackboard is difficult and expensive to post to the BGA. Some dataloggers allow an electronic declaration to be made at the start of the logger data. You can change your declaration at any time before take off but only the last one made is valid.

FLIGHT DECLARATION

DATE OF FLIGHT
PILOT
GLIDER TYPE
ID LETTERS
BAROGRAPH/LOGGER TYPE
SERIAL NO
START POINT
TP1
TP2
TP3
FINISH POINT OR GOAL
PILOT'S SIGNATURE
OO SIGNATURE
OO NUMBER
DATE
TIME

Courses for badge distance flights

Except as stated in the requirements for the individual badges (see *FAI and BGA Badges*, page 41) the following are acceptable:

Straight distance: just go from your point of release to a landing point as far away as possible. No declaration is required and you can use it for all badge and diploma claims except Diamond goal and UK 100km. You will need good friends for the retrieve if the flight is 300km or more and possibly a life jacket and ferry tickets if it is over 750km.

Out and return: this is defined as a closed course with one TP. Strictly speaking, this means that you should make a start at your declared start/finish point rather than use your point of release.

Triangle: defined as either a closed course with two turning points or, if the course is 300km or greater, a closed course via three TPs where the start/finish point is not one of the TPs. The official distance is given by the sum of the legs of the triangle formed by the TPs. An example of this would be the popular 750km triangle: Petersfield, Welshpool, York. The official distance is 769km but the flight could be started from say Dunstable where the distance flown round the three TPs and returning to Dunstable would be 776km but the official distance would be 769km. This is often called a remote start triangle.

Distance using up to three TPs: the sporting code says this is: "A flight from a start point via up to three TPs to a finish point. If the finish point is the landing place then it need not be declared. The TPs must be at least 10km apart and may be claimed once, in any sequence, or not at all." Since this isn't a closed course flight there is no problem with going from tow. You have to be insane not to use this very flexible course for any badge except the Diamond goal and UK 100km diploma. Let me give you some examples of its use.

- You want to do your Silver distance but would like to be home for tea. The pundits aren't sure what the best direction will be. Declare three TPs, one 50km north, one 50km south and one 50km west. After take off fly to the TP in the direction which has the best weather and return home.
- You are planning a 300km triangle but the forecast is for possible spreadout. Use the third TP to give yourself an alternative TP at one corner of the triangle. If near the end of the day your home site is covered with spreadout then after the last TP fly in any direction to complete the required distance and land. This will give you a valid Gold distance but not a Diamond goal.
- The forecast is for the day of days. Everyone has declared 500km but you haven't done your 300km flight yet. Declare two TPs to give you a 300km triangle and a third which extends the last leg for 100km. Then if you are about to arrive home with another three hours of soaring left, continue onto the last TP and return for your 500km. If you are too slow then land home for your Gold distance (but not Diamond goal).

This flexibility does bring one problem. Your TP sectors will depend on where you are going next, so you should give some thought to making sure you are controlled at each TP.

The one per cent rule

The one per cent rule is the bane of Silver distance pilots. It applies to distance flights and states that the loss of height between the start and finish should be less than one per cent of the task distance and in no case should be more than 1,000m. Its purpose is to stop very easy distance flights being started from the top of mountains and ➢



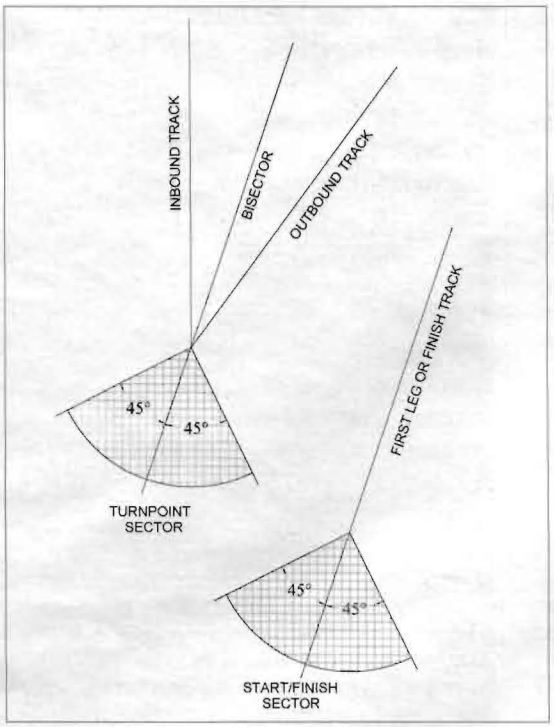
the white planes picture co.

Didcot power station is a favourite southern UK TP, but you must ensure you are in the correct sector

➢ finished in valleys (a typical 15-metre glider could do a Silver distance from a winch launch from the top of a 1,000m hill without finding any further lift). For the 50km Silver distance, one per cent is 500m or 1,641ft, somewhat less than the usual 2,000ft aerotow. Unless you are using a logger you can only prove your height at release and so a launch to 1,641ft at your favourite hill top site followed by a landing 50km away in the valley will not comply. If you are using a logger then it is possible to prove a low point in the start zone or a high point in the finish zone so that a start at say 2,000m and a finish at 1,001m would be acceptable.

Starts

The start of your flight can be the point of release from tow, demonstrating you were in the start sector, or crossing a startline 1,000m long, perpendicular to the outbound track and centred on the start point. Since badge flights – with the exception of the 100km diploma part 2 – are not speed tasks (if you've run out of day on a 500km attempt you may disagree with this), a release from tow over your home field on the opposite side from the outbound track is always a satisfactory start. However, even at the best-organised clubs things can go wrong and being released 5km down track on your 304km task could ruin your whole day if you don't go back and make a start by one of the other methods.



Start and turning point sectors. Unlike the 3km radius sectors used for competitions, the sector radius for badge flights is big. Not infinite, but very, very big

The Diamond goal and the UK 100km diplomas are closed circuit tasks which means that the start and finish should be the same point so if your release point is not in the sector then you should go and make a start at your declared start point.

Turning Points (TPs)

A TP can be a distinctive feature on the ground or simply a latitude and longitude. However you should consider the method of proof being used. A latitude and longitude doesn't show up very well on a photograph and a distinctive feature won't be apparent on a datalogger trace. It avoids a lot of trouble if you use the BGA TP list, which is available from the BGA or can be downloaded from the BGA web site. If you enjoy trouble and wish to define your own TP then it must be a reasonably specific point: "The end of the pier at Scunthorpe," rather than: "The North Sea at Scunthorpe". Even then you may be asked for further evidence, such as large-scale maps of the area.

However, if you are using a logger then lats and longs are very acceptable, especially for flights done with British OOs but abroad. It is much simpler to declare a set of lats and longs than to have to provide maps of where Asta la Vista town square is and what it looks like. You must demonstrate you entered the sector for each TP.

Finishes

A landing at the finish airfield always counts as a satisfactory finish even if the actual finish point is the hangar or the clubhouse or some other point within the airfield boundary. However, if you wish you can demonstrate you were in the finish sector or crossed a finish line. This can sometimes be useful if you declare a remote

How to cheat – but we wouldn't advise it

Height claims

How to cheat: With smoked barographs or electronic ones without a clock, get it sealed then put it into a pressure chamber and fake a credible flight. Then put it in your glider but don't switch it on and make a flight of similar duration so you can get take off and landing certificates signed. With electronic ones with a clock it's a bit more difficult as you have to get a friend to do the faking while you are flying so the take off and landing times agree. Another way is to simply get someone else's trace (there are lots of good height traces on the clubhouse computer at Aboyne) and then find the sort of sloppy OO who is prepared to sign anything to sign it. These OOs definitely exist since I get lots of barograph traces sent in with only the OO's signature and number on them. You can add any pilot's name and flight details afterwards.

Prevention: OOs should check the provenance of any barograph trace presented to them. If you haven't seen the pilot take off and land and removed the barograph yourself you should at least check that the club logs showed that the pilot made a flight with similar take off and landing times. Always complete all the required details on a barograph trace. Don't just sign it and let the pilot fill in the rest.

Distance claims

Photographs: Couldn't complete that Diamond goal because the last TP was overcast? Never mind. Don't take your fin photo. Then you can go and photograph the last TP next weekend. Or you could take one TP each weekend until you have the whole set. The first flight after the declaration has to be long enough to provide a credible barograph trace with the correct date on it.

Prevention: I know OOs don't always take charge of the camera after the flight and get the film developed but if you did supervise the declaration then find the pilot at the end of the day and ask if the flight was successful. If it was, then cancel the film by taking a ground shot. A clubhouse scene between two TP photos will always cause suspicion.

Loggers: Go to the club pundit who is planning a 300km flight that day and say: I've only just bought this logger and I'd like to check it works. I can't do it myself because its not my day in the glider. Could I leave it in the back of yours? You then have to find a sloppy OO to sign a declaration. When the pundit returns, retrieve your logger and wait a few weeks. Then find the sloppy OO again and ask him to download and check your trace and sign your landing certificate (fill out all the details beforehand). Do the same with the tug pilot (they never bother to check the club logs if you leave it for a few weeks) – and you have your Gold distance/Diamond goal.

Prevention: With secure loggers you can be sure that the logger did what the trace says it did. You can't be sure that it was in a glider with the pilot who is claiming the trace. Try to download the trace promptly after the flight and always check the take off and landing times on the trace against your own observation or the club logs.

OOs NEED TO KNOW HOW TO CHEAT, SO WE CAN STOP CHEATS.

start/finish because your home airfield is very busy or has airspace restrictions.

So what are the sectors and lines and how do you demonstrate you were in them or crossed them? Start/finish lines are lines 1,000m long, centred on the start/finish point and perpendicular to the outbound/inbound track. Sectors are – well, look at the diagram (see opposite, left).You can demonstrate you were in the sector by:

- Direct observation from the ground by an OO. This is occasionally done for starts and finishes and almost never done for TPs. Most OOs are reluctant to drive 50km to a TP and the chances are too high that they will have fallen asleep or gone for a cup of tea when you get there.
- Photographs showing indisputable evidence that you were in the sector. If there is a dispute because the TP feature isn't in the picture then it is up to the pilot to provide the necessary evidence to resolve the dispute.
- Logger evidence to show that either at least one point was logged in the sector or a straight line drawn between two points crosses the sector.
- For start and finish lines you can only use logger or observation evidence. This means you must use a sector, not a line, if you wish to use photographs.

Height claims

A gain of height is defined as the difference between the maximum altitude and a previous minimum altitude during the flight.

The minimum altitude may be done immediately after release from tow or at any subsequent lower point. It is a good idea to establish a low point on your barograph after release from tow by descending slightly for a few seconds (at least your logger interval).

Although the tug pilot's release certificate can be used to get an idea of the release altitude, the lack of a clear low point on your barograph trace could be a cause for rejection of marginal claims.

Final advice

This article doesn't duplicate the Sporting Code section 3 which is the master document for rules relating to all FAI badges and records.

The current version of the Sporting Code (Gliders) can be downloaded from *www.fai.org/sporting_code/sc3.html* It is updated every October 1.

While not exactly light reading, it was rewritten in 1999 and is now only half the volume and much easier to understand. OOs, and pilots planning to attempt badge or record flights, would be well advised to download the latest copy and read it.

There are some important differences between badge and record claims, which Basil will be looking at in a future article for *S&G*

Paperwork problems

The following are common faults with claims submitted to the BGA:

The Green Form

The current green badge form is dated October 1999. The form was previously updated in October 1997 to include a section on datalogger evidence and to provide explanatory notes on each section.

Many claims are rejected because the pilot or the OO simply haven't read or completed the form. I will not go through every section here but limit myself to two examples. The note at the top that says "a separate form is required for each flight" means that you must not put more than one flight on each form. When a section starts with the note "this section must be completed for every flight" it does not mean that "this section must be completed for every flight except mine" or "every flight except height claims". Are you getting the hang of it?

Read the form carefully and complete all the required sections, either before you submit the claim or after it is rejected and before you submit the claim the second time with a stamped addressed envelope.

Barographs

The most common fault in barograph traces is that the trace doesn't show the required information.

This is particularly common with the EW barograph. This prints the date, time and barograph number and then prints a form on the end of the trace with spaces for pilot's name, glider type and number and OO's name and number.

In spite of this traces are often submitted with only the OO's name and number on them. They are always returned with a request for the OO to explain how this could happen. It is almost like writing a blank cheque.

Cameras

The random mark needs to appear as a faint, blurred line on the photos. A thick strip of black felt tip is likely to obscure the photos completely while no mark at all may arouse my suspicions as to how genuine the flight was.

Winglets that grow on or disappear from the wingtip between the declaration and the first TP will definitely be considered grounds for rejection.

The declaration should be legible in the first photo. Unless this is painted in very large letters on a blackboard or the side of the launchpoint bus a paper declaration should be photographed from a distance of one to one and a half metres (the minimum distance at which it will be reasonably in focus on a fixed-focus camera). If the declaration isn't legible on the film then send the original in with the claim.

The TP photos need to be taken from in the sector (see *Cameras*, page 42 and the diagram on page 44). If there are features you think will help me make sense of the photo, like it actually shows a village 3km beyond the TP but in the sector, then include an explanatory note in with your claim.

The film should be uncut so that there is evidence of the order in which the photos were taken. It is getting difficult to prevent processors cutting the negatives, and cut negatives will not necessarily mean that your claim will be turned down if a thorough examination of the cut edges and other evidence suggests the sequence is genuine.

Finally, it is only the frames that relate to your flight that need to be uncut. The other 32 frames of holiday snaps can be removed unless they contain something you think would interest me.

Loggers

Those which don't support electronic declarations or where the electronic declaration hasn't been used have nothing on the trace to identify the pilot or glider.

It is therefore important that the take off and landing times and barograph type and number recorded on the green form are recorded from a source other than the logger trace, for example the club launch log, tug pilot's log and the OO who supervised the data logger.

Take-off and landing times on the green form that are very different from the logger times are cause for suspicion. Times that exactly agree with the logger times are also cause for suspicion.

Money

Yes, the BGA charges for badge claims. It is currently £8.00 per badge leg claimed and the claim will be rejected if no money is sent so do remember to include it in the envelope. Good luck with your badge-hunting!



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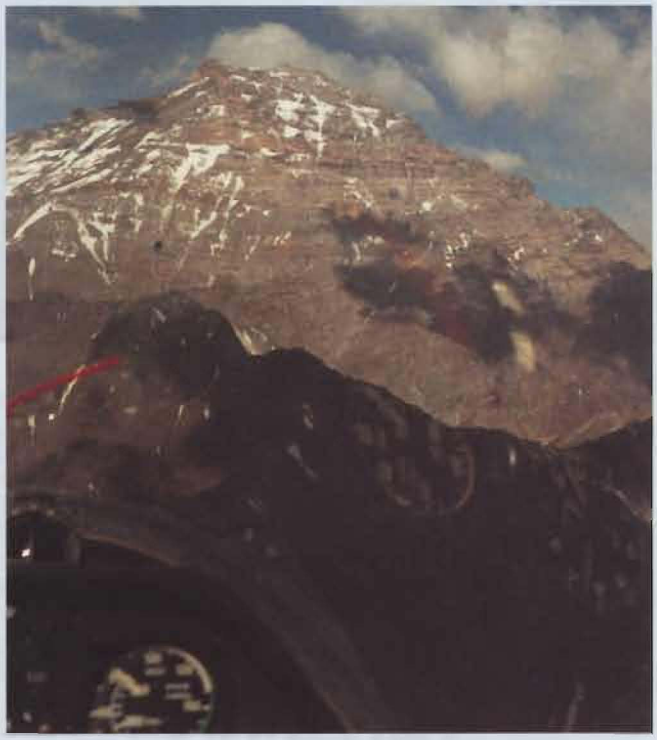


Richard Hall's polished photo of Grobs was taken near Enstone, Oxfordshire



Mary Meagher was inspired by London GC's recent experiences to paint this picture of a K-21

Dr Brennig James' picture of the summit of Mt Aconcagua, Chile, taken from 15,000ft and ten miles away. The ridge in the foreground is the border between Chile and Argentina. Dr James later flew over the summit (23,035ft) at 26,000ft





The end of another day's gliding. Tim Maw took this photograph of Edinburgh University GC's K-13, FUV, in the Gransden Lodge trailer park at sunset

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What to look for in a motorglider tug

In the first of a two-part series, Jochen Ewald offers advice on what to look for when choosing a motorglider for towing

MOTORGLIDERS can now also be used as ecological, economic and safe glider tugs. They were first used for aerotowing in Austria and France; and after a thorough test phase in Germany, during which the European JAR certification standards for motorglider aerotowing were established, several types suitable for aerotowing came on to the market. Here are some hints to help you, if you are choosing a motorglider for aerotowing.

Engines

The engine power, combined with the weight and performance of the aircraft, is responsible for the load that can be towed. The turbo charged engines (Rotax 914 and Limbach L-2400 EFIT) are good at airfields at high altitude or if aerotows to great altitudes are frequently required. Their disadvantages are that they are significantly more expensive and need more attention by the pilot.

Low empty weight, low wing-loading and low stalling speed

Advantages: If you have less engine power shorter take-off runs are possible with better acceleration and the tug leaves the ground with its additional drag earlier.
Disadvantages: Under turbulent conditions the heavier aircraft is more stable. When aerotowing heavier gliders (for example, with waterballast) the harmony is better, as the speeds of the tug's best climb rate and the min sink of the glider are nearly equal.

Constant-speed propellers

Some motorgliders are only certified for aerotowing with constant-speed propellers. *Advantages*: Optimal use of the engine power during aerotowing as well as during cruise; good additional brake effect in the descent. With the hydraulic versions there is additional fast switching to feathered prop position for gliding, either mechanical (Falke and Samburo) or hydraulic (Super Dimona). *Disadvantages*: Significantly more expensive (especially hydraulic systems) in buying and maintenance; more pilot skill needed for handling (the exception are Samburos, with a hydraulic system and a one-lever operation with automatic combination of throttle and prop setting). The electric propellers take a long time to switch from and to feathered (gliding) position.

Central wheel

This is available only in the Falke series, which also has a winch hook. *Advantages*: Lightest design with lowest drag on the ground and in flight; winch launches from airfields not suitable for self-launch are possible. *Disadvantages*: Less comfort; no turning "at the point" possible.



Jochen Ewald

Diamond Aircraft's Super Dimona HK 36 TTC: one of the new breed of motorglider towplanes

Two-wheel taildragger undercarriage

Comfortable, handy and standard equipment in today's motorglider tugs. All these undercarriages are available with separate brakes (operated by full rudder movement) and manual or automatic releasing tailwheels, permitting turning around one wheel.

Tricycle (nosewheel) undercarriage

Advantages: Handy, gives a very precise feeling during taxying with direct rudder-nosewheel connection (Falke). It is often preferred by power pilots converting to motorgliders. Better view while taxying (lower nose), hook at the tail in easy reach and not affected too much by dirt from the ground. *Disadvantages*: More expensive, higher drag on ground and in the air. The Dimona with its freely-turning nosewheel and directional control with the brakes gives only limited control under crosswind conditions.

Tow-cable retrieve winch

Advantages: Reduction of towing and taxying times; reduction of cable wear. No danger for other aircraft or ground obstacles from the cable. *Disadvantages*: More expensive, extra weight reduces payload.

Other extras

For all motorgliders the actual available payload is relatively low. Many comfortable extras the manufacturers like to sell not only cost money: because they have to be carried every launch, they also reduce the useful payload in normal use! (Just check whether your passenger can be heavier than 30kg after you have filled the big 'touring tank' in your motorglider!). For motorgliders which will be used mainly for aerotowing, training and air experience flying, standard equipment and fuel tank sizes are sufficient and make staying within the limits easier.

Tow-cable length and weak links

A tow-cable length of 30-40m has been found ideal for motorglider aerotowing. It allows easy thermalling with tug and glider. Longer tow-cables, often used with heavy tugs to avoid wing-dropping caused in the initial phase of the take-off by propeller turbulence, are not needed as prop wash is significantly lower with motorgliders. As the tests showed, weak links of 300kg to max 400kg are strong enough even for heavy two-seaters (although handbooks usually allow much higher limits) and only break when the situation is so extreme that they are expected to break.

From the tow pilot's viewpoint

Aerotowing motorgliders should have good cockpit ventilation, especially during taxying and waiting times (can the canopy be opened on the ground when the engine is running?). Otherwise, the pilot will suffer from the heat: lack of concentration on hot days has been the 'hidden reason' for many accidents. Control forces should be low, otherwise aerotowing becomes tiring work for the pilot. The cable release (or cutting device, with cable retraction winches) knob should be within easy reach of the pilot, close to the throttle.
Rear view mirrors should not be too small, nor reduce the image too much. They should be fixed so that they do not vibrate in flight. If cable retrieve winches are used, a second small mirror should be positioned to watch the tail end, to allow for checking that the cable is completely wound in before landing.
Seats should be comfortable, including when the pilot is wearing a parachute.
Finally, the fuel tanks should be equipped with a bright yellow control lamp in the instrument panel, indicating a minimum of c 5 litres of fuel remaining – running out of fuel is also a cause of a lot of accidents.
In the next issue, Jochen Ewald compares the different motorgliders available for aerotowing and comments on specific characteristics of each

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Club News

Please send your entries to *helen@sandg.dircon.co.uk* or Helen Evans, 6 Salop Close, Shrivenham, Swindon SN6 8EN, to arrive by **June 13** for the August-September issue. Your photographs (slides, or prints taken from film) are very welcome.Thank you.

Anglia (Wattisham)

WE HAD A good start to the season with many soaring flights in the usual good East Anglian spring weather. We welcome our new CFI, Derren Francais, and our new Assistant Instructor, Bod. Congratulations to him and Keith Hill on passing their instructor's courses; to new solo pilots, George and Carl; and, rather belatedly, to Julian on the completion of his Bronze. Trip, Nicki, Alan, Barbara, Missie and Bod are on an expedition to Australia. We hope they have good conditions and gain some badges! Special thanks to Andy for his work on the motorglider and Bod for his work with the MT.
William Jones

Angus (Drumshade)

THERE have been good soaring weekends in early spring. Gus Christie got to 8,500ft on a March Saturday and the club's SF34 soared on its second flight when it came on line again in April. Dave Thompson and Alex Maitland both tried Silver distance, but unfortunately could not find any more thermals halfway to the East Coast. Both landed out near Brechin. The rabbit population has risen this spring; work had to be done on the airfield, especially the landing strip, to ensure no glider disappeared down a rabbit hole.
Wolf Rossman

Aquila (Hinton-in-the-Hedges)

A PRISTINE trailer, overhauled by Mick Love, has joined the new K-21, which has thus escaped from its cage and done its first cross-countries. Simona Latimer, David Whittington-Jones and Chris Nicholson are following up Bronze Badges with Cross-country Endorsements so they can do the same. After four months' intensive debate, we've decided to re-name the club as – wait for it – Aquila Gliding Club. So the classicists won the day (Aquila is Latin for Eagle). Visitors are always welcome. If you're coming by air – glider or power – please remember that Hinton is an active parachute site. Listen out on 119.45 before overflying or joining to land – it's better than a boot through the wing!
Mel Eastburn

Bath, Wilts & North Dorset (The Park)

OUR THANKS to two members active in the club since it started in 1962. Ken Stephens joined before we started flying. He was an instructor, and over the past 15 years has been our very efficient secretary. He is now taking a well-earned retirement. Jan Smith will do the job. Mervyn Pocock joined soon after Ken, in 1963. He has been chairman for many years and is to become our president. He continues to instruct and to fly his LS-4 and Nimbus 3DT. Ron Lynch takes over as chairman. Good luck to them all! We now have five motorglider instructors. Nick Bowers has recently qualified as an instructor. Bob Hitchin is the proud owner of a Nimbus 3. We look forward to plenty of cross-country flying this year.
Joy Lynch



*Twins Neil (left) and Sean (right) Parrymore started training at **Booker** on February 5, 2000 and were sent solo on March 13 by deputy CFI Jed Edyvean (centre)*

Bicester (RAF Bicester)

THE AGM was held for the last time at Bicester. Most of the discussions were about the huge move to Little Rissington, which members are facing with a mixture of excitement and trepidation. Many awards were also made, including the Delafield Trophy (fastest O/R to Lasham) to Tony Mountain, Novice Trophy (best progress) to Nobby Clark and the Paddy Hogg Trophy (most meritorious cross-country) to Mark Minary. Others went to Owain Walters, Al McNamara, Matt Turnbull, Trevor Barnes, Al Farmer and Max Kirschner.
Yvonne Elliott

Bidford Gliding Centre (Bidford)

DAVE LLOYD IS organising cross-country tasks every other Sunday for those members (me included) who are new to or need more practice in the art – there will be prizes for the winners. The Bidford Swallow Syndicate presented Peter Freeman with a superb trophy of a miniature Swallow, made by Matthew Weinle, for the greatest free distance flight in the Swallow (89km). Our second club Puchacz is available: the pair has been nicknamed The Owl and the Pussy Cat. Our thanks to Bill and Shelagh for two excellent club gliders. Richard Munday surprised himself by going solo – well done! For more information about Bidford's competitions, including the Turbo/Self Launch (June 3-11) and the Wooden Ships (August 26-28), call us on 01789 772606.
Nigel Howard

Black Mountains (Talgarth)

PLANS ARE under way to improve facilities for members and visiting pilots, with work due to start in June on a new glider storage building, tug hangar and amenities block. March's launch figures were good, with visitors and members enjoying local wave and thermal soaring – the wave going to 'only' about 10,000ft. We are fielding an Inter-Club team again this year.
Mike Tomlinson



Well done to Lisa Wong (left), Sarah Kenton (in glider) and Laura Ashfield, all Oxford University GC members sent solo at Bicester on March 18 by Jamie Allen (centre)

Booker (Wycombe Air Park)

IT IS WITH some amusement that we report the first solo flights of our twins this month: they have the same Christian names as the Mclaughlin twins (*Club News*, p54, April-May issue). We welcome Jed Edyvean to the permanent staff. We are running a series of lectures on the psychology of competitive flying as well as our "Free Regionals" (starts July 22, a few places may be available) and a cross-country training week in August. New arrivals on site include an LS-8 for the BBC Group, a seemingly endless stream of ASW 27s (nearly double figures) and the first of almost a score of ASW 28s. The demonstrator should be on site by publication date.
Roger Neal

Borders (Milfield)

OUR GOOD start to the year continued with soaring flights every weekend from January to April; our more experienced solo pilots clocked up 86hrs in 22 flights. Keith Lattey went back to Northumbria GC, on one of the first thermal flights of the year, while his brother Alex completed Silver with a cross-country. Roger Cuthbert did a 100km triangle in wave, and the next day Andy Bardget and I went up to Gold height in wave (Andy already had his Diamond, but I finally decided to try it with a barograph). Phil Headland has soloed. We are developing a new website *www.bordersgliding.co.uk* with Alex Lattey's help; it should be up in late spring.
Bob Cassidy

Bristol & Gloucestershire (Nympsfield)

CONGRATULATIONS to Chris Hughes, still showing everyone how to find wave after 50 years. Instructors have decided every club solo pilot must have their log books signed every year to show at least one real or simulated launch failure and at least one flight demonstrating recognition of stall and spin symptoms and recovery. We have franchisees for the catering, bar and accommodation. Trevor Stuart's lead-and-follow exercises start in June. Landouts optional. Members are being asked what they think about more motorgliders on site. Officers are taking a long-term look at improving the fleet. An open day is planned in September. All Cs of A were completed, including a complete refurbishment of K-13 EUC by midweek instructor Danny Goldworthy. James Metcalfe took five Bristol University GC students to a hospitable Portmoak in April, spending 28 hours in the K-13. Every day was flyable; six were soarable.
Bernard Smyth

Buckminster (Saltby)

MEMBERS have enjoyed some very fine soaring weather during March and April and have already gone cross-country. The two K-6 syndicates have been reformed, another has purchased a Libelle, we are all keen to see the new AC-4C when it arrives, and a DG 400 will be joining us from Marchington.
David Brinkworth

Club News

Cairngorm (Feshiebridge)

DURING the recent superb spring weather several notable ladder claims have been flown in our mountain thermals (meteorological ones, that is). Following our recent AGM, committee changes include Ruth Binks as Secretary, John Whyte as Technical Officer, and Maggie Lambert taking over from Miriam Longstaff as Treasurer. Our thanks to Bill and Miriam Longstaff for their outstanding work in this area and to Nick Norman for creating a new computer program for the flying accounts. Bookings are still being taken for our celebrated Octoberfest wave camp. We are looking for a Pawnee tug, can anyone help? Please phone 01540 651317. Our web site is at *www.gliding.org*

Chris Fiorentini

Cambridge (Gransden Lodge)

WE ARE looking forward to our summer instructor, Stefan Uher, who will arrive shortly from New Zealand. Our weekend operation is expanded to a four winch cable operation which, along with our bookable training system, will, we hope, reduce the frustrations of training. The season started well with some 400km flights already completed. John Horsfield has soloed. David Tew completed his five hours in his first flight in the club Discus. Presumably he liked it.

John Birch

Cambridge University GC (Gransden Lodge)

EDINBURGH University GC bravely invited a few other student clubs, including CUGC, up to Portmoak for the first week of April. Seven of us headed north with our K-8 and one of Gransden's Juniors. Despite starting the week in snow we did a good 30hrs of ridge and thermal soaring with Jon Horne gaining a Silver height. Many thanks to all at Portmoak for putting up with us and to CGC for letting us borrow their Junior. Well done to Dave Hartstone for going solo and Will Harris for completing his Bronze and Cross-country Endorsement.

Debbie Thomas

Chilterns (RAF Halton)

TROPHIES were presented at the AGM by club President John Allison to Trevor Cook, Terry Lacey, Peter Mann, Steve Brown, Tony Heritage, Derek Jones, Pip Barley/Ian Pettman, Gordon Howarth and Luke Hornsey. We thank Bicester for taking us in when our airfield was waterlogged. Visits are planned to Sisteron and Chateau Akerman (Poitiers). The task week is from July 9 (Steve Wilford i/c). The Longest Day charity event, on June 24, precedes a celebration of 20 years at RAF Halton, to which past members and partners are invited. For tickets, contact K Tegg *kitegg@netcomuk.co.uk*, tel 01296 623535 x6198 or 07971 282068 (weekends) or at Chilterns GC, RAF Halton, Nr Aylesbury, Bucks. HP22 5PG; *www.chilternsgc.fsnet.co.uk/* Halton's ATZ (2000ft/2 miles) is active all times and its marked (grass) runways are power-only. Glider circuits and landings are east of winch cable (ie ridge side), power to west. Listen/call on 130.425 ("Chilterns' Gliders").

Tony Gee

Clevelands (Dishforth)

CLEVELANDS GC has been evicted from its home for the last 32 years. The Army took possession of the hangar annexes at the end of March; by the end of April we should have vacated the rest of the hangar. Despite every obstacle being put in our way, members have rallied round, and contributed time, sterling effort, and money to lay the foundations for a viable future for the club. It will be a difficult time, but plans are in place for us to continue at Dishforth over the summer and for the foreseeable future. Our new domestic accommodation is in place on the north side of the airfield and will be painted in the precise shade of green so as not to offend residents and passers-by. Our new aircraft storage facility is due to be finished by the end of July. Please check out the latest news: *www.dishforthairfield.freeserve.co.uk* Congratulations to Dave Southworth on his first solo; to Pat Rowell – our oldest flying member – who celebrated his birthday with a flight in his Shadow; and to Colin Walker who clocked up his half-century.

PW

Cotswold (Aston Down)

A NOSTALGIC farewell to our reverse pulley launch system now our Skylaunch winch is fully commissioned. We've had excellent launches in light winds and cross-winds, which tended to be more difficult with the old system. Thanks to Simon Lucas for sorting the practical details. Thanks, also, to everyone who helped make the Valentine's meal such a success. Several new or refurbished gliders have arrived on site, including a shiny ASW 20 and an even shinier Discus 2. Four members visited Portmoak, in the snowy season just before Easter. Very little flying! Congratulations are overdue to David Roberts on becoming Chairman of the BGA. Well done to Brian Birlison on becoming an assistant instructor and Dave Gardiner a Basic Instructor. We shall host the Open Class Nationals and the 18m Nationals at Aston Down this year. See *www.cotswoldgliding.co.uk* or *www.openclassnationals.co.uk*

Frank Birlison



***Burn GC**'s Rachel Forman, aged 12, was spotted by Tony Flannery trying out her dad, Mike's, Cirrus for size*

Cranwell (RAF Cranwell)

THE CLUB'S AGM, conducted by new chairman Al Hawes, reported an increase of 300 in hours flown – now equating roughly to those logged by our current neighbours, The Red Arrows. Arthur Docherty and Charles Skiera went solo on their 16th birthdays, with Arthur quickly adding his Bronze Badge. Simon Kingwill, Andy Cornthwaite and Al Hawes added to the tally of solos. Dave Fidler, the outgoing chairman, achieved Diamond goal and Ged McKnight Gold height, with Silver heights for Nick Price and Mike Derwent. Zeb Zamo was awarded his MG PPL. Ted Threapleton, the club president, regretted not having had more time to fly but said that his son and daughter in law, Kate Winslet, had much enjoyed their day with us. The presidency will shortly be handed over to Graham Dixon. Annual trophies were awarded to Richard Browne (3), Arthur Docherty (2), Mark Heselwood, Mick Lee, Sue Wood, Mark Crocker, Mick Baker and Charles Skiera. Our membership has increased and thanks to treasurer Bob Arber, and many others who maintain the infrastructure, the club is set for another promising year.

Paul Skiera

Denbigh (Denbigh)

OUR FLEDGLING club celebrated its first birthday with its first AGM and the fantastic news of a 15-year lease for our airfield. We are definitely here to stay – especially now we have fishing rights! John Oxley Dean and Keith Lewis (Denbigh's executive) received unanimous applause for their hard work. Thanks also to Roger Coote (BGA Development Officer) for his invaluable help. Strong membership growth and our popular two-day soaring mini break mean we are looking for volunteer instructors; if you would like to help please give us a call. Our newly painted Falke motor glider has been working hard and all our Bronze pilots have gained their Cross-country Endorsements. Congratulations to Dave Catherwood for going solo. You can visit our website at *www.DenbighGlidingClub.welshnet.co.uk*

Martin Jones

Derbyshire & Lancashire (Camphill)

DESPITE some snow and mist, we have been soaring in wave, thermal and ridge. Manchester University student Jamie Menzinger soloed and Richard Dance completed his Silver. Friday evening RT courses are well attended, which means lots of people available to get gliders out on Saturday mornings! We've said a fond farewell and thank you to John McKenzie, for 11 years our able and enthusiastic club manager. He has made many friends, here and elsewhere. Our new Steward/Administrator is Allen Sherett whose wife, Tracy, will be taking on the role of caterer. Peter Lowe will be our summer club instructor and Charles Devine our winch driver. Members' holiday courses have been introduced this year and are already oversubscribed. Events include the Vintage Week which starts on June 24 with a Midsummer Madness flying day for members on July 1. Our new website is at *www.dlgc.co.uk*

Diane Reid

Devon and Somerset (North Hill)

JOHN BURROW and Pete Stapleton have become Basic Instructors, Peters Callaghan and Palm have Bronze Badges. There have been expeditions to Cerdanya and Portmoak, where Godfrey King gained Silver duration. You can see where the ridge is from his logger trace! At times some of us find it hard to keep pace with new technology at North Hill: a "Rectangular" control centre replacing the venerable Bubble, a trendy quad bike on trial and of course the ASH zipping up and down the peninsula with a wingtip in each sea breeze front! Yet we remain a friendly club with a good fleet and offer free daily membership to any visitor from a BGA club. Why not pay us a visit and explore into Cornwall? We are holding an open day on June 4. Just watch out for the DZ around Dunkeswell if you come by air.

Phil Morrison

Dukeries (Gamston)

THE SOARING season starts earlier every year. In 1998 our first soaring flight took place mid-February, this year it came a week earlier. Craig Hobson joined yours truly, instructing in the club's Janus. Alan Jones and Ron

Vickers soloed on the same day. Mike Terry is now a Basic Instructor and Nick Ashton, not satisfied with his recent solo, has completed his Bronze. Congratulations to Mick Burrows for the Ted Lysakowski award of a week's competition flying at the Lasham Regionals. The experience gained will be of great benefit to Mick and the club. Our first outing to Portmoak is due: as ever the talk centres on elusive Golds and Diamonds.
Dave Hall

Essex (Ridgewell/North Weald)

OUR SOARING season started at Ridgewell on April 1: the very first winch launch produced a long flight and Paul Fournaise completed his Bronze C – well done. At the time of writing, Stephen Spielberg is filming an episode of *Band of Brothers*, a WW2 serial, for TV. Although North Weald is full of plywood cutouts of Dakotas – and a couple of real ones – this has not interfered too much with our flying. We have a Skylark 3 at North Weald, enabling solo pilots use of a club solo machine at both sites. We are sorry to report the death of Maurice Quire (see obituaries, page 59).
Peter Perry

Essex & Suffolk (Wormingford)

AT OUR AGM Chris Smith become winchmaster and Rob Lockett technical officer. The club has bought a side-by-side French two-seater, the Silene – very cosy. New member Mark Jerman brought his ASW 27, Merv Gooch acquired a Mini Nimbus and Robbie Nunn bought himself a Cirrus in which he has already notched up 100km on one of the year's few good days so far. Despite poor weather, Peter Hibbard and Steve Cocks have soloed. Luck came Eddie Leach's way recently when he found himself working (he swears he was) near Aboyne. With "a few hours to spare" he went there, took a check flight to 12,000ft then was let loose in the ASW 19, which he took to 14,500ft for Gold height. So well done Eddie and if anybody wants any pump engineering done in Scotland or Wales please contact me via Essex & Suffolk GC.
Steve Jones

Fenland (RAF Marham)

CONGRATULATIONS to Bernard Hicks on his first solo and to Tim Edmunds who flew to full Silver with his 50km to Coltishall. Two of our pilots are just back from Sisteron, a change of rules meant that they couldn't get to Diamond height, but enjoyed cross-countries instead. We appear to be staying at Marham but have no clubhouse or hangarage to move to when we lose our present ones. Yet!
AJ Padgett

Four Counties (Syerston)

FOUR COUNTIES has had an influx of new members: we welcome them all. The weather during February and March has been very kind; we have been able to do lots of flying. We have the airfield to ourselves for our Easter task week, which we hope will be very successful. Our new tea bus/children's play area conversion is well under way and is due on line by the end of April. Three more students have gone solo, Andrew Langton, Jean-Vincent LeBé and Graeme McArdle, all of whom will now be vying for the K-13 for those Bronze legs!
Al Craggs missed his first Bronze leg by 4mins in the K-18 – better luck next time. Richard Hood has taken over as aircraft member from Ian Tunstall, who put in a huge amount of work during his years in the post – a big thank you to Ian, who is still very supportive of the club.
Sue Armstrong

Highland (Easterton)

ROBERT TAIT has taken over as CFI from Angie Veitch after 13 years; he has a hard act to follow. Our best wishes to him and thanks to her. Congratulations to Roger Christie on his five hours and Eddie Muirden on his two-hour. Despite 6in of snow to start our April flying weeks and rain and gales to end them, they did produce some good ridge, wave and thermal soaring. Many thanks to Deeside for their tug and tug pilots. RAF Lossiemouth gave a very informative talk to members about the interaction between gliding and RAF operations in the north of Scotland. Our website *www.highglide.co.uk* should be online in May.
Teresa Tait



Highland GC's chairman, Andrew Anderson (left) presented Angie Veitch (centre) with an EW logger in recognition of 13 years' tireless work, when she handed over as CFI to Robert Tait (right). She let her own Astir be used as a club single-seater and is said to have travelled 100,000 miles between home and club as CFI

Imperial College (Lasham)

IMPERIAL College has had a very busy and successful term. Our newly-acquired Discus – 296 – flew in March. The Grob two-seater, 496, had its wings re-gelled. Chris Smart and Hemraj Nithianandarajah completed Cross-country Endorsements in March with Silver distance flights in April. If they finish their Silvers in time, both will enter the Junior Nationals. Luke Rebbeck took part in British Junior team training over the Easter vacation in Spain. The club has many traditions – the Easter Course at Lasham being one. Ten keen students descended on Lasham, despite the traditionally bad weather. All made good progress, and many of the new students are well on their way to solo. This is the club's 70th anniversary year; planning is well under way for the celebratory dinner on Saturday, October 7, in Alton. Anyone connected to the club interested in attending should contact me on *christopher.smart@ic.ac.uk* or write to the club c/o Lasham Gliding Society.
Chris Smart

Kent Gliding Club (Challock)

WE HAVE had some fine soaring days to start the season and look forward to the start of our seven-days-a-week operation with the return of Andy Beatty, our resident instructor. Andrey Samuels, Chris Luton and Walter Shine have done their Basic Instructor training. An *ab initio* course over recent Saturdays has been a success as has our Bronze C theory course. Alan Garside is Challock's latest pilot to have all three Diamonds. Our AGM saw the return of Grahame Underwood, Stefan Bort and Tim Gardiner as club officers. Bob Burden, retiring CFI, Shirley Barker and John Reeves have left the committee after years of hard work – many thanks. Alan Garside took over as CFI again and Sally Crowder, John Turner and Dennis O'Nions joined the committee.
Caroline Whitbread

Club News

Lakes (Walney)

THE CLUB thanks Alan Dennis for his hard work and dedication, both as a valued club member and in his roles as club secretary, tug pilot, assistant instructor and barman! He will be a hard act to follow; we all wish him the best of luck in his new career. When we have flown, the conditions have been good with wave and thermal days. Roy Jones did his 100km in thermals; the Capstan managed an epic flight with Peter Redshaw at the controls, recording the longest out and return for the aircraft. The K-21 also achieved a good height gain, getting to well over 10,000ft in wave.
Peter Seddon

Lasham Gliding Society (Lasham)

PAUL DAVIS retired as vice chairman, and Simon Larkin from the Committee of Management. We thank them for their service. Peter Paterson was elected vice chairman and Alistair Nunn to the committee. The following members of the social committee will retire after the Lasham 2000 event: Katy Thompson, Talia Wilson, Marion Masson, Graham Garnett, Anna Goodwin and Andrea Larkin. Flying awards have been presented to: Terry Flatt, Steve Cheshire, Steve Jones, Paul Kite, Andy Hall and Marilyn, Jill Burry and John Crayden. The award for non-flying contribution to Lasham went to Colin Raisey. By early April two 400km flights, seven 300km flights and ten 200km flights had been flown. An expedition to Ontur is taking place. We sadly report the death of Dr Tina Render. Our sympathy goes to her family (see obituaries, page 59).
Tony Segal

Lincolnshire (Strubby)

THE CLUB continues, despite our occasional absence from these pages. A local council grant has let us buy a Blanik. We have established two flying scholarships for young people – one donated by Maureen Haddon in memory of her late father Stan Fenn and the other by members. Both have been filled. We also have 15-year-old Adam Hayward gliding as part of his Duke of Edinburgh award. With the three of them giving us oldies the run around it's keeping us all young. At the AGM Dave Raymond was replaced as treasurer by Gerry Bloor, and Henry Draper as flying evening co-ordinator by Nick Kendall. Trophies went to Alan Ely, John Brookes (2), Phil Pickering, Patricia Ridger, Dave Ruttle (2) Gerry Bloor and Steve Sykes. The first hour of the year was Jonathon Woodforth's, beating his father Dereck only because he took the first of the pair of cables they shared. Henry Draper had the honour of being presented with Maundy Money by the Queen at Lincoln cathedral.
Dick Skerry

Mendip (Halesland)

A HUGE snowdrift awaited the Thursday group when they arrived at the beginning of April. The surprise was that it was inside the hangar. There was a smaller one outside. The main celebration of our 25th anniversary will be on June 17 concurrent with the dawn-to-dusk. On that day we plan to charge members the same rates as those in force when the club was

formed but there will be a time limit of around ten minutes per flight. Brian Headon's Bronze Badge lectures have been well attended and there is already a waiting list for field landing checks. We are expecting quite a crop of new cross-country pilots and keen competition for places in the Inter-Club League Team.
Keith Simmons

Midland (The Long Mynd)

A LARGE party of flying Dutchmen who came for the joys of the bungy heralded the course season. They found them, with subsequent wave climbs of up to 14,000ft. Colin Knox showed extraordinary skills by building a new winch that will partner the Skylaunch. Many volunteers helped. Colin's less savoury talents may soon be called upon as a large, cat-like creature was seen to clear the boundary fence in one leap. We have a Mynd team flying the Duo Discus in Euroglide 2000. Paul Salisbury soloed, Richard Cooper resoloed and the new treasurer is smiling! The CFI took four trophies at the dinner dance, and eyes opened when Messrs Andrews, Turner McArthur and Holmes shared the prize for best flight in a club glider. Was it a Hamilcar? There is a discount of up to 50 per cent off our courses for BGA members who can take up standby places on the preceding Friday.
Roland Bailey

Needwood Forest (Cross Hayes)

FOLLOWING the soggy season we have decided to improve winter flying by investing in Netlon, a special nylon mesh, which will be put down at the Eastern end of the airfield. The annual dinner was a roaring success, with more than 40 attendees. Trophies were presented to Bob Scothern (CFI's Trophy for best progress in the year), Alan Roberts (Triangle and Cross-Country trophies), Gareth Evans (Edge and Whiteley trophies) with Val Roberts, our Chairperson and instructor, securing the Hog Trophy for the most instructing in the year. In the private fleet, a K-6 has departed to its previous home, to be replaced by an Oly 2B. Our "Mule" retrieve vehicles, Wallace and Gromit, have been converted to gas.
Grant Williams

Nene Valley (Upwood)

JANUARY'S weekend flying was halted so that members, led by Barry Meech, could blitz hangar and clubhouse – their efforts were rewarded with accommodation for members and gliders well on track. Ron Sibley and Janet Emms ran a very successful dinner-dance on February 5. The chairman's award went to Brian Cracknell for his overall contribution to the club. The CFI's prize went to



*James Baker, grandson of flying duo Gwen and John Edwards, went solo on his 16th birthday at **Norfolk GC***

Gary Nuttall. Roger Emms relinquished the reins as CFI after seven years. His unselfish efforts, and excellent support from Janet, have been most appreciated. Martin Reynolds, who was to take over, decided to accept Her Majesty's invitation to serve in the Falklands! John Young kindly offered to bridge the gap. Taff Turner and Roger Morrisroe worked long hours refurbishing a winch. Brian Cracknell has been very busy completing repairs and C of A work. Our Task Week is the first week in August. We were deeply shocked and saddened by the untimely death of Marshall Papworth, in an aircraft accident at Upwood, on March 24. He was not only our landlord but a very generous individual who, on so many occasions, helped us improve the club facilities. He had many friends in the gliding world and will be sorely missed by both them and all of us at NVGC (see also obituaries, page 59).
John Pike



*New solo pilots at **Rattlesden**: Mark Shaw (left) and Johnny Lawson. Johnny, 16, is the first cadet to go solo*

Norfolk (Tibenham)

OUR ANNUAl dinner-dance in March was a success. CFI Ray Hart won the cross-country ladder and the President's Trophy; other cups went to Roy Woodhouse (3); Barry Furness, Mick Kirby, John Gammage, and Chris Retzler. Two-seater cups were won by Matt Cook and Barry Marcham, and John Gilbert and Alan Booth; Harvest Task Week by the K-6E (Woody and me). Josie Briggs earned the Work Cup. The Norwich Castle Mall promotion generated trial lessons and, more importantly, keen new members. Thanks to Barry Furness, Norman Clowes and their team of volunteers. A work weekend organised by John Kinley resulted in a much smarter-looking airfield and workshop. Carl Barber has his first Bronze leg. We have bought a second Robin.
Bonnie Wade

North Wales (Llantisilio)

THE SITUATION remains the same: we are awaiting the outcome of our planning appeal against Denbighshire County Council over our new site. Meanwhile we shall fly, weekends only, from May 6. For information about the club or an update on progress please call either Chris Bolton on 01352 755052 or CFI Dave Holt on 0151 356 3720.
Gill Pennant

Northumbria (Currock Hill)

RICHARD Scott has completed his Silver Badge and Dave Mands has Silver height thanks to more spring wave days. The syndicate Venture has been replaced by a Grob 109B; the aircraft is available to club members too. A display featuring our Astir at the MetroCentre shopping complex, an open day and a local press feature have boosted trial lessons and membership.
Martin Fellis

Oxford (RAF Weston on the Green)

AFTER A torrid journey to somewhere in Germany and back (details of which are not for the faint-hearted) Cris, Claire, Carole and Claudia delivered our new DG 505. It sat in the workshop being "oohed" over, having its instruments and anti-macassars fitted – got to protect the ex-Renault Clio upholstery – in anticipation of a roll-out on Easter Saturday. How can we get it in the hangar without dumping the rest of the fleet? In anticipation of having a nice big white glider to fly, more OGC members have been going solo. Phil Overy, who must get the award for perseverance, made it when many would have given up; John Duval managed to show his instructors that it would probably be safer for them if he flew by himself; and Henry Clarke was the first of last year's cadets to let go of the apron strings.
Steve McCurdy

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Peterborough & Spalding (Crowland)

MARCH was good, with lots of new members and income nearly double the same period last year. Congratulations to Stuart and Chris Beaumont (father and son) on completing their Bronzes and Cross-country Endorsements; to Jeff Howlett, who has regained his Full Cat; and Trevor Nash, now an Assistant Instructor. At our AGM in February, Noel Mclaughlin stepped down as chairman after many years' sterling service, as did Les Rigby: we thank them and wish them well. Manuel Williamson is chairman; we wish him success. At our well-attended dinner-dance, prizes were presented: CFI's Cup, Roger Gretton (only member to complete all three Diamonds); The Hayden Hare Trophy, Big Al Flintoff (most notable cross-country); Glenn Williamson Trophy, Annie Ewer (best student); Club Ladder Shield, Adam Laws; Wooden Spoon, Reg Glenn (for 'losing' the fuel bowser); and the Toyota Trophy, Joan Pybus (most interesting retrieve, from a locked compound at Corby). Our open day is June 11 and our flying fortnight the first two weeks of August.

Peter Goulding

Portsmouth Naval (Lee on Solent)

RETURNING CFI Martin Henegan was straight into the action, checking new BIs Jim Clarke, Dave Ingledew and Henry Freeborn. Many thanks to outgoing CFI Ken Stephenson. Our new Skylaunch toy has arrived.

Pete Smith

Rattlesden (Rattlesden)

THE AGM in March marked Dr Humphrey Chamberlain's retirement as secretary after 19 years. He was presented with a painting showing the K-7 he brought to the club and the Citabria tug he jointly owns. In March we ran a successful mini-expedition to Sutton Bank for *ab initios*, early solos and curry eaters. The club fleet now includes an Astir and a refurbished K-13. Ten pilots are going to Ontur in June for some Spanish soaring.

Julie Taylor

Scottish Gliding Centre (Portmoak)

WE HAVE had really good weather for the last two months, with several large cross-countries flown. On March 11, three flights of over 500km and six of over 300km were flown from here. Congratulations to Tony Brown on Diamond distance, Gavin Goudie on Diamond height, and Steve Nutley on Diamond goal. Iain Armstrong, Bob Adamson and Rob Lewis have all flown solo, and Paul Copeland has re-soloed. Eoin MacDonald is running a Basic Instructor preparation course on Monday evenings, and we hope to have some new basic instructors soon.

Neil Irving

Shalbourne Soaring Society (Rivar Hill)

WE HAVE bought a K-13 from Bicester and a trailer from Talgarth. We are sad to lose the Bergfalke, but hangar packing was becoming an art form! Congratulations to Alan Sparrow for becoming a Basic Instructor; Martin Hoskins for completing his Assistant course; Wendy Coome for her first solo and Martin Jones and Peter Ellison for completing Bronze. April's Camphill expedition had only two days' flying. At Shalbourne, we achieved heights over 5,000ft in March. Our CFI has a Pegasus 101, leaving hubby Alan with her old Astir. There is also a Duo Discus; despite early concerns, our winch is launching it to decent heights. We have applied for planning permission for occasional aerotowing and hope for news of this by the next *S&G*.

Clive Harder

Club Focus: Shalbourne



THIRTY-something years ago an enthusiastic farmer asked a bright young glider pilot: "if you were going to build an airstrip on my land, where would you put it?" A few weeks later, heavy earth movers had graded a strip of ample size for the farmer's new Cessna Cardinal and a 'large agricultural building' was under construction. Those were the days!

It wasn't long before the young glider pilot (who, incidentally, now occupies the back page of *S&G*) turned up with his friends. They had chosen, at Rivar Hill, one of the most soarable and beautiful locations in England: chalk downland that turns on like a hotplate whenever the sun smiles, landable fields horizon to horizon and a ridge thrown in for good measure. It's simply glorious gliding country!

Shalbourne Soaring Society retains that frontier spirit, the hundred or so members providing all of the effort that is required to keep gliding accessible to those of the humblest means. Shrewd management has given the club a very strong fleet, to which our most recent addition is a K-13.

Planning restrictions prevent aerotowing, but with our two powerful winches and a mile-long strip, launches less than 1,500ft are regarded with disdain. Our ceiling for wire launches is 3,000ft: something we just have to put up with.

Cotswold Control Area is two miles above us at FL105 and despite the airspace south looking like Spaghetti Junction there's plenty of room if you stay above 3,000ft. Which is what Mike Edmonds did last September, cloud-climbing to 11,500ft for his Gold height.

The club operates at weekends, and on Wednesdays, with odd weeks for courses and competitions. This year *ab initio* week is June 12-16, and the task week from August 5-13 will offer challenges for pilots of all abilities. Shalbourne welcomes reciprocal members so email CFI Liz Sparrow – *ebertoya@iee.org* – if you would like to join us for any of these events. Finally, remember horse-breeding country is never far away, so keep your eye open for aristocratic-looking beasts in expensive-looking paddocks. The chances are that if you disturb a mare in foal your million pound third party cover won't even pay the barrister's fee.

At a glance ...

Launch type & cost:
winch, £5.00
Club fleet:
Puchacz, K-13, K-7; K-8 (x3), Astir
Private gliders: 34
Instructors: 16
Types of lift:
ridge, thermal, occasional wave
Operating days: weekends and Wednesdays; occasional courses
Contact:
Steve Ottner, Chairman: 01635 41803
Colin Baines, PR: *colin@datacell.uk.com*

http://fly.to/Shalbourne

Above: view northwards to the hill (seen below right). Below left: don't rely on seeing "Rivar Hill", cut just for S&G





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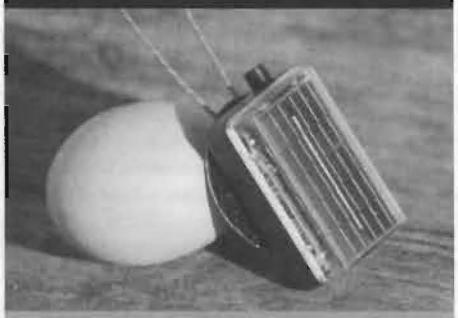
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Shenington (Shenington)

Roger Andrews completed his Bronze Badge and Mike Miles gained his Assistant Instructor rating. Our course season has started, with a second instructor – Bo Nilsson – from New Zealand. We have a soaring course planned, plus an Inter-club entry and a club ladder now starting. Expeditions are welcome as are visitors to our task week (August 14-18) – please let the office know. At a Fly In by the British Medical Pilots Association (June 16-18) we hope to host balloons and light aircraft as well as gliders. Do join us: we'll be having a barbecue that weekend, and the first Saturday of most months in summer. Keep up with us at *http:/freespace.virgin.net/fisher.m/sgc/*

Tess Whiting

Shropshire Soaring Group (Sleap)

IT'S BEEN some time since we appeared in *Club News* but we have not gone away. For a membership of around 25 we manage a very respectable turnout every weekend, even if the weather puts the emphasis on a cup of tea and a plate of chips in the greasy spoon. Our youngest member, Alastair Gilson, had a go in the Junior Nationals and our president still flies regularly, at 82. Wave flying has been poor by previous years' standards but even so most members have enjoyed several wave flights. Dave Triplett seems to have finally overcome the engine difficulties on his ASH 26 after months of visits to Midwest and even Poppenhausen. Chris and Jo Fox have joined us with their Janus and we have several temporary refugees from the battle over starting a new site near the Horseshoe Pass. Liz and Julian brought their ASW 19 and Ian Skinner (a new tug pilot) and partners deposited a strange Eastern European metal device on site. Ron Rutherford is fighting the CAA for the right to fly the Chipmunk. Alan Levi, tugmaster for 30 years, is now flying 146s for Jersey European. We have had one Diamond goal and several Diamond goal and height repeats. We have also seen expeditions to Chauvigny (in France), Feshiebridge, Bidford, Hus Bos, Camphill, Aboyne and Talgarth.

Keith Field

Southdown (Parham)

MARCH 18 was a glider pilot's dream: ridge-running and strong thermals with wave flying later in the day. Our resident TV star, John Lee of Colditz glider fame, took to the air followed by every serviceable machine on site. He remains completely unaffected by stardom and even rigs his own glider. He delivered the Colditz warbird personally to the Imperial War Museum where it may be viewed by an even wider public. Warmest congratulations to young-at-heart Peter Clowes for concluding his Basic Instructor course.

Peter Holloway

South Wales (Usk)

THE THERMAL season began in January and our field remained flyable throughout the winter thanks to NRA work on local rivers. As a result, Simon Lewis became the first pilot ever to go solo on site in January, and within two weekends had two Bronze legs. At the annual dinner, trophies went to Dave Jobbins (pundit), Maureen Weaver (intermediate), Hugh Rattray (novice), Simon France (height gain) and Pete Saunders (most promising *ab initio*). Peter France became honorary vice president in recognition of the time and energy he has devoted to the club as instructor, tug pilot, CFI, advisor on aircraft and instrumentation, worker on every aspect of club improvement, and encourager of less experienced pilots. Our fine new toilet and shower block is now complete.

MPW

Staffordshire (Seighford)

CONGRATULATIONS to Graham Burton for completing his Bronze in six weeks, and to Barry Ward, the first new solo pilot of the year. Glyn Yates celebrated victory (1st Sportsman, 2nd overall) in the Dan Smith Memorial Glider Aerobatic Competition. Paul Crump finished 4th Sportsman (7th overall) in his first competition. Sterling work by Ian Davies means CFG (K-13) should soon return to the club fleet. Promotional events in Stafford and at Trentham Gardens went well. Congratulations to Mike Abbott on becoming an Assistant Instructor. There have been impressive early cross-countries: 100kms have been flown by Glyn Yates (DG 400), Brian Pearson (Std Cirrus), and Shaun Longden/John Mclaughlin (K-21). Thanks to all who helped in the clean-up weekend. Following our enjoyable visit to France last summer, we look forward to Belfort GC's reciprocal visit early in July. The Hangar Dance takes place on June 17 – it should be a roaring success again. By the time you read this, we will have acquired a Scout tug from Rufforth.

Paul (Barney) Crump



***Stratford GC** celebrated the "flight of the century" in March with the first solo of Jennie Edwards (at 16 years) and, a week later, George Sperryn's first solo (at 84 years): total: 100. Congratulations to both for persevering. Local publicity included an interview with George on CWR local radio live at 0650hrs* *Photo courtesy of the* Stratford on Avon Herald

Stratford on Avon (Snitterfield)

WE ARE delighted to report a successful application to the English Sports Council for a lottery grant towards adaptation of the K-21 to fly disabled people. Much effort has been put into providing suitable facilities with a new toilet and wheelchair ramps to the clubhouse/toilets and Mary's catering emporium. Neil Campbell has designed a superb hoist to enable us to lower physically impaired visitors into the aircraft for flights and tuition. It is currently undergoing proving trials and should be in service by June. Congratulations to Roy Wood on completing his full rating at Bicester. Several Basic Instructors are training to become Assistant Instructors. Courses are from May to September, with evening programme as in previous years.

Harry Williams

The Soaring Centre (Husbands Bosworth)

CONGRATULATIONS to Mike Jordy on the first 300km flight of the year; Bernard Noyes and Martyn Walker on going solo and Dave Bevan on completing his cross-county endorsement. The refurbished winch is certainly earning its keep and giving some excellent launches. The washroom extension to the bunkrooms is now complete – many thanks to all those club members who helped with this project. Ken Stewart will run an advanced soaring course at the club from June 5-9. The club will be hosting the Midland Regionals from July 22-30, and a task week from August 12-20.

Siobhan Hindley

Trent Valley (Kirton Lindsey)

CFI Robin Parker and his deputy Steve Wilkinson are to take a well-earned break from life in the fast lane: our thanks for a job well done go to them both. Paul Holland is the new CFI with deputies John Williams and Colin Metcalfe. Jeannette Kitchen and Mark Eurland are Basic Instructors, Daniel Simms has soloed, Pat Sellers and Andrew Turk have Bronze Badges and Simon Grant a Cross-country Endorsement. Andrew Turks has a K-6, bringing the total on site to five. The annual do was a great success thanks to Chris Griffin.

John Kitchen

Ulster (Bellerena)

KEEN MEMBERS are paying less for their flying since April 1. The full price of £13 is levied for only their first three aerotows of any calendar month. Any further 2,000ft launches that month cost them only £10 each. The newly bulldozed, graded and seeded west (foreshore) end of the airfield was greening nicely by Easter and will be fully usable next year. The year's first cross-countries were on April 9: Jim Weston flew a 177km quadrangle in his DG 200 and Jay Nethercott completed his Silver with a 69km distance leg southward into Co Tyrone. On May 5 the club was to mount a flypast over assembled allied naval contingents, and the general public, as part of Derry's Battle of the Atlantic commemorations. Also in May, selection flying for our locally-funded cadet scheme was due to begin. Six pupils nominated by Limavady's three secondary schools are each to fly four lessons over four weekends, with two bursary winners being selected for free training to solo standard over the summer. Our latest soloists are Richard Charlesson and a Spanish exchange student at Queen's University, Fransisco Montaigro, who, arriving with microlight experience, soloed in short order.

Bob Rodwell

University Of The West Of England (Aston Down)

OUTSTANDING progress has been made by UWE, starting with Chris Watson soloing only eight solos before gaining a Bronze leg, shortly followed by a second 63-minute leg. Congratulations also to Simon Tizzard and Chris French who both completed two Bronze legs. Well done to James Macky for re-soloing after an 28-month break, and Alex Jones who converted to the K-8. Congratulations to Dan Gillians who got his Basic Instructor rating back. The club has recently bought a K-10 which we hope to have on line by August.

Anna Gunn

Vectis (Bembridge)

FLYING was disrupted in February by the annual inspections of the tug and club gliders, but these were completed without problem enabling serious gliding to start at the beginning of March. Mixed weather has resulted in most weekends being restricted to only one



***Southdown GC**'s Foka 5 has gone to Gliwice, south east of Warsaw, where a museum will maintain a collection of wooden Polish gliders in flying condition. A vintage rally will be held there from August 18 to 26*

day's flying, although some commendable air times have been flown. Plans are being made for three expeditions this year, including a return to mainland Europe. We hope the long weekend at Easter will give the club a good start in the drive to increase membership, which showed some success last year.
Peter Seago

Vintage Glider Club

WE HAVE more than 800 members, with 520 gliders (140 types). Our 28th International Rally will be at Norfolk GC, Tibenham, from July 28 to August 6, 2000 (contact: Martin Aldridge, tel 01508 489506). The Rendezvous Rally is the week before at Kent GC, Challock (contact Julie Garside, + 44 1622 858106). For information on our many national rallies, contact Graham Saw on 01628 776173. Among gliders being restored in England are two Grunau Baby 2Bs, a Minimoa (by Peter Underwood), and a Kite 2 (at Wycombe Air Park). In Germany a replica Musterle, built by Klaus Heyn, has flown and is being tested for an LBA C of A. The fourth Horten 4A (LA-AD) has been restored for static exhibition in the Flugwerft-Oberschleissheim. A new Reiher 3, to fly, is being painted. Work proceeds on two new Hutter H28-2s, a second Habicht and a Kranich 2B-2. The first Habicht, of the OSC Wasserkuppe, has been sold to the Wasserkuppe Gliding Museum and will probably never fly again. In Hamburg, a Spanish-built Weihe is being worked on. In Switzerland, the Kranich 2B-1 of the Roth brothers and Fipps Rothenbuhler has flown for the first time since restoration. In France, Dedale's national meeting will be in Fayence, where a Breguet Historique club has been set up; this includes many other glider types. France has two airworthy Weihes, and four more which could become so.
Chris Wills

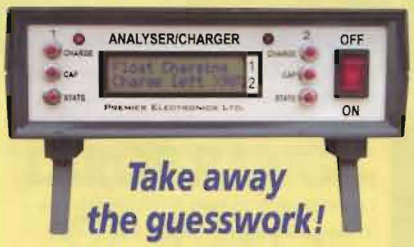
Welland (Lyveden)

AT THE AGM, outgoing chairman Michael Neal was thanked for his work during the previous year. The new chairman is John Heath, an Assistant Instructor. Ken Wells and Alan Bushnell fill committee places vacated by Laura Lindell and Peter Willock. A rather grand launch point 'caravan', obtained and modified by Bob Rowland and a noble band of volunteers, enhances the club. No one has admitted to setting alight the remains of the old caravan, but we hope the mice had a chance to escape first!
Jane Cooper

Wolds (Pocklington)

DESPITE fierce competition the Land Out League is topped by the Cirrus (laminated) Syndicate – one a week at the moment – while Andy Thornhill has achieved a number of 50km retrieves. We are back at Pocklington after the pipe laying, with a new tarmac drive and hangar apron. Our K-8 is re-furbished and the Discus serviceable. A Yorkshire-wide Inter-Club league, our club ladder and a Millennium Triangle should encourage solo and dual cross-countries. Our National Two-Seater Competition starts on August 20, and we host the Club Class Nationals from June 10. We will ensure that everything runs smoothly, and are really looking forward to them: club member Angus Sheldon says we're unlikely to have to buy a meal, or a pint, for three months. Paul Younger has soloed after 34 flights, smashing Simon Barker's record.
Ged McCann

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*Does Eoin MacDonald's photograph of a visitor to **Portmoak** explain all those early season cross-country flights listed in the **Scottish Gliding Centre**'s entry on page 55? Given UK weather, this man could be the answer to every glider pilot's dreams, says Eoin*

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Club News

Wrekin (RAF Cosford)

TREVOR Barnes has taken over as CFI from Mick Davis. Thanks to Mick for his hard work over the past six years, during which time the club relocated to the south side of the airfield. A warm welcome is extended to Trevor. Bob Cooper has gone solo. Facilities are now available for members to stay overnight and work is ongoing to complete the area around the clubhouse.

Sheila Russon

Wyvern (Upavon)

OUR last entry in *Club News*, suggesting Wyvern was not just a mechanical engineering and maintenance club, tempted fate. Major winch problems mean we are in frequent communication with Mr Tost trying to get replacement parts; one of the two winches is working most of the time. In April a Skylaunch came for a day to provide a demonstration. Its performance in nil wind was appreciated, especially by instructors in K-21s who got 200-300ft extra compared to our Tosts. It was the first time we have had a queue for winch-driving duty! The weather has not been spectacular – too much springtime snow – perhaps the four Army members in Australia are doing better. Rachel Lavender is claiming the club record for the longest time between completing her Bronze and posting the application to the BGA. Shalbourne Soaring Society visited us the week before Easter. While they got aerotow current flying our K-13, our pilots got current on all forms of spinning in their Puchacz. A mutually beneficial and enjoyable day: thanks to all involved.

Gavin Deane

York Gliding Centre (Rufforth)

WE have two variants on a fixed-price-to-solo scheme – one for mainly winch launching, and another for all aerotow. Both include motorglider time for key parts of the syllabus. See *www-users.york.ac.uk/~mdc1/ygc.html* or *www.gonow.to/yorkgliding* for details. The BGA Duo Discus was at the club in March, giving many members a chance to fly a high-performance plastic two-seater uncomplicated by flaps. Congratulations to father-and-son team Tom and Anthony Hollings: Tom completed his Basic Instructor rating on the day Anthony went solo. Our entrance road has been professionally resurfaced with tar all the way to the parking area from the main road. This is a gift from longstanding member Jim Purves, to whom the members are most grateful. Our new arrival from Poland, the single seat Junior, has been welcomed by members.

Mike Cohler

Yorkshire (Sutton Bank)

A VERY good start to the year! Several Gold heights and flights of over 400km – two of these were over 430km. Although both of these were turbo aircraft the pilots assure me they didn't use the petrol-induced thermal! Congratulations to Rory O'Connor on going solo. The AGM will be in early May with Brian Boyes retiring in rotation. Our thanks for all his hard work over the past few years. The Pocklington members have now returned to their own club, having experienced some excellent winter flying – let's hope they decide to visit us again next year. The Yorkshire Inter Club League is up and running with the first competition being held at Sutton Bank – watch this space for details of how we get on.

Marian Stanley

Obituaries

Marshall Papworth – Nene Valley GC

IT WAS with great sadness that I learned of the death of Marshall Keith Papworth (1939-2000). He was someone I had got to know very well over the last few years, and a great friend. We will miss his sound and forthright advice and the immense help he gave our club. He provided us with a new site when we had to move from RAF Upwood and thanks to him we now have a first-class airfield, with hangar and clubhouse.

Marshall, a farmer, was an excellent engineer, designing and manufacturing most of the farm equipment he used. He improved our two winches and was the driving force behind levelling and reseeding the airfield, and clearing WW2 debris, bricks and stones. He enjoyed flying his Astir at Cambridge and Yorkshire GCs where he made many friends. Two years ago, he got his PPL.

Marshall gave me courage and inspiration at a difficult time in my life. It was a pleasure and a privilege to know him.

Brian Palmer

Julian Paszki – Wrekin GC

DEEPEST sympathy is extended to Julian's family following the tragic accident in the club's Chipmunk on March 4, 2000. Julian was a long-standing member of Wrekin GC. His contribution as Tugmaster and Basic Instructor will be sorely missed. Our thanks go to all airfield personnel who have helped the club over this difficult period.

Sheila Russon

Maurice Quire – Essex GC

WE HAVE been saddened by the sudden death of Maurice Quire (1929-2000) from a heart attack. Although Maurice, our course secretary, came into gliding late in life his interest went back many years, and he was overjoyed when he went solo last year after recovering from a double hip replacement. Maurice did a tremendous job, not only organising courses but also increasing flight voucher sales as well as being involved with the insurance of the club's fleet. He tackled these jobs with enthusiasm and professionalism and will be sorely missed. We extend our sympathies to his family.

Peter Perry

Dr Tina Render – Lasham Gliding Society

TINA Render (1961-2000) was a senior registrar in anaesthetics and was applying for consultant posts when she became ill. She was always ready to explain the finer points of respiratory physiology when requested. Her determination when gliding was shown on a club expedition to Aboyne. She had gained Gold height under one wave bar and pressed ahead to the next bar despite losing a horrendous amount of height. She then climbed very slowly in weak lift until achieving Diamond height. She continued to go on club expeditions despite being ill with breast cancer and suffering all the side-effects of necessary treatment.

She greatly enjoyed organising parties and was a lively member of her group of cross-country pilots. Every day Tina, with her strength, warmth and kindness, showed us what was important and what we merely thought was important. I think of her fortitude, her humour and her wisdom. I have no doubt that Tina is soaring the clouds of heaven and preparing a barbecue for the day when we have all joined her. The world can ill-afford to lose someone of her calibre. We give our sympathy to her family at their sad loss.

Warren Palmer

BGA Certificates

No	Pilot	Club	Date
	FAI 1,000KM DIPLOMA		
11	Young, Mike	C'bridge *(Mafikeng)*	29/11/99
	DIAMOND BADGE		
571	Hughes, Tony	Booker *(Mafikeng)*	20/1/00
572	Towler, Michael	Bidford	9/6/99
573	Garside, Alan	Kent *(Chauvigny)*	5/8/99
574	Atkinson, Peter	London *(Lake Keepit)*	2/12/99
575	Perkins, Andrew	Booker *(Omarama)*	13/1/00
Diamond distance			
1-810	Hughes, Tony	Booker*(Mafikeng)*	20/1/00
1-811	Towler, Michael	Bidford	9/6/99
1-812	Garside, Alan	Kent *(Chauvigny)*	5/8/99
1-813	Atkinson, Peter	London *(Lake Keepit)*	2/12/99
1-814	Brown, Anthony	Scottish GC	11/3/00
1-815	Perkins, Andrew	Booker *(Omarama)*	13/1/00
Diamond goal			
2-2711	Crosby, Dean	Yorkshire *(Mafikeng)*	17/12
2-2712	White, John	London *(Lake Keepit)*	2/12/99
2-2713	Knell, Mike	Bannerdown *(Benalla)*	18/2
2-2714	Nutley, Stephen	Scottish GC	11/3/00
Diamond height			
3-1511	Hill, Keith	Anglia *(Minden)*	27/10/99
3-1512	Twiss, Peter	Lasham *(Minden)*	6/10/99
3-1513	Goudie, Gavin	Scottish GC	4/3/00
	GOLD BADGE		
2114	McKnight, Gerald	Cranwell *(Dishforth)*	10/10/99
2115	Withall, Carr	London *(Mafikeng)*	14/11/99
2116	Thompson, Rob	Bristol & Glos	2/2/00
Gold distance			
	White, John	London *(Lake Keepit)*	2/12/99
	Knell, Mike	Bannerdown *(Benalla)*	18/2
Gold height			
	Leach, Edwin	ESGC *(Aboyne)*	17/01/00
	Hill, Keith	Anglia *(Minden)*	27/10/99
	Riach, James	Cairngorm	22/01/00
	Whyte, John	Cairngorm	22/01/00
	McKnight, Gerald	Cranwell *(Dishforth)*	10/10/99
	Withall, Carr	London *(Mafikeng)*	14/11/99
	Thompson, Rob	Bristol & Glos	2/2/00
	SILVER BADGE		
10705	Sweetland, Emma	Booker	21/08/99
10706	Stanley, Marian	Yorkshire	9/9/99
10707	Defendi, Mark	Essex	28/8/99
10708	Fraser Scott, Richard	Northumbria	28/2/00
10709	Clarke, Paul	Booker	26/6/99
10710	Herkert, Bryce	Deeside	11/3/00
10711	Latty, Alex	Borders	4/3/00

Pilot	Award	Date
AEROBATIC BADGES		
Allen, Jamie	Unltd. Unknown	9/9/99
Allen, Jamie	Unltd. Free	9/9/99
Tunstall, Ian	Unltd. Unknown/Free	11/9/99
Conran, P	Int. Known/Unknown	9/9/99
Woollard, Mike	Int. Known	9/9/99
Woollard, Mike	Int. Unknown	10/9/99
Dawkins, I	Standard	14/10/99
Harwood, C	Standard	14/10/99
Lewis, S	Standard	25/4/99
Lockhart, E A	Standard	29/8/99
Morant, P M	Standard	16/1/00

Accident/incident summaries

by Dave Wright

AIRCRAFT Ref No	Type	BGA No	Damage	DATE Time	Place	PILOT(S) Age	Injury	P1 Hours
18	K-23	2998	Substantial	23/01/00 1355	Dunstable	55	None	13

The low-hours pilot appears to have inadvertently stalled the glider as he joined the circuit. The glider stalled twice losing nearly 1,000ft and was seen flying erratically as the pilot over-controlled. The brakes came open and the pilot narrowly avoided power cables before mushing into a soft muddy field.

19	Skylark 3F	954	Write-off	08/01/00 1500	Denbigh	50	Minor	130

The pilot was experienced at flying this particular ridge. On this particular flight, as he returned to the ridge, he inexplicably turned the wrong way, hit sink and only just recovered in time to make a controlled crash in the valley.

20	Grob Twin 3	3574	Substantial	22/01/00 1230	Lasham	52 37	None None	687 6

This was P2's second training flight of the day in the gusty conditions. As the low-wing glider started its winch launch ground run a wing dropped slightly, yawing the nose to the right. Despite P1 having his hand near the release, forces were such that he could not pull it before the glider rotated into the ground, breaking the fuselage.

21	K-7	1664	Minor	19/01/00 1545	Perranporth	71	None	11

The pilot was briefed to make a hangar flight, landing on the grass unless it was blocked when the runway was to be used. Accordingly, he decided to land on the runway but approached slightly too high. Upon landing he found the wheel brake did not work and the glider ran on into metal gates at the end of the runway.

22	Falke Motorglider	G-AXED	Minor	09/01/00 1400	Milfield	47 49	None None	879 2

After a one-hour flight the motorglider returned to the airfield. Throttling back in the circuit, severe engine vibration started so the crew stopped the engine and made a safe deadstick landing. The propeller and boss had almost detached as the woodruff key had sheared, possibly due to a minor prop strike 20 hours previously.

23	K-13	2984	Minor	02/02/00 1600	Lasham	40 35	None None	1500 3

The student was recovering from an out of position manoeuvre, high and to the left on aerotow, when a bow developed in the rope. P1 took control and stopped the bow increasing, however, he thought the large bow might contact the wing so pulled off as the rope started to tighten. The rings flew back and punctured the underside of the wing.

24	K-8	3434	Minor	05/02/00 –	Challock	57	None	300

The visiting pilot from a nearby club allowed the glider to fly too far downwind. Returning into a brisk headwind he overflew a good field then found he would not make the airfield. He had to land in a small steep-sloping field with sheep. The landing was heavy, spitting the nose skid. (It was also found that un-needed cockpit ballast was fitted.)

25	Ventus CT		None	–/02/00	Incident Report		None	2800

During a winch launch into strong crosswind conditions the into wind wing lifted, possibly exacerbated by a cable bow to the right. Despite the pilot releasing immediately (he always launched with his hand actually on the release) the glider continued yawing through 90 degrees before stopping undamaged. Any delay would have resulted in damage.

26	K-13	–	None	–/01/00	Incident Report		None	2

At the top of the early solo pilot's winch launch one of the K-13's rather short ballast bolts failed. The ballast pivoted on the remaining bolt. It jammed the stick in the full aft position and caused the glider to loop. The quick-thinking young pilot kicked the ballast forward, initially jamming the rudder, which he also freed, then landed safely.

27	ASW 19	4550	Minor	16/01/00	Winthorpe	63	None	78

1600

At about 400ft, on his third launch on type, the winch cables' weak link failed so the pilot decided to make a short circuit and land back on the runway. However, unnoticed by the pilot, the airbrakes had opened and the glider rapidly lost height. With the brakes still open, he landed heavily across the airfield.

28	K-13	1421	Minor	20/01/00 1415	Snitterfield	67 20	None None	202 0

The experienced P1 returned to the airfield to find the wind direction had changed so chose to land on the runway. A slight undershoot developed and the speed fell as the runway was approached. The glider's wing brushed a tractor parked in the undershoot then hit a marker at the side of the runway as the glider drifted slightly.

29	K-21	–	None	–/02/00	Incident Report		None	2.5

The early solo pilot had been briefed to stay local but lost sight of the airfield as he flew upwind then back towards where he thought the field was located. Finally, he saw the field but realised he could not reach it so chose a field and made a safe landing.

30	K-13	3787	Substantial	20/02/00 1540	Aston Down		None None	154 0

At about 40ft on the winch launch the cable went slack just as the student rotated the glider into the climb. P1 had just looked sideways to assess the angle of climb and during this time the speed fell rapidly. Taking control he lowered the nose but could not prevent a very heavy landing in a stalled condition.

31	PA18 Tug	G-BJIV	Minor	28/02/00 1120	Rufforth	–	None	

After towing a glider from another club the Super Cub tug landed in gusty conditions. The pilot was shutting down the engine with the aircraft stationary and facing into wind when it was hit by a strong gust. The tail lifted and the propeller hit the ground.

32	K-8	4485	Minor	22/02/00 1400	Kenley	72	None	4

The early solo pilot had a weak link break at about 600ft during a winch launch. Rather than complete a full circuit he chose to land crosswind. During the final approach the glider's right wing hit a signpost which damaged the D-box and airbrake.

33	Not Known	–	Minor	–/02/00	Incident Report–		None	

The glider was securely parked and picketed in the gusty wind conditions. The pilot opened the canopy, removed a chute and put it on after first shutting the canopy. A gust of wind snatched the canopy open and cracked it as the restraining strop reached its limit.

34	PA25 Pawnee Tug	G-BEII	None	05/03/00 1435	Nr Eggboro' power station	53	None	400

At about 3,500ft on an aerotow the Pawnee tug's tailwheel fell off. The pilot did not know anything was wrong until he landed when a loud scraping noise was heard. After bringing the aircraft to a safe halt it was shut down and the pilot inspected the tail. The whole fork and wheel was missing. The tug had just returned from C of A work.

Airmanship and collisions

DURING the last ten years, mid-air collisions have been responsible for as many fatalities as stall/spin accidents. Inadequate lookout, whether due to insufficient knowledge of the limitations of the eye, poor training or an invulnerability trait, is undoubtedly the major contributor.

However, there are numerous other factors that have the potential to be the link in the chain of events that lead up to mid-air collisions...

- Because gliders fly in relatively close proximity in thermals, a situation akin to driving on motorways develops; while a driver may know the theoretical safe separation, it can seldom be achieved due to traffic density and gap filling. Joining other gliders in a thermal is a critical phase of flight, but the techniques and judgement required are often self taught.
- Competition start zones funnel gliders over a specific starting point. Despite start zone changes designed to spread gliders across a wide start area, pilots who are invariably preoccupied with height and GPS position as they start may find themselves sharing a small piece of sky with other pilots who may be similarly preoccupied.
- Variations in the 'basic' circuit pattern at some ridge sites can, in some cases, cause the circuit pattern to conflict with traffic soaring the ridge.
- Poor circuit discipline can lead to attempts to soar where there is increased potential for conflict. Consider the case of gliders at say 600ft in the circuit area, one preoccupied with thermals and the variometer, and the others with positioning relative to the landing area.
- White gliders are difficult to spot. The value of red or dayglo colouring on GRP gliders has yet to be proven. Evidence from DERA fast jet trials suggests that breaking up the shape may add to the problem.
- Some pilots take comfort from knowing how many gliders are operating from their site on a particular day and regularly counting them while airborne, but fail to see other transient traffic.

Maintaining effective lookout at all times is the only sure-fire way of giving yourself the best possible chance of avoiding other aircraft. It may be worth noting that in all mid-air collisions, at least one aircraft was in the "wrong" place – that is, where it wasn't expected to be. Good airmanship entails flying in a manner which other pilots can anticipate as well as being on the alert for the unexpected.

Pete Stratten

With reference to Mid Air Collisions, *a paper by Bill Scull, June 1999*

Emergency helis and gliders

THE CAA Safety Regulation Group is asking all emergency helicopter units to ensure, when operating in areas obviously used by gliders, that they try to make contact with the site or gliders on 130.1. The CAA has also requested that all glider pilots avoid flying close to the scene of any emergency helicopter activity. A recent incident – which I can't go into since at the time of writing it is subject to an Airprox report – highlighted the fact that closer liaison between gliding clubs and emergency helicopter units would have been extremely useful. **Pete Stratten**

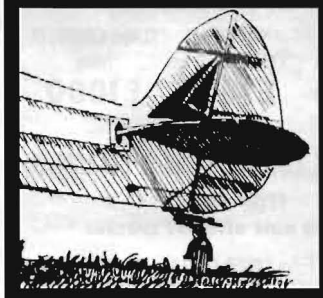
Red nose tests

TRIALS investigating glider conspicuity are due to be carried out at the RAFGSA centre, Bicester as *S&G* goes to press. These have been designed in collaboration with Dr Tony Head of Cranfield College of Aeronautics, Cranfield University. It is hoped to complete the trials, which have been delayed by bad weather, by the end of May. The first phase will study the effects of dayglo patches on wings and fuselage upon in-flight visual detection distances.

An interim report of the findings will be released as soon as possible. It must be emphasised that to date there is no evidence that coloured patches, strobe lights or any other "aid" increases conspicuity against a normal daylight background. The aim of our investigations is to systematically evaluate conspicuity "aids" (new and old) and detection strategies. Until each is objectively evaluated, the only advice that can be offered is to maintain a proper visual scan at all times when flying. Even then, other aircraft and gliders may not be detected until they become very close, and sometimes, they may not be detected at all. This is not because the pilots are stupid or blind, but because they are human.

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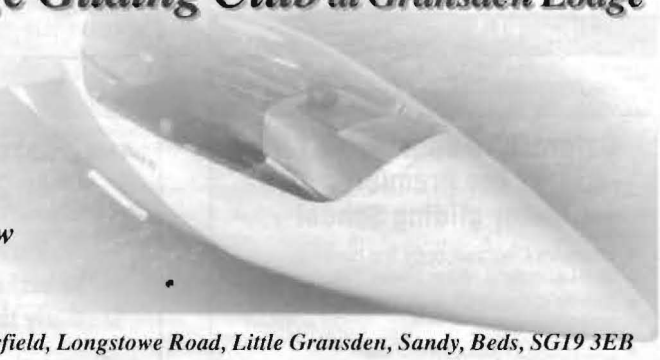
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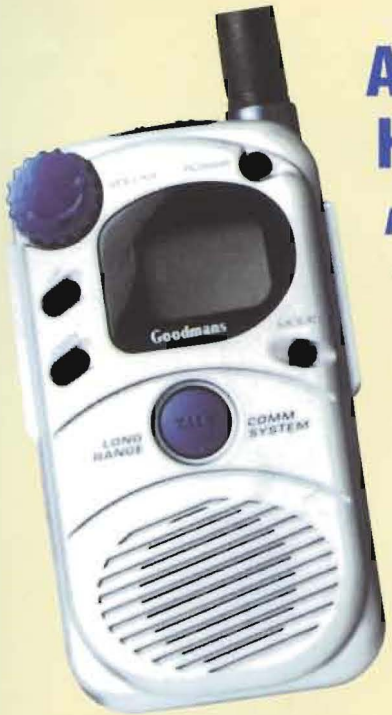
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