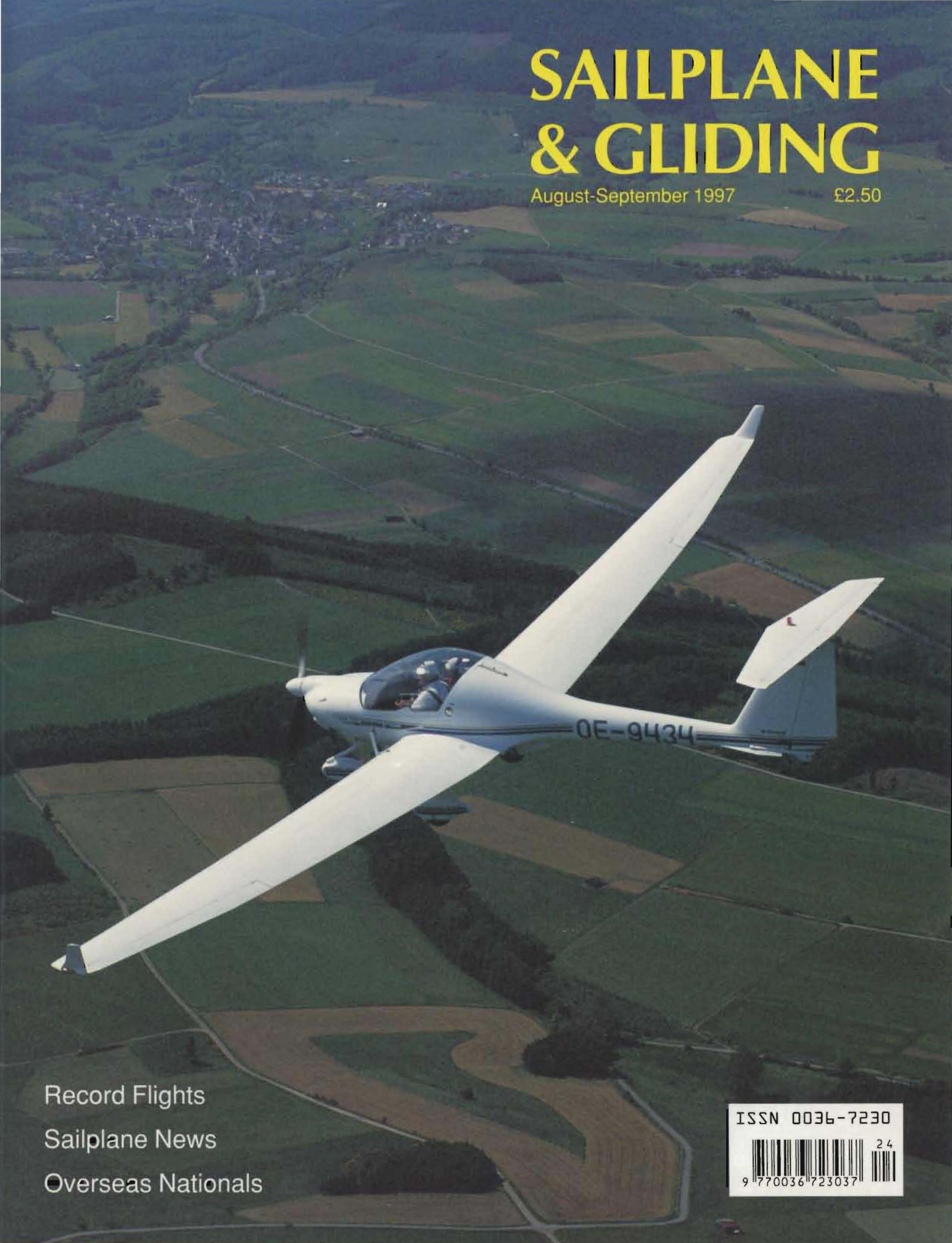
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British Gliding Association

August-September 1997
Volume XLVIII No. 4

EDITOR
Gillian Bryce-Smith
281 Queen Edith's Way
Cambridge, CB1 4NH
Tel 01223 247725
Fax 01223 413793
E-mail gbs.sandg@virgin.net

ADVERTISING
Debbie Carr
BGA Office
Tel 0116 2531051
Fax 0116 2515939

SUBSCRIPTIONS
Bev Russell
BGA Office
Tel 0116 2531051
Fax 0116 2515939

E-mail Bgahq@aol.com

MAGAZINE COMMITTEE CHAIRMAN
C. Pollard

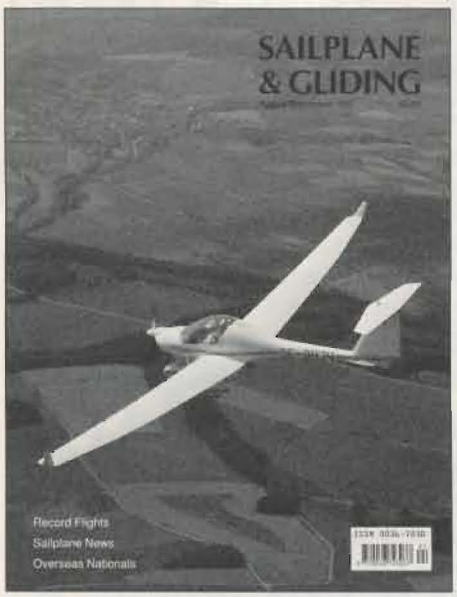
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Cover: Jocen Ewald photographed the Super Dimona being flown over Breitscheld, SE of Cologne, by Herbert Totzauer with Sandra Gillmeistr as co-pilot.

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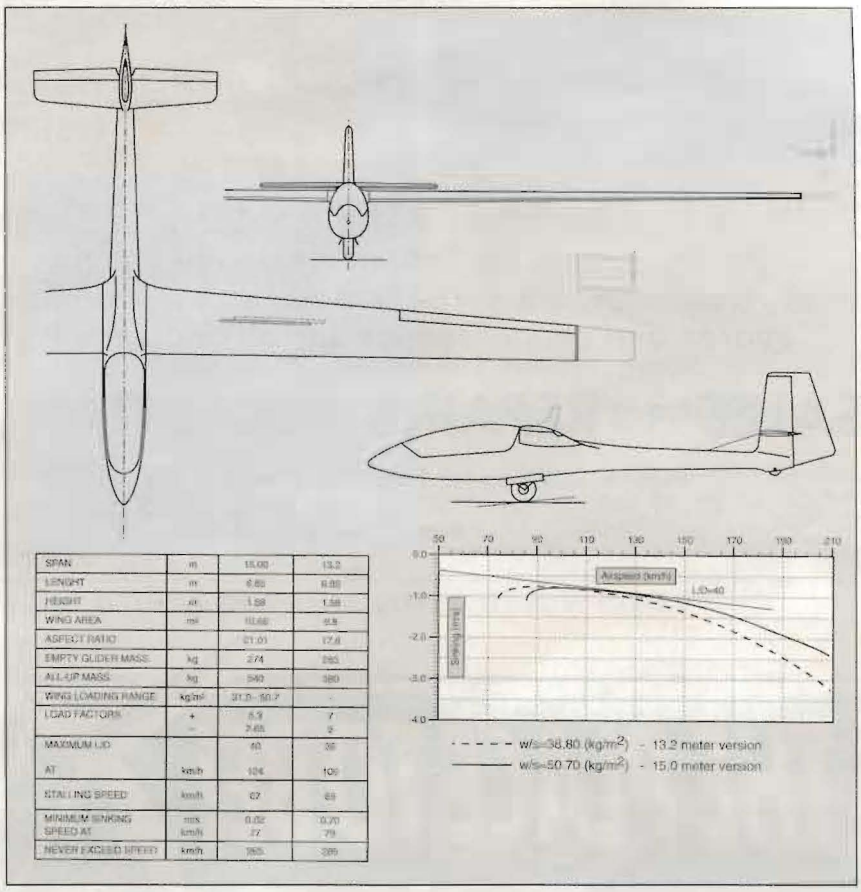
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YOUR LETTERS

MIKE, YOU'RE BEING GOT AT!

Dear Editor,

I am alarmed to see that you have taken to publishing soft porn, or is it better described as "soft paunch"?, in the June issue, p160, of your otherwise excellent journal.

I have always considered *S&G* to be a magazine that could be safely left around, as it would not be a bad influence upon young and impressionable glider pilots, but after seeing your vivid portrayal of full frontal Mike Bird-paunch I am not so sure.

Perhaps it could be used - suitably captioned - as a warning of what can happen if one spends too many hours sitting in a hot ship that never lands out, rather than heaving heavy bits of glider over barbed wire fences.

I have tried to contact Mike but understand he is in America. Could he be doing a deal with Playgirl magazine?

DAVID CADISCH, *Barnet, Herts*

A LOOK AT OUR TRAINING METHODS

Dear Editor,

Risking remarks like "why doesn't he mind his own continental b..... business?" I hesitatingly draw your attention to the following. It seems that all over the world there is a strong decline in interest in our beautiful sport, but I have the impression that in Great Britain there is an even more urgent problem originating from within the gliding movement itself. In the UK we have the AEI system which in itself is good. But at the Dorset GC we find it has become more and more difficult to motivate pilots to go on a course: it costs money, takes holiday time and the average wife is not too happy when the husband spends the latter at a gliding site.

OK, you may say, you have to make sacrifices if you want to fly, but a lot of pilots who do not mind working hard for the club object to the idea of the AEI course. The same goes for the instructors' training scheme. I have the impression that several clubs (including Dorset) now have great difficulty finding new instructors. (Some years ago I was told that the reason for introducing these training systems was the pressure exerted by the insurance companies. I have slight doubts about that!)

And that is where the downward spiral begins. Trainee instructors attending an official BGA course are expected to demonstrate low stalling and spinning characteristics, clearly and positively, at the outset of flying training. If unable to show a satisfactory level they are returned to their clubs without further training. The larger clubs are able to allocate gliders and assign a senior full rated instructor to ensure that the standards are reached, otherwise many of the smaller clubs or individuals have to pay considerable sums for pre-course training. And the experience, indispensable for running a club, gradually disappears.

How many instructors have we lost because they did not fly enough cross-countries annually to comply with BGA standards? One of the best instructors I have ever known (pre-war quality) never went cross-country!! And the Terlet CFI (quite an instructor!) finally had time to go cross-country in a glider again in 1996 after he took early retirement - the last time was 30 years ago! Here in the Netherlands we still prefer decentralised training of instructors, so the whole responsibility lies with the clubs. Of course we also train instructors at Terlet, the Central Flying School, but not many.

Theoretical and practical examinations are organised by the national coaches. When they (always two) visit a field for an instructors' examination they not only check whether the instructors' training scheme (in short, flying exercises with mentor and pupils plus ground instruction training) is strictly adhered to but also whether the local flying and teaching procedures are in conformity with national standards.

This system generally works quite well and has several advantages (no chauvinism of course!): it is not dependent on the weather, it is cheaper, keeps the wives happy - as it can be done during the weekends and task weeks - and the mentor instructors know their victims, *ie* pupils and *ab-initio* instructors, pretty well! It takes longer, however, which still is an advantage, because it gives more time for new information to sink in.

Are Dutch instructors less competent than those in the UK? As a national coach and member of the Dutch Safety and Instruction Panel I dare to make a comparison between the Dutch and British products (and not only those of my own club!). Here, as well as in the UK, the majority are good, some excellent and a few not so good (who usually are quietly asked to find something else to do).

If we compare the accident rate and the number of World Champions per capita I think our system is not doing so badly! More and more pilots seem to be able to fly during the week and have enough money to afford their own glider. In spite of that the club should remain the centre of all flying activities: the majority of the members forming the club's core from which future AEIs and instructors can be drawn can still only fly during weekends.

I think it is time to consider going back to the old days when instructors, and now AEIs, were trained at their own clubs. You now have a fine **Instructors' Manual** that can be an excellent guide in creating new instructors! Some thoughts about how to adjust the BGA standards to make them more realistic would also be welcome. It will mean the difference between the life and death of some of our clubs in the not so distant future.

Bruno Zijp, *Weesp, Holland*

Chris Pullen, chairman of the BGA Instructors' Committee, replies: Is the decline in interest in our beautiful sport a result of clubs like Dorset GC finding it more and more difficult to motivate pilots to go on an instructors' course? I think not, and I base my answer on the fact that we train about 80 assistant rated and about 50 AEIs each year.

These figures exceed the natural wastage of instructors and with fewer people coming into gliding this means more instructors fighting to teach fewer students. In many clubs the problem is not the number of instructors, but the difficulty they have in maintaining their instructing renewal requirement of 5hrs each year!

I am delighted Bruno considers the AEI system good. Although I think he fails to appreciate that the course only lasts for two days, normally at weekends. Thus it doesn't use up holiday time, nor therefore domestic credits.

Assistant instructor courses do use up a week's holiday, but it is obvious that Bruno has never attended one. They most definitely do not require trainee instructors to demonstrate low stalling and spinning characteristics clearly and positively at the outset of flying training. And if at an unsatisfactory level the candidates are certainly not returned to their clubs without further training. I have no idea where he got this idea from, but nothing could be further from the truth. Ask any recently trained instructor.

I have no doubt that we are able to produce better trained instructors given well prepared candidates. It is a great compliment to current CFIs that they have taken much more trouble to prepare their candidates in recent years. This general improvement is right across the board and by no means exclusive to the larger clubs. This has enabled the coaching team to produce better trained instructors to return to their clubs.

I am ever mindful of the costs of instructor training. Using Bicester, which is very central, we have an excellent launch rate at below national prices, offer good briefing facilities, a hangar removing the need to derig and free basic accommodation. Now that we don't have to transport kit and the national coaches around the country there is a great saving in time and money. This means we have kept the BGA course fees and flying charges static for three years, as well as being able to offer more courses which, I might add, have all been filled!

I am delighted to see more and more CFIs and senior instructors sitting in on BGA courses and Bruno is more than welcome. Then he can actually see what happens.

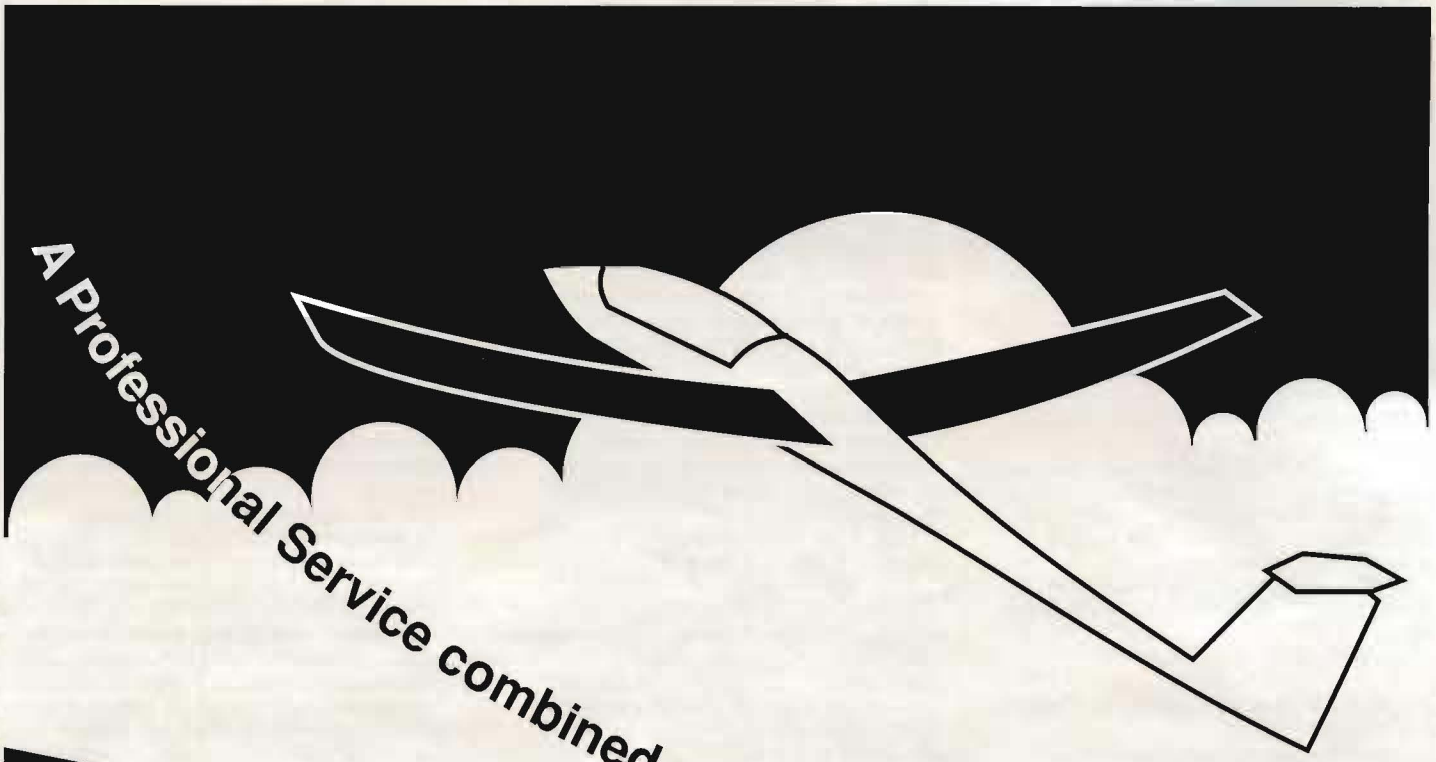
THE CHANGE IN WORLD RECORDS

Dear Editor

I understand that the IGC has decided that all single-seater, two-seater and motor glider world records will be merged with effect from next October. Apparently, this despotic bunch of Sunday afternoon pilots cannot detect any performance difference between these classes, even though they can still detect a (truly non-existent) performance difference between men and women.

In fact, team work substantially reduces the individual workload in two-seaters, and the (mostly obvious) advantages of motor gliders are far too numerous to list here. Furthermore, the maintenance of both general and feminine records, rather than just general records, is sexually discriminatory (against men) and politically incorrect. Surely it would be better to abolish, rather than amalgamate, some of these classes, or even to weed out some of the more trivial records? In this respect, the recently introduced "free" distance and "free" O/R distance immediately spring to mind.

In no other sport are the rules of the game continuously subjected to such drastic changes, all of which are made without any prior debate within the gliding community. Well, enough is enough, and if any readers agree with me that the new "absolute records for gliding" should be restricted to gliders without ➡



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any means of propulsion, then do please write to the IGC (*via* the BGA) and let them know your views on this important issue.
JULIAN WEST, *Munich, Germany*

Ross Macintyre, chairman, IGC World Records Committee, replies: Julian's first sentence has neatly summed up the decisions of the March meeting of the IGC. The committee that made the recommendations was not overly sure of the amalgamation of two-seater machines with single-seaters, but the meeting as a whole made the decision. They also decided, as the committee was split, to maintain the current practice of duplicating the record classes for women.

If Julian can justify his claim that there is a significant achieved performance difference between single-seaters and two-seaters, and also motor gliders, it would make interesting reading. As for the record types he mentions, perhaps it is trivial to him that the longest flight yet achieved in the world was a "free distance" flight. I'm not so sure.

I will take issue with Julian on his premise that there was no prior debate on the matter. A report was issued to the IGC members so delegates would come to the meeting fully briefed by their national bodies. In addition, readers of *S&G* were asked to comment in the October issue, p261, but there was no response from Julian to this request.

Finally, the BGA delegate, Brian Spreckley, that excellent Sunday afternoon pilot, was a member of the committee.

AN INTERNATIONAL PERSPECTIVE

Dear Editor,

I understand that Dickie Feakes is not doing a GPS Jottings piece for this edition, so I thought a comment on the last one, p159, might be in order. It is made from the perspective of the IGC GNSS Flight Recorder Approvals Committee (GFAC), which I chair. (See the April 1996 issue, p82.) A GFAC paper proposed to allow separate GPS units connected by cable to FRs and was accepted by IGC in March, but only for certain badge flights. This IGC decision was the "sensible compromise" referred to by Graham McAndrew. (Also p159.)

As Dickie predicted, an IGC approval has been issued for an EW/Garmin combination. Specifically, on April 19 the EWFR models A and B were approved for Silver, Gold and Diamond badge flights when connected to a Garmin GPS 80-Mil, 89, 90 and 95, and the Garmin GPS 55 with software versions 1.2 or later. The Garmin 12X was added on May 13. Other GPS models will follow later when tested by the FR manufacturer and GFAC. It must be emphasised that the EWFR A and B are updates to the IGC standard of flight data and other aspects, and EW have advertised the update for £75.

The IGC rules for world records and for 1000 and 2000km diplomas are unchanged and require a higher standard of electronic security, typically from the types of sealed integral GPS and FR units already IGC approved. No separate GPS unit has so far been able to satisfy the IGC rules for data security for these types of flights.

Why does IGC and therefore GFAC have different standards to the BGA? Well, there are some 78 National Airsport Control (NAC) authorities (like the BGA) in FAI, most not having the past experience of the BGA in this area. A level of international standardisation of electronic security and flight data format has, therefore, been agreed so that there is one set of IGC standards and not many different national systems, at least for flights to be validated to FAI/IGC rules.
IAN STRACHAN, *Lasham*

WHICH WAY TO TURN?

Dear Editor,

Instructors find pupils invariably favour turns in one specific direction and many may not know why they have this preference. Whilst the position of the trim tab control may be either on the right or left of the cockpit on *most* training aircraft the airbrake and cable release would normally favour the left hand, thus we teach the pupil to fly a glider with the right hand, regardless of personal preference.

For this reason I propose that when we turn to the left we explain that we move the *stick* to the left and apply a small amount of *back pressure* to maintain the attitude. When you think about it, the backward movement of the stick towards the body is a natural bending movement of the right elbow, whilst if we turned to the *right* the elbow joint would oppose that movement and therefore feel more restrictive.

It may be argued that if it *was* more natural to turn to the left then *why* should we turn to the *right* when meeting an aircraft flying in the opposite direction at the same level? Maybe someone will have another theory for that.

Of course, we could ask a normally left handed person if they would prefer a *right hand* turn, but it would depend on how long they have been flying right handed. Well anyway it may provoke some interesting chit chat in the bar.
BERT BARKER, *Wolds GC*

DID AUSTRIA BREAK UP IN CLOUD?

Dear Editor,

I would like to add a footnote to Ann Welch's article in the April issue, p91, where she refers to Robert Kronfeld's Austria breaking up in mid-air.

In 1938 Kronfeld was CFI (or, strictly, FI because there was no other instructor) of the then Oxford City and University GC which flew from a field at Farmoor, where the reservoir is now, and where he coached me through A and B certificates on Daglings. (It was 30 years before I had the chance to add the C.)

I remember a talk he gave to the club in which he referred to the Austria breaking up. It is clear in my mind that he said it broke up in cloud rather than after it came out of cloud. I don't suppose the difference matters but I also remember clearly that he explained that the aircraft was designed for slope soaring before thermal soaring became a practical proposition, and it had not been realised that the structure would have to be much stronger to stand the turbulence encountered in thermals and cloud.

Looking back now, having played about in cloud a bit myself, I do not remember Kronfeld saying anything about blind flying instruments and I suspect that he may have experimented by going into cloud. But he was a very experienced aviator and I may be doing him an injustice.

I know he referred to the invention of the Cosim variometer and I am fairly certain that he ascribed the transition to thermal soaring to that invention. I wonder if his son could throw any light on these points?
JOHN TRENCHARD, *Falmouth, Cornwall*

Bill Kronfeld replies: Regretfully I was only eight years-old when my father died and never really had the chance to discuss with him so many of the questions now being raised.

In response to John's letter, from what I understand the Austria did break up in a thunder cloud. I think therefore that it is more than probable than the Austria was equipped with some blind flying instruments including a variometer.

IGC SPORTING CODE REVISION

Dear Editor,

I would like to thank all those who contributed to the discussion on world records and assisted the committee charged with examining the current list.

I would now like to ask for some more help? One of the complaints heard world-wide is that the **Sporting Code** is too complex. I have been asked to chair another IGC committee to simplify the code and, secondly, to produce an Official Observer's Guide to the code. To achieve the second item, we have been able to call on OO guides already published in various parts of the world. Any additional explanatory notes others have used could also help us.

However, the committee is starting the first task with a blank page in front of them. The idea is to retain the meaning of the rules, but to make them easier to follow. Possibly explanations of the rules in a narrative form within the OO guide could allow the Code itself to be smaller and, hopefully, less complex, but the committee would be pleased to hear from anyone who wishes to suggest new ways of wording the rules, or has ideas on the layout. Indeed, any constructive suggestions (polite only) on how to improve the **Sporting Code** will be welcome. English language only, please.

E-mail (106025.2661@compuserve com) would be preferred, or at least a floppy disc in Microsoft Word format, but letters will also be welcomed.
ROSS MACINTYRE *(IGC SC Revision Committee chairman), 4 Magna Close, Gt Abington, Cambridge CB1 6AF*

THE FIRST GLIDING CLUB

Dear Editor,

The article by Jasper Merriam in the last issue, p143, was a fascinating account of early gliding. However, the Whitely Bank GC was not the first gliding club.

The earliest that I know of (and claims for a "first" are always open to challenge) is the one started at Amberley Downs, West Sussex, in 1912. They used tailless gliders designed by José Weiss.

The details are in an article by Edgar Brynildsen in the April 1930 edition of *AIR* available from the Royal Aeronautical Club. ➡

Members were, I think, drawn from the North London Polytechnic (Polytechnic Institute). The First World War put an end to the club. Gliding might have advanced more quickly had peace prevailed.
DENIS HARDWICK, *London*

NERDS HARKEN NOT UNTO BERKS

Dear Editor,

A big dose of overdue DIY, together with indolence, warm weather and inexorable mental decline got in the way of creativity this spring. I've insufficient comments or anecdotes about the soaring world at large to justify a column in your next issue. So I'll impose on your indulgence and fire off my one minor bleat on the letters page instead.

Why do the computer literate become such technological snobs and ignore the rest of us? I read in the sub-head to his article on the new rating system in the last issue, p164, that Ed Johnston invites comments addressed to him at EdJohnston@Compuserve.com

This is worthy of the *Grauniad* at its most insufferable.

Might not those of us not wired into the Internet have some useful comments too? Why not a postal address as well? What's wrong with what you'd probably call Snail Mail, Ed? (Not you, Gillian, I mean the author of the article.)

Our posted comments could be with you by tomorrow's breakfast - which is probably earlier than you'd be able to take action on them anyway.

In the infancy of electronics the BBC adopted the motto *Nation shall speak unto nation.* But after a further 70 years of electronics' advance it's becoming very clear that soaring's nerds don't want to be spoken to by gliding's berks.

This was typed on a computer. I've no modem - but my wife says I have a smashing pair of legs.
PENGUIN, *Ulster GC, Bellarena, Co Derry*

Ed Johnston replies: A deserved repost to nerds and berks alike. Of course, the right to reply will be granted to those surfing the crest of the super-highway and peddling the bike of the Royal Mail alike. Contact me by E-mail as well as, not instead of, *S&G* letters, both of which are most likely to get to me after my soon expected change of address.

CHARITIES AND PUBLICITY

Dear Editor,

Why should only parachute or bungy jumping be the sports that can help charities organise sponsored events?

Since most gliding clubs encourage trial lessons, it is an ideal vehicle for charities to organise such sponsored events. It would be a new idea for them, it is safer than many other sponsored events, might encourage a wider age range **and** gives your club publicity.

As I am involved with a few charities who need cash I have encouraged one club to send out letters to charities in their area and it was taken up by some last year. A few have booked again for 1997. Help your club and charities at the same time.
ALICE ANSON, *Watford, Herts*

Correction: In the letter on data loggers from Tony Gee in the last issue, p135, 50% should have been 500% in agreement with the five-fold improvement Tony had pointed out.

We welcome your letters but please keep them as concise as possible and include your full name, address and tel/fax number. We reserve the right to edit and select but point out that the views expressed in letters and articles are not necessarily those held by the BGA. Also, please send contributions to the editorial office at Cambridge and not to the BGA.

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DEREK PIGGOTT

Quieter Aerotows With Your Motor Glider!

Derek evaluates the Super Dimona and discovers that one of his early predictions have come true

The exciting news is that the Super Dimona motor gliders are perfectly capable of towing the majority of our gliders and doing it much quieter and at a lower cost than our present towing aircraft. The idea of towing with a motor glider is not new and older readers may remember that back in 1962 I wrote an article on motor gliders suggesting that they could double as towplanes when not in use for training.

The Super Dimona makes this a reality and will happily tow any but the heaviest gliders from some of the smallest gliding sites. Now it has a Rotax 914 four stroke engine developing 115hp, it offers much the same performance, but making far less noise than any other towplane.

It is also a super motor glider and now everyone agrees that it is the only way to teach field selection and field landings, a motor glider is a highly desirable, if not essential asset, for every go ahead club.

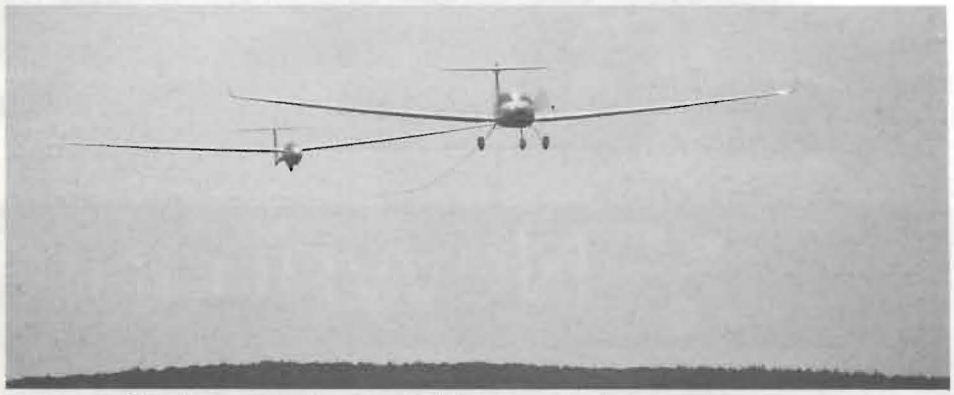
However, many clubs are not able to justify the cost of owning a machine which might sit on the ground most of the time. Since it can be used as a tug as well as a motor glider, it becomes a more economic proposition. It also makes it possible for a new club to start up with just a motor glider and then buy a two-seater glider and tow it for dual and solo flying. Doing basic training in the motor glider and then making a conversion on to the glider on aerotow is a quick and very efficient way of training, as proven by the evaluation trials in the USA some years ago.

My first concern was whether the Dimona would be pulled about too much by beginners learning to aerotow. I experimented at Lasham to see just how much the Dimona was affected by flying the glider too high or too low, and a long way off to one side. I was very surprised to find no difficulty at all in keeping the towplane straight and under full control. I also took a tow in a K-13 to experiment for myself at the glider end. I was able to pull out to almost ridiculous angles without causing the towplane pilot any difficulty. My conclusions were that the Super Dimona is less affected by the glider getting out of position than any other tug I can remember.

Although towing a two-seater takes a little longer on the climb than some other towplanes, the Super Dimona is able to come down much faster and save time on the descent, so that the overall time for a launch is much the same. It has excellent all round visibility from the cockpit making it safer to operate than many other types.

There are several advantages of the Dimona when tugging. The 914 is a development of the Rotax 912 using a turbo supercharger to give extra power and to provide a good performance at height. They both have liquid cooled cylinder heads (like many modern motor bikes) and these reduce the risk of cracked cylinder heads caused by the very rapid cooling off when the power is reduced for the descent - a major problem with other engines used in towplanes. There is also a cowling shutter that cuts off the cooling air over the cylinders helping to reduce the rapid changes in temperature. The powerful airbrakes can be used to descend very quickly using a little power to keep the cylinders warm.

There is the ever present worry with all tugs that you may crack a pot or have a more serious mechanical failure requiring an engine change or a complete overhaul. This with a Lycoming



Jochen Ewald's photograph of an ASW-24 being towed by the Super Dimona.

180 or 235 will set your club back £8000 - £10 000 for a complete overhaul and it is not often that these engines will run to their official life before needing this. Almost every club has had this kind of disaster at some time or another.

Compare this with an overhaul for the Rotax of £6000 and the lower fuel consumption and the potential is obvious.

In the unlikely event of an engine failure, the tug pilot is usually in a poor position but with a motor glider you always have a far better choice of fields, plus the advantage of the airbrakes which make forced landings so easy.

As a pure motor glider for soaring and for training, the Super Dimona is a big advance on the early Hoffmann Dimona. The span is now 16.33 metres, the aerofoil has been changed and winglets are a standard fitting as they give better performance and improve the lateral control.

There has been an extensive redesign of the fuselage shape around and behind the wingroot to eliminate the problems of airflow separation on the first models which detracted so much from the gliding performance. Whereas the original manufacturer claimed 1:27 for the best L/D which was over optimistic, with the new aerofoil and winglets the 1:27 now claimed is probably a reality and for the tail dragger might even be an underestimate. Most important for soaring, the Super Dimona minimum circling speed is lower than most other motor gliders making it easier for thermalling in our conditions.

The main undercarriage has been changed to a metal strut like a Cessna and there is now the option of a nose wheel for those who prefer that layout. I have flown both versions and found the difference in performance when towing is minimal. However, the take-off run is longer with the nose wheel version and this would be significant on smaller fields.

As a tail dragger I always find it a particularly easy machine to three point and to keep straight with the steerable tailwheel. The toe brakes are hydraulic with the parking brake applied by pulling up a small knob between the two seats while operating both brakes. The brakes, although effective, require a considerable pressure to apply. They really should be modified to increase the mechanical advantage as the amount of movement on the pedals before the brakes come on is very small and the pressure required to brake to initiate a turn, for instance, is in my opinion unreasonable and unnecessary.

The nose wheel version has a step to assist climbing into the cockpit, whereas on the tail dragger the main wheel spat acts as a step.

The cockpit is luxurious and there is plenty of instrument panel for GPS, variometers and full radios. The cockpit is roomy with adjustable rudder pedals to cater for tall and short pilots. The back cushions are removed to allow parachutes to be worn if required.

The canopy is rugged and fitted with powerful counterbalance springs so that opening and closing it is very easy. It is securely locked by moving the levers on each side of the cockpit forward as on the K-21. The canopy can be jettisoned by pulling them back past the normal unlocked position and breaking a seal. It opens by pulling it back and the front tilts up, looking a little vulnerable, but in fact supported very securely and quite safe in a wind.

Airbrake levers are provide for both pilots. For instruction the student sits on the left and works the airbrake lever with the left hand as in all normal gliders. The instructor has an airbrake lever on his right-hand side which means that he has to be very careful if the aircraft balloons on landing as it is quite easy to get muddled and to move forward with the stick (instead of the airbrake lever) and pull back on the airbrake to round out!

The top surface airbrakes are very effective but easy to use and adjust. Opening the airbrakes, the lever is held in an indent in a posi-

tion with the airbrakes partially open. This position can be used for a long descent or for making powered approaches, aeroplane fashion with one hand on the throttle. It has much the same drag effect as partial flaps on a normal powered aircraft and cuts down the float, making a powered approach and landing easy. There is sufficient power to make an overshoot and a rapid climb away with this airbrake setting.

A slightly harder pull on the airbrake lever brings it out of the indent and allows full airbrake to be used. There is a small nose down trim change when they are opened which nicely compensates for the increase in drag and makes it easy to hold the approach speed.

The tail dragger version of the Super Dimona has the main wheels set a little further back than on the original Hoffmann Dimona, which improves the directional handling on the ground. However, it is still tail heavy and there is still very little likelihood of tipping forward on to the nose when using the wheel brakes. It has an effective steering tail wheel which makes taxying and keeping straight on take-off and landing very easy. The wheel brakes on this version are operated by pulling right back on the airbrake lever, whereas on the nose wheel version the braking is with the individual toe brakes.

The elevator trim quadrant is situated on the centre consul and is a simple, lift the knob to move it, spring device.

The starting and engine handling is as simple as a car. Taxying is easy with use of the wheel brakes to turn. Most important for a gliding site, the view ahead and all round is excellent both on the ground and in the air.

The hydraulic constant speed, feathering propeller replaces the old electric design which took so long to feather and unfeather. Unfeathering now takes less than 2secs. The propeller is already cleared for 1000hrs between overhauls. The operation of it is very simple. For take-off the pitch lever is fully forward and power can be reduced by easing back the rpm with the lever and re-adjusting the boost to suit. There is no danger of over-boosting and causing damage that way. (I would have reduced the boost first, but the factory representative suggested otherwise.) As the propeller is geared down, the noise level is very much lower than the direct drive engines in most towing aircraft. At full power the propeller is only turning at 2400rpm.

For take-off, the propeller control, throttle and carburettor heat levers, which are mounted in the same quadrant, are all fully forward. This puts the propeller pitch to fully fine for max rpm.

The exhaust driven super charger comes in as on a car once the rpm have built up after full throttle has been applied. The extra 20-25hp makes a striking difference to both the acceleration and climb. There is a 5min limit for full power after which a warning light reminds you to reduce the rpm slightly. Failing to do this eventually results in the turbo gate opening automatically reducing the power.

Without a glider on the back the take-off run is about 150m and the climb angle surprisingly steep for the recommended climbing speed of 60kts. Climbing at 1200ft/min almost makes it feel like a winch launch. After many years of using a Falke for field landing training, it is a joy to put on the power and climb so quickly.

The high rate of climb, together with the low propeller and engine noise, makes it particularly "farmer" friendly and I believe there will be far less complaints about tug noise with this aircraft than with any other towplane type so far. I am told that the noise footprint at 300 metres (58dbs at take-off power) is about the same as a regular towplane at 1200m. Certainly from immediately below I could hardly hear it towing a K-13 at 2000ft.

The engine and propeller effects have been almost totally eliminated. Even going from zero to full power quickly there is no sign of any yawing or the nose rising; a splendid achievement. This is ideal for glider pilot training and is achieved with a small amount of engine and propeller offset, just like a model plane. (Why hasn't this been done before I ask myself?)

Cruising at 75% power gives a cross-country speed of about 105kts using 20 litres/hr which makes it an excellent going places tourer and, of course, at lower speeds the consumption is much lower. On the standard tankage of 55 litres, it has a range of over 250nm cruising at over 100kts. An optional extra for touring is an alternative 79 litre tank giving over 6hrs' flying.

Reversing the turn from 45° to 45° at 50kts takes about 4sec, a good rate of roll for any 16 metre machine. This does, of course, require full rudder as well as full aileron but like most motor gliders, the rudder loads are much higher than on any gliders - a pity for basic glider training.

If a stall is made in a gentle turn then there is little risk of accidental spins

The stall is very docile with lots of warning buffet and full control down to the moment the nose drops. There is very little tendency to drop a wing when the stall is made in a gentle turn and so little risk of accidental spins. However, for training purposes it can be made to drop a wing for effective demonstrations.

It is not cleared for spinning or aerobatics in the UK. The side slip is normal with no large pitch changes but this is academic as the airbrakes are so effective.

I flew the aircraft all the time close to the maximum all up weight with two heavy pilots and almost full fuel. When you evaluate the aircraft at your club, don't forget that you wouldn't fly your normal towplane with two up and full fuel. The extra weight has a significant effect on the performance of any aircraft. At this weight it took exactly 6min from starting the take-off roll to 2000ft and back down with a Pilatus B-4 on tow and K-13 tows to the same height took 8-9min, close to our other towplanes but using less fuel and with far less noise.

What didn't I like about this machine? Well, my only real criticism is that the handling is not quite as nice as the original Dimona. The Super Dimona ailerons are fine for cruising but rather stiff for thermalling, although the rate of roll is very good. Moving them on the ground it is clear that most of the load in flight is caused by the springs in the stick unit put there to make the ailerons self centring. The springs have to be quite strong to do this and the result is rather heavy ailerons compared with gliders.

It is a requirement for light aircraft for the ailerons to return to the central position when the stick is released, whereas on gliders this is not required. I don't understand this requirement and see no reason why the pilot should not be expected to centralise the ailerons after entering a turn or returning to straight flight. The rudder loads are also rather high but new aircraft are always a little stiff until the bearings in the control system wear in.

This is a very simple aircraft to operate and any glider pilot will feel at home after a few minutes in the air. For gliding sites with noise problems it offers a striking improvement over all our present tugs and motor gliders. It seems a good proposition for many clubs in this country who need quiet towing and a motor glider for field landings and other training. The supercharging should be of particular benefit to gliding clubs abroad with "hot and high" airfields where the tows are often to a density altitude of 10 000ft.

A few people have expressed doubt about such a lovely looking machine standing up to rigorous club use. However, there is ample evidence from the flying clubs using the Katana light aircraft (a very similar airframe), that it is rugged and that the serviceability is exceptionally good. It is certificated as a normal light aircraft, can be used for aerial work and is cleared for towing gliders up to 700kgs, *ie* a fully loaded K-21.

The supercharged Rotax 914 has now been in use for several years and can be considered well proven. It has, of course, normal twin ignition like any other light aircraft. Initially I was rather cautious about recommending it, but since superchargers are common on most high performance cars, there is no doubt about their reliability. It does not seem possible to over boost and damage the engine by mishandling and so far there is no evidence to show any reduction in the reliability compared with the unsupercharged Rotax 912.

For the private owner or group ownership it offers a very elegant machine which can be used economically as a tourer or for soaring flights in thermals or waves, plus the attraction of free flying while towing at the club.

Fly it when you get the chance. It's a fun aircraft!

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TAIL FEATHERS

A fax From Minden

This issue's "Tail Feathers" comes to you from Minden, Nevada, where I've been alternating landscape photography on the ground with gliding along the Sierras in the company of a distinguished former chairman of the BGA. In this climate, and at my age, and with the lust for records, badges and diplomas already satisfied on previous trips, I'm happy to fly just every other day. The DFCBGA and I took off the day before yesterday in the Grob 103. He'd not flown for nine years, having taken up croquet and photography instead (either a sad sign of senility or the beginnings of wisdom, depending on your own point of view) and I was eager to demonstrate both the excellence of the Sierra wave and the excellence of my skill in exploiting it.



Landscape photography.

Such eagerness and pride must inevitably lead to a fall - or in this case a plummet. I unerringly released in the trough of the wave at 2500ft agl and descended at 700ft a minute, landing seconds after the tug, to be greeted by a chorus of "What're you doin' back here?" etc. The next time, better luck - and better communication with the tug - led to a rough but positive ascent into steadily smoother air and a swift ride to 18 000ft, the usual ceiling for gliders. DFCBGA was much impressed and took lots of photos. These pix will come in handy as postcards of the "Wish you were here" variety, designed solely to provoke furious envy in the recipient.

Talking of envy, two years ago an Australian pilot dropped in at Minden and, being without a passenger, I took him up in the ASH-25. We did a brisk 500kms cruising the Sierras: in the back seat he would frequently focus his video recorder on the instrument panel while crowing into the microphone "Eatcha heart out, Bruce: look, 120kts at 18 000ft!" Apparently he regularly swapped tapes with a gliding friend and this particular tape was going to turn Brucie quite green. The thought obviously gave my passenger even more pleasure than the flying. The urge to make one's friends sick with jealousy is an innocent desire which I can entirely understand, and to which I myself give way whenever I get the chance.



Chilled extremities.

Back to the DFCBGA - after 250kms wandering up and down the range we heard that a legal wave "window" was now open to 25 000ft. At 22 000ft, however, 20 wrinkled old toes were getting frozen and we were running out of oxygen, so we pulled out the brakes and dived back to Minden. (You mean you fumbled the wave and made a virtue out of a necessity? Ed. Well, yes. Plat.) This was a case of an ill wind blowing some good: a young pilot who sorely needed his height Diamond gratefully seized the 103 and took it to 25 000ft. Our chilled extremities - and our fumble - did him a favour. Back on the ground I met another young pilot who last year got his height Diamond - wait for it - **the same day that he went solo**. Eatcha - no, stop eating your hearts out and buy an air ticket.

Scrub outlandings

A word of warning. This is a land of extremes: it can go quickly from being too easy to horribly difficult. Today, for instance, was gin clear with 8 and 9kt thermals and wave. Trouble is, one gets nervous below 15 000ft because there are vast spaces which are unlandable - not to mention heavy sink. Glider pilots locally did once think of banding together to clear a strip of desert scrub near Lake Mono in California to cater for the possible outlanding. A splendid idea? Not in the opinion of the Federal anti-drug squad who feared that such a strip would be used by armed narcotics smugglers flying from Mexico. Indeed it is suggested that if in trouble in a lonely area you should **not** land next to a light plane in the hope of getting help. You just might get shot instead.

Ah! wilderness

Much concern is being felt by American glider pilots at the threat to ban all types of gliders from the great national parks - in which the DFCBGA and I have recently spent much time with tripods (a sure index of a serious photographer) and black and white film (an even surer sign of a serious photographer). Without wanting to say "I told you so" I do remember writing about this threat in *S&G* some years ago after encountering scores of hang gliders, paragliders and conventional gliders swarming around every crag in the French Alps. At what point, I asked, do these stop being an occasional and attractive enhancement to the scenery and start becoming an eyesore? Conventional gliders usually fly higher, though some pilots can't resist the sadistic thrill of making low passes at 150kts over hikers. The irony is that groundborne visitors are the ones that inflict the physical damage and pollution with millions of boots and car exhausts.

However, lovers of nature and the environment, splendid folks that they are at heart, are not in the Kasparov or Deep Blue league when it comes to relentless logic and consistency. In Germany an environmental group has tried to stop a gliding club's operations because the gliders on the approach **might** disturb some rare species of fauna. If the glider pilots were grounded, it does not occur to the extreme environmentalists that the frustrated soarers might pollute the atmosphere by having to drive many miles further to find a site, or that they might take up power flying, or take four-wheel-drive vehicles across vulnerable terrain, to get their kicks. If they prevent a young chap doing something potentially unfriendly to the flora or fauna, do they expect him to stay in bed all day, or simply drop dead? Maybe that's what they do expect: it is said that the only time we are perfectly integrated with our environment is when we are buried.



Complaining bitterly.

In France a glider pilot bought a farmhouse near the field where he flew, and not long after was complaining bitterly about the noise of tugs. In Britain, airline pilots retire to country cottages next to long established gliding clubs, then - you guessed it.

Core!

One of my passengers in the ASH-25 two years ago at Minden and at the Texas Nationals was Duncan Cumming, born in Britain but now a naturalised American. Duncan is a Cambridge educated engineer who used to be a member of the Cambridge GC.

The CGC, incidentally, was once famous for original if not downright eccentric soaring activities, such as chucking gliders into the Irish Sea and when that got boring, ditching them in the North Sea. Since the 1950s either 1) The CGC has sobered up greatly **or** 2) They are more skilled at keeping their adventures out of the public eye **or** 3) The original bizarre stories were much exaggerated. "Print the legend" is our motto so (3) is out. Anyway, in Texas I told



Chucking gliders into the Irish Sea.

Duncan about Alan Purnell's idea, published in the June 1982 issue of *S&G*, p108, for a thermal centring device: if Alan's theory could be realised in practice I would dearly love to have one in my panel before I got doddery and useless in the air. (Too late! Ed.)

The aim was to display on the screen the path of the glider through the air as seen from above, marked by rates of climb or descent. In principle it should be possible to wrap the glider around the best lift much more efficiently than one does at present. Alan Purnell's idea was way ahead of available technology: he envisaged a bulky cathode ray display sitting in the panel, crowding out the other instruments like a cuckoo in a wren's nest.

The information needed would be:-
a) Heading, supplied by a compass or equivalent device that was unaffected by a glider's constant changes of bank angle.
b) Airspeed through the airmass.
c) Rate of climb/sink from the vario.

The main technical challenge apart from the display was the compass device.

Duncan Cumming, who has been in correspondence with Alan Purnell, is using a, wait for it, triaxial flux-gate magnetometer which uses the Earth's magnetic field to obtain heading without the usual problems of a mechanical compass. (If this TFM gadget sounds like the "flux-capacitor" in Back to the Future, so be it.)
The key questions I put to Duncan were:
Does this thing now exist?
If so, does it work well?
If so, when can I have one?
To which the answers are, respectively, "yes", "sort of" and "God knows".



A bulky cathode ray.

Currently Duncan has been flying around in a Ventus with a conventional lap top computer strapped to his chest. This is only slightly better than having the drawing room television set strapped to your chest while pulling steep turns. The computer is connected to transducers for the airspeed indicator, the TFM, the varios and, for experimental purposes only, a *g* meter to pick up small changes in acceleration.

Here are a couple of real-life examples. In the first illustration (Fig 1) the glider, circling left, has encountered some good lift, indicated by the largest green blobs. (These blobs, pro rata to rate of climb, are at 5sec intervals, so this example shows about 2min's flight.) The pilot has just shifted towards the bottom of the page: his current position indicated by the T. The circle is his *future* path if he continues his current rate of turn. This "future circle" opens up the moment you take off bank.



Great shakes! Plat was only able to take this picture of Monument Valley (of "Stagecoach" fame) after his Navajo Indian guide showed him how to keep his tripod in an erect state. True story!

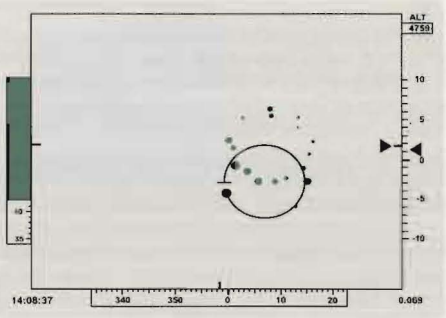


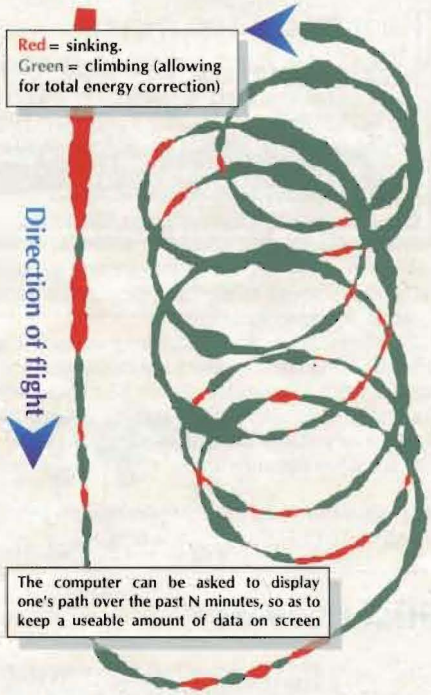
Fig 1. a) Glider is circling left. b) Green blobs, at 5sec intervals, proportional to the climb rate. c) T indicates present position; circle indicates path at present turn rate.

A possible improvement is the continuous display of climb and sink rates as a band of green or red, as shown in the second illustration (Fig 2.) (The position of the next circle at your current turn rate is not shown here, but it is still presented to the pilot.)

The chief unknown, apart from the purely technical challenge, is the ergonomics - how will a pilot actually be able to use the device in practice, assuming that accurate information comes up on the screen as hoped, and that the screen is a convenient size and easy to use? Will it benefit inexperienced pilots more than very skilled pilots - as GPS has done? My own guess is that in the early stages it will be most effective in two-seaters, with one pilot reading and interpreting, and the other either flying the glider or at least keeping a very good lookout!

An important point is that 1) a thermal is constantly changing and 2) the glider is descending through the thermal, so that when you intersect an earlier circle you are not in the same place and may not get the same reading. Thus in Fig 2 (Variable width line display) you sometimes get the same reading as you cross your earlier path, but often you don't. Some of this discrepancy may be due to lag in the vario, or to changes in airspeed and bank.

One thing I am confident of is that even if it does not make us all centre like Andy Davis, we will learn some fascinating new stuff about thermals.



VARIABLE WIDTH LINE DISPLAY

Fig 2.

My E-mail address is:-
101660.304@compuserve.com

Definitely not gliding!: Geneticist Steve Jones of University College London, hosting a BBC Radio 3 programme, "Blue Skies", asked Adrian Smith, president of the Royal Statistical Society, how other sports compared with football in risk.

Adrian replied: "We can set up a numerical scale - let us suppose playing football at school clocks in at 1, then based on the kind of figures that are available at the moment, canoeing would come in as a 10; that would be ten times more dangerous. Motor cycling would come in at about 35 and rock climbing at about 40. But the thing to really avoid is hang gliding, which comes in at 1500!" - *spotted by the Arm-Chair Pilot in the Society's journal.*

BOOK REVIEWS

Dick Stratton, BGA chief technical officer, reviews two books by Derek Piggott which are available from the BGA - **Sub-Gravity**, priced at £3 plus 50p p&p, and **Ground Launches** at £8.99, plus £1 p&p.

In **Sub-Gravity** Derek lists no less that 18 accidents (13 fatal) attributed to reduced *g* disorientation. With the co-operation of the RAF Institute for Aviation Medicine, he has well researched and identified the causes of these accidents and firmly places on the shoulders of gliding instructors, the task of eliminating them! So much so it is self-evident that air experience instructors should be the first to read this excellent treatise, since they may be the first to encounter problem students.

Easy to ready and understand, it is strongly recommended to all clubs.

The title of **Ground Launches** may be confusing until you realise that this textbook is targeted at the USA Soaring Association's members who are by no means as familiar as we are in the UK with the various techniques of winching and autotow launching.

Nevertheless, it is a very systematic and comprehensive document, based on massive experience on every aspect of introducing ground launch techniques to a gliding movement dedicated to aerotow launching!

It is because of the escalating costs in the USA (as in the UK) that there is a move to a more cost beneficial technique. Some 83 pages, with diagrams, explain it all, including accidents. Again, every club should have a copy. It is probably a unique document.

NB. The BGA shop hold a full range of gliding books. Tel 0116 2531051 for a catalogue

Glider Covers

Ozee Leisure have followed up their successful range of cold weather wear with gliding covers. They are made in a soft nylon fabric which has been laboratory tested against UV penetration equalling constant use for 365 days.

The combination of the silver pigiment on the reverse of the fabric and the white face reflect 90% of the UV. The other 10% is absorbed by a UV chemical absorber impregnated into the fabric during its manufacture. It is also waterproof but in addition all the seams have been taped to give complete protection in all weathers.

They sounded good on paper but Mike Smith, who ownes an LS-8, was most enthusiastic when he tried a set on his glider. He found they fitted perfectly, he liked the use of soft pilled fleece sewn into the outer fabric to protect the canopy and the neat way the various sections gave maximum coverage to his glider.

"A very classy product. Beautifully made in super fabric" was how he summed them up.

For more details see the advertisement on p208.

JOCHEN EWALD

AERO '97

Jochen reports on the Aero '97 International Trade Fair for General Aviation held in Germany in April at Friedrichshafen, on Lake Constance, and sent us these photos

This is the largest aviation trade fair in Europe and held every two years. The 435 exhibitors from 23 countries filled ten halls as well as taking space at Friedrichshafen Airfield where there were 2725 flights. It covered many branches of aviation from model aircraft to business turbo props and over the five days there were more than 60 000 visitors.

It has a great atmosphere and is well worth visiting - the next will be in spring 1999. **Schleicher** had the ASW-27, ASH-26E and the brand new Mid-West rotary engine powered ASW-22BLE on show. The firm was also pleased to give details of the records flown in Schleicher gliders. On April 18 Karl Striedieck (ASW-27) achieved a 1300km goal flight (see p224) and on April 21 Klaus Wedekind (ASH-25M) flew the largest European triangle (see p223).

Schempp-Hirth and DG showed their best selling 18 Metre Class motor gliders - the Ventus 2CM and the DG-800B. Of particular interest was the new DG-505MB Solo powered 20/22m flapped two-seater, replacing the DG-500M. The fuselage with the engine was on display and is now ready for its maiden flight. It was intimated that a new Standard Class glider will be emerging from the Schempp-Hirth stable later this year.

Rolladen-Schneider brought their new Solo powered motor glider, the LS-9, and the LS-8/18, which fills the gap for those clubs who want to offer their members high performance gliders without having to buy expensive and more difficult to fly flapped designs. Both have been test flown and hope to be certified soon.

Glasfaser Flugzeugbau Hansjörg Streifeneder, well known as the maintenance and repair specialist for all the Glasflügel gliders, brought a revolutionary glider - the Albatross. With the new gull wing concept, developed by Loek Boermans in the Delft wind channel, the wing-fuselage interference drag will be reduced. A new cockpit design with a really crashworthy structure promises to give better protection for the pilot than anything in existence, and the glider is equipped with a parachute rescue system. This was the first the aviation world knew of this design and the fuselage and centre-section were on show. It is hoped that the first flight will be in about a year.

Air Energy, a new, small factory, brought along the first electric powered Italian kit glider, the Silent, which will soon have its maiden flight. This might be a new way of gliding. The battery gives enough power for one launch up to 2000ft before being recharged.

Güntert & Kohlmetz were showing the aerobatic Fox which is now German certificated and has been flown by the German aerobatic team.

Herbert Gomolzig brought his RF-9 ABS prototype which I wrote about in the December issue, p329. He was pleased to get the noise measurement data some days before the exhibition as this proved his design to be one of the quietest motor gliders. Customer interest is great, so Gomolzig is looking for partners to go into production.

Gomolzig Flugzeug und Maschinenbau GmbH (Herbert Gomolzig's son also produces the well known silent exhaust kits for powered aircraft) showed the first of a series of six new all metal side-by-side high performance gliders - the Caproni Calif A-21s. They are built by Gomolzig from spare parts of the original Calif production. Brasilian Ximango's German dealer announced that the Super Ximango is now available with the Hoffmann hydraulic constant speed prop, improving performance in the whole range and lowering noise. (I think British customers will also get this option at Ximango UK.)

Scheibe showed the latest version of his SF-25C Falke series which gives economical aerotowing fitted with the Rotax engine and a winch for winding the aerotow cable in during the descent. Together with Scheibe, **Centrair** from France were exhibiting their new, optimised two-seater trainer Alliance 34 which is the modified SF-34 Delphin built under licence. This trainer is popular with clubs as it is smaller, lighter and cheaper than most other GRP two-seaters.

LTB Nitsche brought the Rotax-Samburo I reported on in the December 1995 issue, p328, and last October, p271. Test Pilot Rainer Stöckl was asked a lot of questions about motor glider towing - he was the first to do this in Germany and his test flight data has been the basis for good and safe (JAR) certification rules.

Stemme, the luxury two-seater motor glider, is now offered with the turbo charged Rotax 914 engine and variable pitch folding prop giving better take-off and cruise performance.

Diamond Aircraft from Austria included the turbo tug among the motor gliders. The new Super Dimona HK 36 TTC, fitted with the 115hp Rotax 914 F3, was at the exhibition and during the weekend airshow we saw it towing the Swift used for the German aerobatic team's display.

Czech metal gliders and motor gliders were brought along by their German agents. The L-13SDM Vivat with a two wheel undercarriage and the Walther Mikron engine, the LET L-33 Solo and the L-23 Super Blanik are not too expensive and have proved to be reliable club aircraft.

HPH, a Czech factory until now well known for their accurately made small scale models, are building the Glasflügel 304CZ under licence and showed their new prototype with winglets.

PZL from Poland was pleased to have the German LBA type certification for the PW-5 World Class glider (Symyk) built at Swidnik. And from their Beilsko factory they brought the 15 Metre Class SZD-56 Diana and the SZD-59 Acro, which is now available with winglets.

Protect your glider from ultra violet light with an Ozee glider cover

Ultra violet light . . . Manufactured to the highest quality the Ozee glider cover gives complete protection from the sun's harmful ultra violet light. Laboratory tests equal to 365 days constant use revealed no deterioration in the fabric's ability to repel UV light. This is achieved by using a fabric which is made in the UK, the reverse side of the cloth has had a silver pigment applied which reflects the majority of the UV whilst the white face side of the cloth has been impregnated with a UV chemical absorber.

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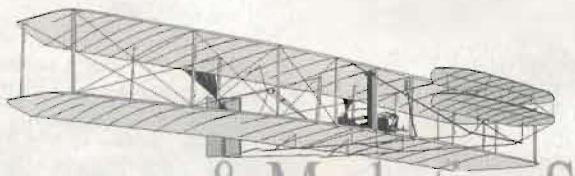
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Availability . . . LS 8 and LS 6 covers are in production now, all makes and models are available to order. For further details contact:

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✦ *Colour brochure on the Ozee range of flying suits available from the above address* ✦



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SZD-56 Diana.



Solair 2.



Albatross.



LS-9.

IAR Romania were exhibiting the IS-28M2GR prototype with the Rotax 912 A3 engine and Hoffman hydraulic constant speed prop. This all metal motor glider comes with adequate power at a very low price. (See my test flight in the December 1995 issue, p329.)

AB Radab from Sweden offers a completely different concept. Their kit Windex 1200C is a small, light GRP motor glider with the engine in front of the fin. With the engine stopped, it is also good for aerobatics.

There was great interest in the two **solar motor gliders**, Stuttgart University's Icaré 2 (see October 1996, p271) and Günter Rochelt's Solair 2. These prototypes seem to show the future of gliding - launching and flying by solar energy. Icaré won the Ulm solar flying competition and Solair is nearly ready for its maiden flight. But I think we'll have to wait some years for the technology to develop to make these designs affordable for the average glider pilot.

IDAFlieg, the academic flying group's association, showed the new Akaflieg Stuttgart flapped 20m two-seater fs-33 Gavilán which will have its maiden flight in the early part of this year. Akaflieg Munich brought their aerobatic tug Mü-30 Schlacro and FVA Aachen showed the first wing they have built for their new carnard type glider, the FVA-27 Ente, which is waiting for load testing.

The German Aero Club (DAeC) attracted potential glider pilots with a PC glider simulator operated from a real glider cockpit with the screen on the instrument panel which they invited visitors to fly.

I thought this was an excellent idea clubs might like to copy when they have recruitment drives and open days.

A special display, "Seventy five years of gliders", showed the oldest Lilienthal glider replica going back more than 100 years. The Wasserkuppe Gliding Museum and many private owners (nearly all Vintage Glider Club members) from Austria, Switzerland and Germany gave an excellent presentation about the history of gliding from last century's hang gliders up to the latest high performance ships and solar gliders.

DG-505MB: On going to press Jochen told us that the DG-505MB had a successful maiden flight in early June with the 65hp twin carburettor Solo engine giving an impressive performance.

Icaré 2.



Windex 1200.



TOM BRADBURY

DRY SUMMERS

Tom says that summer droughts generally give good cross-country conditions



A hot day with almost cloudless thermals.

Hot, dry and sunny summers seem to have occurred rather often in recent years. If summer 1997 turns out wet it will make the water companies happy, if no one else.

The ideal soaring summer has a maximum of sunshine and a minimum of rain days. Such summers worry the water companies who rely on heavy winter rainfall followed by a traditionally damp British summer to keep their reservoirs topped up. In recent drought years winter rainfall did not make up for the lack of summer rain and by April 1997 there was already talk of water restrictions in central and south-east England and also in France.

Spells of drought

Since 1959 lack of rain has seriously troubled the water boards on several occasions. Table 1 gives their list:

Table 1. Water Companies Drought

May 1959 to October 1959	6 months
May 1975 to October 1976	16 months
Feb 1984 to August 1984	6 months
Nov 1988 to August 1992 (but wet interludes)	46 months
April 1995 to April 1997	24 months

The 1988-1992 drought was broken by wet spells which spoilt soaring weather but did little to help the water boards. The Hydrological Institute said that groundwater was less than for any period this century. Since then they have declared the 1995-97 drought as the worst for two centuries. East Anglian Water contemplated building a desalinisation plant on the North Sea coast. Others considered floating huge plastic bags of water down from Scotland.

Global warming

The increasing frequency of hot summers may be attributable to global warming. Fig 1 shows the change in the Northern Hemisphere temperatures from 1861 to 1995 compared to the mean for the 30 years 1961-1990. Although the actual figures are tiny the trend looks convincing. 1995 turned out to be the warmest year over the entire globe, beating 1990 (the previous record year) by a small margin. The eruption of Mt Pinatubo (Philippines) in June 1991 caused a small but detectable cooling due to volcanic dust in the atmosphere.

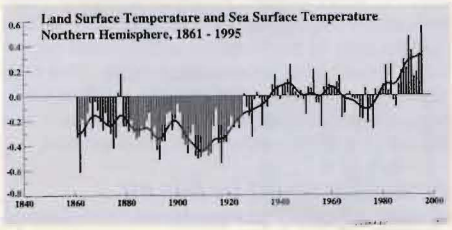


Fig 1. Global warming. Land and sea surface temperatures over the Northern Hemisphere 1861-1995. (Diagram by courtesy of *Weather*.)

It is far from certain that higher temperatures will give us better soaring in the UK. So far the warmest summers have also given the most cross-country days in the UK. However a fine summer here is usually balanced by a wet summer in eastern Europe and Russia or vice versa.

Table 2 shows that our best summers for cross-country soaring occurred mainly during the drought years. The first three columns give sunshine, rainfall and the number of dry days at Birmingham. Column 4, headed Badge Days gives the number of days when flights of 300km or more gained badges. The Peak Temperature column lists some of the hottest days. The 30 year average sunshine and rainfall is given on the bottom line.

Table 2. Good Soaring Summers

Figures for Birmingham: May-August

	Sun Hours	*Rain mm*	*Dry Days*	*Badge Days*	*UK Peak Temp (Date & value)*	
1976	994	160	–	43	July 3	35.9(°C)
1984	829	182	86	28	Aug 8	31.7
1989	1006	197	91	40	July 22	34.2
1990	864	136	87	37	Aug 3	37.1
1994	804	158	79	22	July 12	34.0
1995	957	77	92	37	Aug 1	34.3
1996	885	135	74	29	July 22	33.2
	hrs	*mm*				
Average	712	226 (for the 30 years 1961-1990)				

1959 was a good summer too but there were fewer sailplanes then and cross-country flights were not comparable with recent years.

1976 was the warmest and driest since records began in 1766. From June 23 to July 8 temperatures exceeded 31°C somewhere every day.

1989 was a particularly good summer with exceptionally long spells of good soaring weather.

1990 had a record breaking heat wave from August 1 to 4.

1995 beat 1976. August had the warmest central England temperatures since records began in 1659. It was also the driest summer ever, breaking the record set up in 1976.

Hot days are seldom the best days

Hot days are greeted with delight by the TV forecasters but the hottest days seldom give the best soaring conditions. This is because on most hot days there is very warm air aloft before dawn. In the morning the air is very stable and the temperature has to climb particularly high before it breaks the inversion. As a result thermals are delayed until after midday and most hot mornings are fit only for sunbathing.

In Fig 2 the tephigram shows the difference between a cool but outstandingly good soaring day and an exceptionally hot day. The left hand curve shows the temperatures aloft on July 22, 1995 (the 1000km day). The right hand curve is for August 3,1990, when a record high temperature of 37.1°C was measured at Cheltenham.

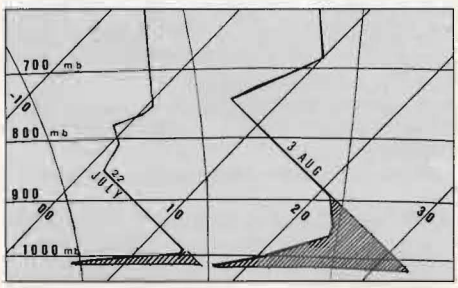


Fig 2. Soundings in cool and hot weather. Left hand sounding for July 22, 1995, after a cold front. Right hand curve shows hot air sounding for August 3, 1990. The shaded area indicates the amount of solar energy needed to start thermals.

The shading at the base of each curve indicates the amount of solar energy needed to break the nocturnal inversion and start thermals. On July 22 so little heat was needed to set off thermals that it became soarable by 0800 GMT. In contrast August 3, 1990, had much hotter air aloft and needed far more energy to start convection. The first thermals did not begin until midday but soon afterwards they went up to 8000ft. ➡

Conditions for high temperatures in England

England is too small to produce a heat wave by itself. It needs the air to be pre-heated over the continent first. The majority of hot days occur when warm air reaches the UK from a south-easterly direction.

On days when temperatures rose to 30°C or higher the winds were between south and east for 60% of the time. Highs, cols or ridges accounted for 34% (these were often the day after a south-easterly).

Winds from a westerly point very rarely brought high temperatures except on the lee side of mountains when the föhn effect caused local hot spots. However a long and sunny land track sometimes produced high temperatures in eastern England. If the west wind was strong enough to hold off the sea breeze even coastal resorts like Cromer and Lowestoft became hot and thermals extended right up to the coast.

Importance of dry ground

Hot spells are nearly always dry spells too. When the ground is very dry the vegetation tends to shut down and evaporation is much reduced. Less of the sun's heat is wasted evaporating water leaving more energy for heating the ground. The increase can be as much as 30%. On some hot stable days this is enough to lift the maximum temperature an extra 3°C.

Dry ground may encourage drought to persist

When the ground is so dry that vegetation dries up the temperature rises higher than normal. This makes the air expand and produces an upper high which deflects the jet stream and steers Atlantic depressions away from us. Most droughts just cause a temporary loss of vegetation. The permanent loss of forests may be more serious than the drying up of grass. In the last 20 years the deforestation in Nigeria, Ghana and the Ivory Coast is thought to have caused the collapse of the West African monsoon system.

The cloudbase is higher in dry spells

The condensation level depends on the difference between the air temperature and its dew point. (These figures can be got from Volmet broadcasts.) A useful guide is to multiply this difference by 400 to get the cumulus base in feet. Thus on a fine summer day a difference of 10°C gives a cloudbase of 4000ft. On exceptional days during a dry spell the difference exceeds 20°C and then any cu forms just above 8000ft. In the drought year of 1976 one pilot climbed to 11 000ft before a patch of cu formed just above him. In such dry air many English thermals never get up to the condensation level and skies remain blue.

Visibility problems in hot weather flying

Hot days are often hazy days. Europe produces millions of tons of grime which is carried up by convection and brought over to England by the south-easterly flow. Our cities then add to the pollution. The air is so thick that every cubic centimetre contains a thousand microscopic particles. The haze can grow so bad that the ground almost disappears at the top of a climb. Only contrasting colours such as the chalk cutting of a new road or a field of oilseed rape show up through the murk. Such hazy days make GPS a necessity. Even if you use GPS the visibility may fall below the minimum for VMC thus restricting the area for cross-country flights.

Haze weakens thermals

Thick haze also tends to reduce thermal strength because some of the solar energy is absorbed by the haze. This warms the hazy air aloft, reduces the temperature contrast between the ground and 5000ft and weakens thermals. When the sun's elevation is low a deep layer of haze absorbs the slanting rays so much that thermals start later and end earlier.

Smog

This word is a contraction of "smoke fog" and originated in the USA. Powerful sunshine interacts with various sulphur, nitrogen and carbon compounds to produce an unpleasant brown murk known as photochemical smog. This cuts down the visibility and makes life unpleasant in busy cities, particularly if the air is stagnant and the smog is pinned down by a low inversion.

Fine days spoilt by sea air

High temperatures inland tend to encourage deep penetration of sea breezes, especially over those parts of eastern England where the land is very flat. Sea fog and coastal stratus is liable to spoil soaring when the air comes in across the North Sea coasts. Although the hot sun usually burns off all the fog or stratus as it crosses the coast, the inversion above the sea air is harder to destroy. This ruins the day for clubs near the coast but may not trouble those well inland. However on June 30, 1995, the central Midlands had a maximum of 31°C and the east coast sea breeze came unusually far inland. It passed Cottesmore at 1620 GMT, Birmingham at 1810 and Wellesbourne Mountford at 1845. It

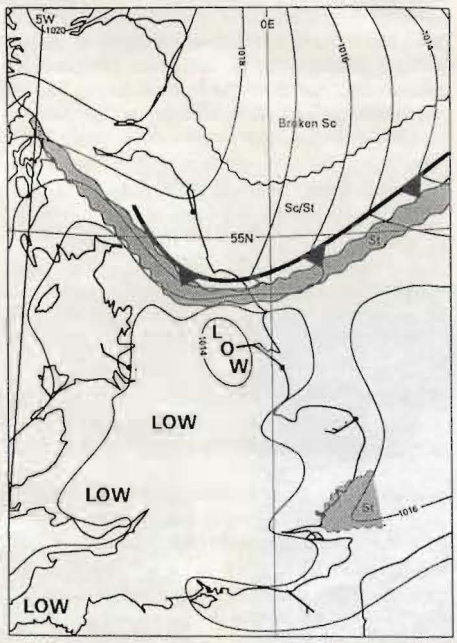


Fig 3. Chart for 1200 GMT on June 30, 1995. (Provided by courtesy of *Weather*.)

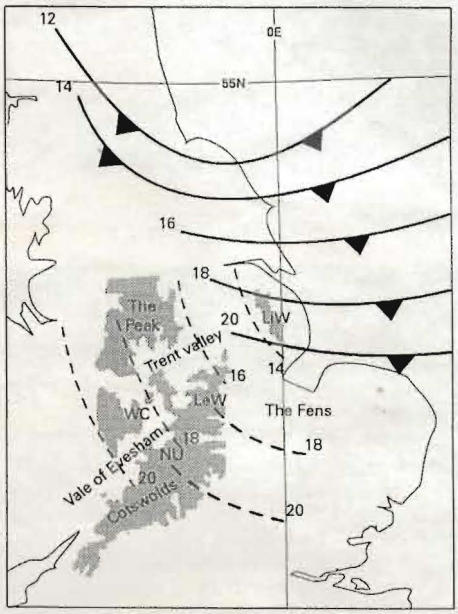


Fig 4. Deep penetration of a sea breeze front from the east coast on June 30, 1995. (By courtesy of *Weather*.)

was last seen by a balloonist between Stratford on Avon and Alcester. He reported it as a kind of wave coming through the trees from northeast and receding to the south-west.

The situation at midday on June 30 is illustrated in Fig 3 while Fig 4 shows the movement of the sea breeze front (pecked lines) and the following cold front.

Weak cold fronts have a similar effect

During dry spells Atlantic fronts often become so weak when they reach the UK that they lose all their rain and sometimes their cloud too. They just bring a shallow layer of cold air which acts like a sea breeze and produces a very low inversion. Such an event once sank the Open Class during a Lasham contest.

The task setter wanted to lengthen the route for the Open Class so he added a dogleg back to the west. When the competitors headed westwards for the second time conditions had changed. The low inversion had arrived and thermals were suppressed.

The run up to hot dry summers

Several good summers have been preceded by mild winters with long spells of strong west to south-westerly winds. These brought above average winter temperatures to much of the UK and northern Scandinavia. The Atlantic jet stream was often very strong and generated some deep depressions. Most of these passed over or just north of Scotland bringing severe storms to parts of the UK.

Here are two examples of mild winters which preceded fine summers:

Winter 88-89

December. Strong westerly. Exceptionally mild.
January. Very strong WSW'ly. Exceptionally mild.

GBW - 585196

February. WSW'ly gales, exceptional in the north. Very mild.

Summer 1989

June . Very warm mid-month but cool spells early and late.
July. Very warm, dry and sunny.
August. Warm, dry and sunny.
Birmingham reported 753hrs sun from June to August.

Winter 1994/95

December. Very strong WSW'ly. Mild, wet and sunny.
January. Very strong westerlies, exceptionally wet later.
February. Very strong westerlies; another very wet, mild month

Summer 1995

June. Cool, cloudy first half, then warm and sunny.
July. Dry, sunny and hot.
August. Record breaking hot, dry and sunny.
Birmingham reported 749hrs of sun from June to August

Here is an example of the run up to a mediocre summer.

Winter 1991/92

December. Dry and anticyclonic, severe frost second week.
January Strongly anticyclonic from the 11th.
February. W'ly. Dry except in W Scotland. Mild everywhere.

Summer 1992

June. Warmest since 1976 (this weather did not last).
July. Cloudy, cool and wet at first, then warmer.
August 1992. Unsettled, windy and very wet.
Birmingham reported only 528hrs of sun

A cold anticyclonic winter with persistent easterly winds is seldom followed by a really good summer.

Long soarable spells

A feature of hot dry summers is the persistence of soarable days.

Table 3
Number of good soaring days. (Based on competition days and days when cross-countries of 300km or more achieved badges.) The list includes the poor year of 1992 for comparison.

	1989	1992	1995	1996
May	7	5	9	9
June	13	4	8	16
July	17	7	14	19
August	21	12	21	21
September	3			
Total	61	28	52	65

In 1989 both June and August had unbroken spells for nine consecutive days while July had a full 14 day spell. In August 1995 only one day was lost out of a sequence of 18. This was a pleasant change from 1992 when several clubs only got three contest days.



Breakdown of fine spells

As long as the dew points remain low, heat waves are unable to generate cu-nims and the weather remains dry. The arrival of moist air upsets this stable pattern and then the fine spell gives way to thundery outbreaks.

In the good years the weather soon recovers and the fine spell is resumed but in poor years an outbreak of thunderstorms is followed by many days of cool rainy weather which devastates contests.

In the excellent summer of 1995 the weather broke briefly giving violent thunderstorms with heavy hail on May 26.

Further thundery outbreaks occurred on July 5th, 10th and 11th ending up with a small tornado near Doncaster. However by July 22 conditions were good enough for the first 1000km and several 750kms. There were no such record days in August but it was outstandingly good for contests.

The fine weather usually ends in September

Most fine summers end in September as the equinox approaches. Cooling in polar regions strengthens the jet stream which in turn brews up deeper Atlantic lows. These disrupt the blocking system which kept the fine summer going.

In 1976 the dry and sunny August was followed by a very wet and thundery September. This was an unexpected triumph for the newly appointed Labour Minister for Drought.

However an Oriental Holy Man offered prayers for rain too and his supplications may have been more effective.

HARRY MENDELSSOHN
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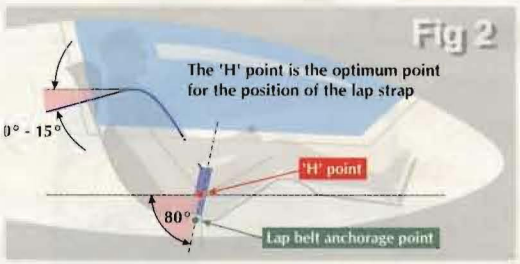
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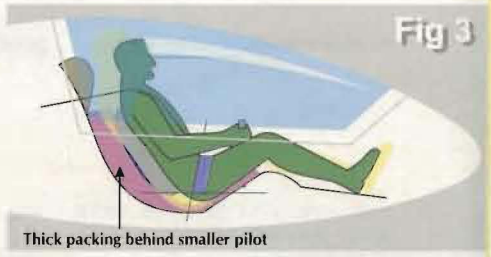
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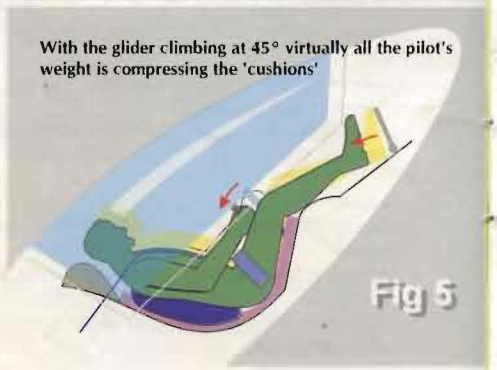












Drawings by Steve Longland.

SAVE A LIFE - Throw Away A Cushion

Bill Scull, chairman of the BGA Safety Committee, warns that a fatal accident might be caused by a soft packing

In the 1970s there were a number of fatal accidents at the start of the winch launch. The pilot slid backwards during the initial acceleration and lost control, usually spinning. Such accidents have continued.

One factor was that directional control was lost since the pilot's feet were no longer in contact with the rudder pedals. But it is not as simple as that. Fig 1 shows a pilot in a modern glider. Note how the shape of the seat slopes upwards to support the thighs.

Also note the distance of the pilot's head from the canopy and the location of the lap-strap - but more of this later. There is an unsatisfactory feature in the illustration which, of course, you've spotted. The headrest is in the wrong position. It has been well researched and found that the point of contact between the headrest and the pilot's head should be in line with the eyes.

Some of the features shown will eventually become part of the design requirements - JAR 22 (Joint Airworthiness Requirements for sailplanes and powered sailplanes). Fig 2 shows the correct positioning of the lap-strap at the "H-point" to minimise the risk of injury in a crash. The seat shape and H-point location stops "submarining" (sliding forward through the lap-strap) and the correct headrest position minimises whiplash injury. Sadly there are many gliders without these features which makes them less safe than the more modern types.

This background information will help you understand some other causes of accidents.

Fig 3 shows a small pilot. It is quite possible that smaller pilots will need some packing behind them, even if the rudder pedals are adjustable. I use the word "packing" advisedly since many pilots will think in terms of cushions and herein lies the risk. Cushions are usually soft and therefore compressible.

The initial acceleration on a modern, powerful winch may be in excess of 1*g* (32ft/sec/sec) which means it is likely the pilot will compress the cushion (Fig 4) and his feet will lose contact with the pedals (and hence directional control). He will probably pull the stick back, which is critical at a time when it should be pushed forward to control the marked nose-up pitching tendency of most gliders. The glider will then climb much too steeply (Fig 5) with the pilot's weight compressing the cushion.

There is a simple safeguard - calibrate your cushion. Put it on a firm, level surface, put a board on top and stand on it. Get someone to measure how much the material compresses. If the reduction in thickness is more than 10% then you would be well advised to throw it away and get some firmer packing. It might save your life.

Another feature of your glider which is almost as significant is the angle of the shoulder straps (Fig 2). If they are not between the angle of horizontal and -15° they will not hold you down in the seat. If they slope upwards they will hardly constrain you at all and if they slope down at more than 15° the risk of spinal injury due to a heavy landing is increased.

There is another significant safeguard. If your glider has in-flight adjustable rudder pedals, set them for comfort in flight and then bring them back a couple of notches to minimise the risk of losing contact during the initial acceleration of the launch.

All this can make launching safer, at least from the initial risk of stalling and spinning after inadvertently climbing too steeply. But these accidents are usually fatal so to avoid the risk **throw away your soft cushions and replace them with firm packing.** ■

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BARRY GILMAN

CLUB FOCUS

Barry writes about the Derby & Lancs GC which is one of the most attractive in the UK with its outstanding scenery and farmhouse club rooms



Camphill. Photo: Ian Dunkley.

Gliding was introduced to the Peak District in the early 1930s by enthusiasts who had seen it in Germany. They were helped by a government subsidy which covered 70% of capital expenditure. This led to what has been called "a shotgun wedding" between the Derby GC and the gliding section of the Manchester Aeronautical Society Ltd and the leasing of the 87 acres of Camphill Farm in 1935. Thus, the Derby & Lancs GC came into existence on the same site it now owns.

Situation. The Peak District, an area of outstanding beauty, was England's first National Park. It is a delightful region and a pleasure to explore at ground level or from the air and Camphill is an ideal base.

Pilot development. As with most gliding clubs that have not reinvented themselves as soaring centres, we offer a thorough training programme for the *ab-initio* provided by the CFI's team of 13 full Cat, nine assistant and eight air experience instructors. Most importantly, the training programme is continuous beyond the solo stage and the Bronze badge syllabus with formal lectures and flying exercises to achieve competent cross-country standards. Following this, there is encouragement to increase self-confidence and extend individual abilities by flying prescribed O/Rs or triangles against the clock.

Our recently updated **Pilots' Manual** is an essential part of the training programme and given free to all new members. It is also a mine of essential and useful information for visiting pilots and particularly useful if they have a copy in advance. They can then familiarise themselves with launch procedures and circuit patterns which underscore safe flying operations on this hilltop side under various wind conditions. A copy will cost you £3.50 (£4.25 posted).

Facilities. We have a fleet a modern glass-fibre gliders with two Puchacz and a Grob Acro for training and a pair of Juniors for solo use. There are also 39 privately owned gliders.

All launching is by winch and with our new Skylaunch we now have four winches, two of which give four operating cables on any flying day. Launches of up to 1600ft are normal except for west wind days when a 400ft lob is usually sufficient to get established in the hill lift.

The original farmhouse has been extended to provide comprehensive clubhouse facilities. These include a substantial dining room with an excellent meals service and a general purpose room for meetings, lectures and social evenings. The bar has often been rated as the cosiest of all the British gliding clubs and who are we to argue?

We can sleep up to 16 in bunk beds and have camping and caravan space for visitors.

Tough at the top! Being a hilltop airfield, Camphill is a demanding rather than a difficult site and requires the respect all pilots should give to any hill site. Occasional limitations imposed by low cloud are more than compensated by the opportunities for soaring at all times of the year. Airspace considerations have still allowed several flights to over 10 000ft during the first three months of this year, including one Diamond climb to 17 2000ft. A "wave box" is available for the exploitation of local wave conditions and several members have achieved all three Diamonds flying from Camphill.

Vintage stuff. The rebuilding of a Slingsby T-21 triggered the formation of the Camphill Vintage Glider Group which now has a membership of 26. We have ambitions to make Camphill the vintage capital of the north and, by way of encouragement, offer free daily membership to all VGC members. By the time you are reading this the National Vintage Rally will have been held here with at least 20 visiting aircraft and pilots from the UK, Ireland, Australia and Japan.

We are open for flying throughout the summer months and only close on Mondays during the winter and can guarantee friendly enthusiasm and hospitality.





Above: Nick Newton's Hütter 7 slips in past Camphill's clubhouse. Photo: Chris Hughes. Below: Camphill's westerly. Photo: Ian Dunkley.

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LETTER FROM AMERICA

Although we have given this information before, we are frequently being asked for just the details covered by Neil in this article as more and more UK pilots are gliding in the States

Over the years I have made a number of short visits to America and now and again I've flown at gliding sites of various kinds. Following one such trip when I visited three sites and *S&G* published an article describing these experiences, I was besieged with queries from readers asking about gliding sites in the US and what was needed to fly there. So when I was offered the chance to live and work in America for a few years I considered it my duty to accept the offer, and while there to investigate the gliding scene and report back on the experience. So I said farewell to my beloved Std Cirrus (not to mention my gliding partners) and headed west.

As I write there are six inches of snow on the ground and zero wind so there is not much gliding of any description, but it gives me the chance to describe how I went about getting started.

In the UK, where gliding is regulated by the BGA with the CAA looking over its shoulder, pilot certification is maintained at club level and from Silver upwards the FAI badges are recognised as the main qualifications. However, in America the Federal Aviation Administration (FAA) maintains a firm grip on gliding as it does all other forms of aviation. The Soaring Society of America (SSA) oversees gliding in general and most gliding sites are affiliated to it, but a lot of pilots are not members and the final authority on licensing is the FAA.

The essential qualification for the glider pilot is the FAA Private Pilot's Licence (PPL), and beyond that the Commercial Pilot's Licence (CPL), and aircraft have to have either an FAA type certificate or an experimental certificate.

If you are going to fly seriously in the US you need to get a licence

To get a PPL (gliders) you have to have at least 7hrs solo and for the CPL 25hrs, and in both cases you have to complete written and flight tests. You can of course fly as a student under supervision without either type of licence, but you will be limited in what you are allowed to do. So if you are going to fly seriously in the US you need to get a licence.

There are reciprocal arrangements under which visiting pilots can be granted a PPL or CPL on the basis of a licence issued in another country, provided the other country has broadly similar requirements. The problem with the UK is that we don't have a formal pilot's licence for glider pilots, and I have heard of people reporting different experiences when attempting to get a US licence on the basis of UK qualifications.

So it was with some trepidation that I presented myself to the local Flight Standards District Office of the FAA, which happens to be at Washington's Dulles International Airport, to seek a US licence. I had assembled every bit of documentation I could think of - logbooks, Lasham progress cards from the 1970s, FAI certificate and, although I did not intend to instruct in the US, I had taken the precaution of taking along my assistant instructor's ticket (lapsed) with a current BGA Instructor's medical certificate. The FAA inspector seemed to be familiar with the UK way of doing things and did not mind the lack of a formal licence.

He examined all my paperwork in great detail, asked a few questions and eventually pronounced that on the basis of several hundred hours gliding, Gold badge and the odd Diamond, plus my out-of-date Instructor's qualification, I could have a US CPL (gliders.) The medical certificate proved to be unnecessary as in the US for gliding (it is different for power flying) it is only necessary for pilots to certify they do not knowingly suffer from any medical condition which would make them unable to fly.

So I left with a temporary CPL for gliding and about eight weeks later the formal licence arrived from the FAA. It has the word "Restricted" stamped on it and a note to the effect that I am not allowed to fly "for compensation or hire".

Nobody I have spoken to is quite sure what is the purpose of a CPL which cannot be used to fly for payment, but FAA regulations are quite clear that a licence issued on the basis of a foreign qualification will be subject to this restriction. As I was not intending to anyway it doesn't really matter and with it I can fly more or less anything, from the front or back seat, with or without passengers, so long as I am paying for the flight, which is pretty much the same as in the UK. Launching in the US is usually by aerotow, and sites which provide ground launches either by winch or cartow are relatively rare, so most pilots have an "aerotow-only" restriction on their licences. I have no such restriction, which means that I can use any launch method, including self-launching motor gliders!

Now you might think that with this piece of paper I could go and fly, but you would be wrong. All pilots in the US, regardless of their licence or the type of aircraft they fly, have to have a "Biennial Flight Review" (BFR) unless they have had a flight test during the previous two years. As I had bypassed the flight test by using my UK qualifications I had to complete a BFR before I could fly solo. So the next thing to do was find a suitable site.

Gliding sites in the US mostly fall into two types. There are clubs, much like in the UK, usually with substantial joining fees but modest flying costs, and which tend to operate mainly at weekends. Then there are commercial sites, which simply charge for tows and for both the glider's time and that of the instructor if you use one, and which generally operate seven days a week. Examples of both can be found within reach of Washington, but I decided that a commercial site would suit my purposes better in the first instance, and the nearest was called Bay Soaring. This was a small outfit with three club two-seaters, two single-seaters and two Pawnees, and maybe a dozen privately owned gliders, flying from a narrow grass "gliderport" just outside the little town of Woodbine in Maryland, about fifty miles from Washington.

Prohibition on cloud flying means staying at least 500ft clear of cloud vertically

The BFR consists of at least an hour's flying, or three flights in a glider if the conditions are not suitable for soaring, and an hour's discussion on the ground. I optimistically set aside an afternoon for this, but in fact it took four attempts before we completed it, entirely due to the weather. On the first afternoon, cloudbase was at about a 1000ft, and although the cloud was well broken and we would have flown in the UK, the prohibition on cloud flying in the US means staying at least 500ft clear of cloud vertically and 1000ft horizontally, so there was no flying.

However I met the instructor, Ian, and we spent an hour or so talking about the differences between UK and US operating practices, which counted as the ground instruction bit of the BFR. The next two appointments were cancelled because of high winds and snow, but after about six weeks we at last managed some flying.

For aircraft I was offered the choice between a Grob Twin Acro and a US built Schweizer 2-33. Having flown the Grob more times than I care to remember I chose the 2-33, which has been the standard basic trainer in the US for about four decades.

It is a high-winged metal glider with struts, a tandem two-seater where the instructor gets into the back seat by means of a side hinged door. There are no instruments in the back. It may seem crude by modern standards but it is immensely strong and, although rather heavy on the controls, quite pleasant to fly.

We had three flights, the first a high tow which also served as a site orientation flight, the other two relatively low tows to comply with the requirements. Oddly, the rules require at least a 360° turn on each flight, so a cable break exercise with a 180° turn and return to the field does not qualify, and although I was half expecting a simulated cable break, it didn't happen. (I gather this rule is expected to change shortly so don't rely on it.) However with these Ian endorsed my logbook with the words "BFR completed satis- ➡



Neil has been gliding at Lasham since 1973. He has about 500hrs, a Gold badge and Diamond goal, owns a share in a Std Cirrus and was at one time an assistant instructor at Lasham. He is currently in voluntary exile in the United States.

factorily" and I was at last fully certified as a US Commercial Pilot (gliders).

On the next two visits to Woodbine I flew both of the site single-seaters. Over the last twenty years or so I have flown about thirty types ranging from an Oly to a Ventus, but surprisingly the performance characteristics of the two Woodbine gliders were outside the range of all those I had flown previously. The first was the Schweizer 1-26, a metal single-seater of all of 12.2m span and a glide ratio of perhaps 22:1 when new. Although relatively modest in performance this glider outnumbers all other types in America and has one-class competitions all to itself. The other site glider was the LAK-12, built in Lithuania and now quite familiar in the UK. It is similar to the Nimbus 2, with a span of 20.5m, flaps, waterballast, and an L/D of about 48:1, which makes it easily the highest performance glider I have so far had the pleasure of flying. Despite the difference in age and type, both gliders are great fun to fly, the LAK being particularly docile for such a big glider.

A word about the cost of gliding in America. The word is "expensive". An aerotow at Woodbine is upwards of $20 depending on the height, about the same as at home, but the hire of a glider varies from $35 an hour for the 1-26 to $60 for the Grob. If you use an instructor either in the air or on the ground you also pay for his or her time at $45 an hour, and there is an additional fee of a few dollars on every flight to cover insurance. So my BFR consisting of three flights plus ground instruction cost a little over $200. (At $1.60 to the £ this is about £125.) And 20min non-soaring flights in the single-seaters are about $50 or $60 including the tow.

Having arrived in the US at the end of the season and taken about three months to complete all of these formalities ,I have not yet had an opportunity to sample soaring conditions in the US. In fact Maryland is not noted for outstanding soaring, although wave can sometimes be contacted nearby, some 50 miles downwind of the Appalachian mountains.

For spectacular gliding one needs to go to the mountains of Colorado or Nevada, the hot plains of Texas and New Mexico, or the mountain ridges of Pennsylvania and West Virginia. I hope that my stay in America will permit pilgrimages to these mecca's of soaring, and if it does I shall be sure to report them in these pages, if nothing else to make readers jealous.

Postscript. A few weeks after writing this article, I turned up at Woodbine only to find the gliderport closed. Further investigation revealed that as a result of local pressure Woodbine Gliderport has ceased to operate. However, Bay Soaring has moved and is now flying out of Ridgley Airpark, a small airfield on the other side of Chesapeake Bay in Maryland.

PORTUGAL - A GLIDING HOLIDAY?



An Astir flying over Covilhã.

No, it isn't a country you associate with gliding but things have changed dramatically since 1989 when not a single glider was flown and they only had a few old gliders and a limited number of tugs. In less than ten years the Aero Club of Portugal have revitalised their gliding activity and are averaging 250hrs per glider each year, mainly at weekends, and have three airfields. The Sintra airbase, by courtesy of the Portuguese Air Force, which is near Lisbon and used mainly for instructing during the winter; Covilhã, Serra da Estrela, which is most active in spring up to August for mountain, thermal and wave flying and Évora for summer and autumn soaring. The Aero Club has a fleet of three Blaniks, a Twin Astir, Club Astir, ASW-20, two LAK-12s, Fournier RF-3, Rallye, Supermunk and a Dimona. It is possible to hire gliders and also tugs for local flights.

Évora and Covilhã are good cross-country sites (on average you get 6kts) and attractive areas. Last August a pilot flew from Covilhã to Fuentemilanos and returned the next day, so if you are going to Spain this summer it might be an interesting task in reverse. For more details contact Philip C. Silva or Eduardo Borges, Aero Club be Portugal, Rua General Pimenta de Castro 4C, 1700 Lisbon, Portugal, tel 00 3511 8405317, fax 00 3511 8405572. - Details from Philip Silva.

AUSTRALIA

Andy Todd was in Brisbane on business when a meeting was cancelled. He said he "flicked through the Yellow Pages, found an entry for a gliding club and discovered what must be the best cross-country soaring in the world"

When God was creating the world, around about Tuesday afternoon He decided He was going to take Sunday off and go gliding. So He created Darling Downs in Queensland. Later when mankind discovered the joys of gliding a small group of intrepid pilots on walkabout formed the Darling Downs GC. The club is 120 miles west of Brisbane between Oakey and Dalby and is clearly marked from the air by a massive Malu grain silo.

It is in the middle of a pancake flat flood plain 150 miles long and 100 miles wide. Just about every paddock (field) is landable and big enough to get a 747 into. There are few major roads and they all seem to be laid out in a 500km triangular grid... Just follow the lines and with gin clear visibility - there's no need for a GPS. (Come to think of it, the vario seemed to be redundant as well.)

Unlike the more popular southern Australian sites, the area is blessed with a year round unstable micro-climate. The only real impact on gliding conditions are the shorter winter days in July and August. High season sees 6 to 10kt thermals to 9000ft virtually every day. The Bunya Mountains to the north-west offer the possibility of ridge and wave soaring when you get bored with 500kms day after day. The club has about 100 members with a small grass strip, a Pawnee and a varied selection of glass single and two-seaters. I flew their Puchacz and the LS-7.

There's a functional bunkhouse (though there are plenty of hotels nearby if you want more comfort), a well equipped kitchen and a very dangerous "serve yourself" bar. It's a tourist area so there are lots of things to do (or for the rest of the family to do while you have some real fun).

There is a large complement of very experienced and friendly instructors. They run cross-country and *ab-initio* courses in the summer (our winter) catering for groups or individuals. It's the site where the great Ingo Renner learnt his stuff. He was a member from 1967 to 1973 and described it as the best cross-country soaring in the world. If you are interested I strongly recommend you call Trevor Benge on 0061 076 32 5228. If you want to make it a family holiday, the Sunshine Coast and the Gold Coast are only three hours drive away and the Great Barrier Reef is nearby.

JUSTIN WILLS



Justin's photo of a cloud street along the Beaverfoot Range.

GOLDEN MEMORIES

If one could imagine a glider pilot's heaven I would dream of soaring among majestic mountain peaks under a deep blue sky studded with cumulus above a landscape of great natural beauty, fascinating wildlife and friendly people. This dream became a reality for Gillian and me in Western Canada

One of the nicest features of flying in World Championships is the opportunity to make and renew friendships with gliding enthusiasts from all over the globe. Since 1989 we had exchanged Christmas cards with Harry and Heidi Polzl from Ontario whom we had met at Wiener Neustadt. In January 1995 we spent an evening together at Omarama and I confessed to a longing to fly in the Canadian Rockies. The Polzls live in Toronto, which reminded me of the cabled reply from a Vancouver company to its London head office when asked to meet a British director off the transatlantic liner in Halifax: "You meet him, you're nearer".

Following the break up of the USSR Canada is now the largest country in the world and the Polzls live over 1800 miles east of the Rockies. However, inhabitants of such vast countries often seem to disregard the obstacle of huge distances, so on our subsequent Christmas card we asked Harry whether he knew of anyone living near the Rockies who might lend us a sailplane for ten days in May during our annual migration from New Zealand to Europe. In late January 1996 Harry faxed us the names of Hal and Renate Werneburg of Calgary.

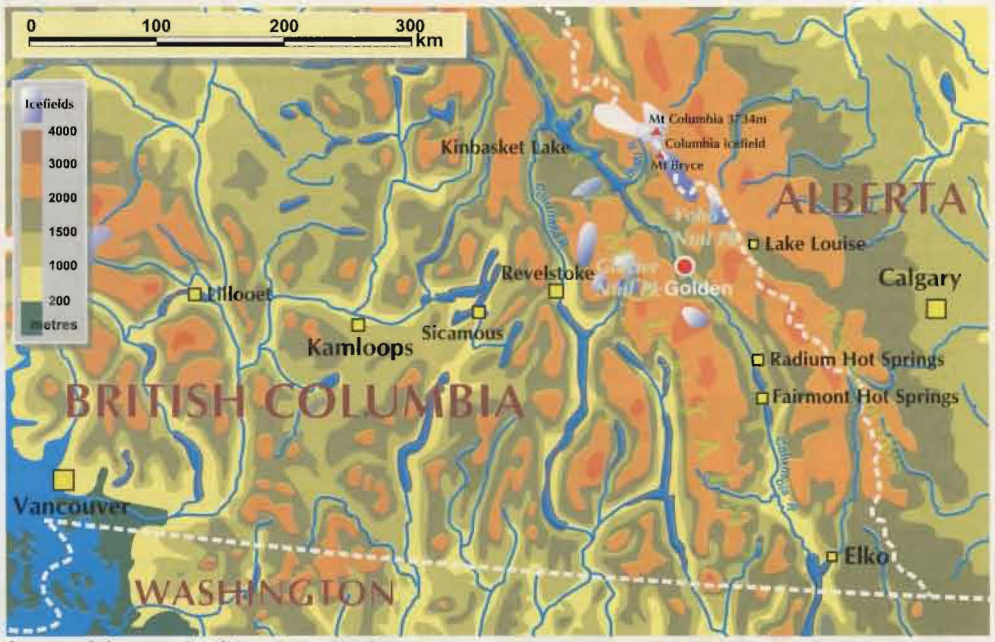
Glider pilots are surely a unique community in that one can contact a complete stranger on the other side of the world with a request for the use of his precious expensive sailplane during the best part of the soaring season, expressing the wish to fly it long distances over extremely inhospitable terrain, and not receive a total raspberry in reply. On the contrary, Hal replied with what we came to know as his characteristic thoughtful enthusiasm, suggesting an itinerary which proved a complete success and recommending that we base ourselves with his glider on the airfield at Golden, British Columbia.

The next three months saw a flurry of faxes, and by the time we left New Zealand for Vancouver in mid May I already held a Canadian gliding licence (a difficult item to obtain in advance) and a sectional chart of the area around Golden. This confirmed the vast scale of the country; the Rockies run almost the whole length of North America and from Vancouver eastwards are approximately 400 miles wide. But perhaps their most remarkable feature is the abruptness with which they cease at their eastern extremity, to be succeeded immediately by the immense prairies which stretch towards the Great Lakes, Hudson Bay and ultimately the Atlantic.

This extraordinary final rampart and subsequent absence of foothills stirred my memory, and I realise that it was all part of the great North American Trench which I had flown over and admired in Colorado and New Mexico. Often overlooked in school geography lessons it is surely no less impressive than its African counterpart the Rift Valley. It has an 11 000ft watershed north of Leadville, Colorado; by the time it reaches Golden its floor is 2600ft and forms the bed of the Columbia river which flows northwards to Kinbasket Lake before looping back into a parallel valley to the west which slopes in the opposite direction, taking the river southwards across the US border and finally to the Pacific Ocean near Portland, Oregon. ➡



Golden Airfield looking north. Photo: Justin.



A map of the area by Steve Longland.

We flew into Vancouver on a fresh spring morning. Built on the mouth of the Fraser River the city lies at the foot of the Coast Mountains which were covered in snow down to a remarkably low level. We soon learnt that the whole area had just endured one of the coldest, longest winters on record, and spring was running four weeks late.

After a night's rest we drove our hire car inland to Whistler village, recently voted the world's best ski resort, and then to Pemberton where Peter and Christine Timms have set up a gliding operation on the local airfield. Rather like Zell am See this is situated near the head of a lake at a valley junction. The Garibaldi Mountains to the west provide some protection from the Pacific maritime air and in good weather the flying must be spectacular, although the outlanding possibilities looked very limited.

The Timms operated a couple of Blaniks and are planning to acquire an L-33 Solo, but during our two day visit the weather did not co-operate, with cloud well down the 9500ft Wedge Mountain overlooking the airfield. Nevertheless we enjoyed ourselves enormously thanks to a friendly engineer at the local railway yards who let us ride on his mile long freight train, alternating between the caboose and one of the five diesel electric engines.

Heading further west we crossed another watershed and reached the Fraser River at Lilooet. Here the rain shadow effect was very marked with the country side looking quite arid, an abundance of farm land and encouraging landing prospects. This continued all the way to Kamloops and Sicamous, with more scattered fields as far as Revelstoke. However, the Trans Canadian Highway then climbs over the Rogers Pass flanked by 10 000ft mountains with the railroad flickering in and out of tunnels alongside, and for 60 miles we could see absolutely nowhere to land until we emerged at the southern end of Kinbasket Lake and entered the Columbia River valley leading to Golden.

At the airfield Hal Werneburg was awaiting us. He was everything we had imagined, kindly, wise and with a ready sense of humour. He introduced us to his Ventus B and its excellent trailer, and helped install my Cambridge GPS system. After a short test flight to adjust the C of G for my light weight we exchanged vehicles and he returned to Calgary, leaving us with his tow car and a feeling of complete disbelief at our good fortune.

Gliding operations at Golden centred around a modest commercial operation called Rocky Mountain Soaring with a Blanik, Pilatus B-4, Ventus and Citabria tow plane. It was run with enormous enthusiasm by Uwe Kleinhempel, who also provided launching for the half dozen private owners on the field and visitors.

"On my first flight I found cloudbase at 9000ft, 6kt thermals and unlimited visibility"

He had recently offered a C$500 prize for the first 1000km flight out of Golden and urged us to claim it, expressing regret that, due to the late spring, conditions were well below average. However, such evaluations are relative: on my first flight I found cloudbase at 9000ft, 6kt thermals and unlimited visibility. Flying south-east along the valley looked straightforward with a good scattering of fields. North westwards habitation stopped after 40km, although logging trails continued along the Kinbasket Lake shore which might provide some landable areas during this period of low water levels due to so much moisture still being held by the snowfields.

I flew rather tentatively east along Bush Arm and on up the Bush river towards Mt Bruce and the Columbia icefield, but with thickening high cloud and surrounded by 11 000ft mountains which cut off the views back to civilisation my courage failed and I returned to Golden.

The following day was overcast so we set out to drive the route I had flown. The logging trail proved well surfaced and after disturbing some mule deer and ground squirrels we met our first black bear, cheerfully chewing dandelions beside the track.

Further on we found a mother and two cubs which hastily climbed a tree as we approached. At the head of the Bush Arm I reconnoitred some silty flats as possible landing areas, together with the shingle banks beside the river whilst also speculating on water landings in the lake itself and on the smaller tarns beside the trail.

The weather seemed to have established an alternating pattern of cloudy and fine, so at the next opportunity I decided to explore flying across the mountain ranges east-west. The Rogers Pass proved as fearsome from the air as it looked from the ground, and was clearly only possible if cloudbase was above 12 000ft which seemed unlikely during this period.

Heading east the route along the highway to Lake Louise looked feasible, but unfortunately the conditions deteriorated sharply due to moister air from the east producing much lower cloubase. Confronted with an array of snow clad peaks it was difficult to image the prairies less than 60 miles away shrouded in drizzle. Clearly distance flights would have to be made along the main Columbia River valley towards the US border, and with Uwe's help we planned a suitable 1000km O/R, as well as a multiple TP course. This included using the hang gliding platform built on a 5000ft hill overlooking Golden as a remote start and finish point, enabling an early departure along the ridge tops before the valley thermals started.

The next day looked rather stable, and this was confirmed by an initial flight around the Golden area. Waiting until the latest possible moment to have any chance of success I took off at 1110hrs, behind the Citabria which struggled for 30min to tow the ballasted Ventus up to 8000ft. Striking off along the Beaverfoot Mountains conditions were still weak but the ridges were working and progress gradually improved although my overall speed was still below 100km/h.

My pessimism increased with a layer of high cloud ahead, which led me to abandon the task.



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Inevitably conditions then improved markedly and I began to average over 120km/h on the homeward leg.

I decided to detour westwards past Mt Scarlet O'Hara and over the Bugaboo Provincial Park. On a remote white mountain slope I spotted the den of a grizzly bear, recognisable by a black hole in the snow and footprints leading to a large yellow stain, not surprising after a six month winter hibernation. Re-crossing the valley I cruised back to Golden, landing after 8hrs and 775km.

Following a day of overcast spent exploring the Yoho National Park and canoeing down the Columbia River in the evening watching bald eagles and beavers, our last morning dawned cold and clear. I declared a multiple 1008km TP course, Aberfeld Dam, Blaebridge, Elko, and took off at 1040hrs releasing at 8200ft 25min later. The first thermal gave 4kt to 9200ft, from which a magnificent cloud street lay along the ridge line to the horizon.

Over the first turn at 1320 the sky to the south looked ominous but meanwhile the second leg sped by in exactly 2hrs (132km/h) of exhilarating soaring. The penultimate leg continued the pace until the southern end of the Beaverfoot Range east of Fairmont Hot Springs. The bad weather I had seen earlier, consisting of general cloud cover and showers, had advanced northwards but I thought I could detect a brighter area in the distance and set off a maximum glide from 11 000ft.

Emerging from the rain at 6000ft (3000ft agl) I found a small patch of sun illuminating a mountain side and managed to gain 2000ft before proceeding further south into an increasingly bleak sky. With 45km to go at 1720hrs I decided reluctantly to abandon the task as continuing on track would result in landing out just after rounding Elko. Conditions looked poor in all directions, but my sunny patch was still there and took me back to 10 000ft into range of the Beaverfoots which were now in deep shadow.

Flying slowly along the ridges I worked my way back towards the sunshine, finally reaching it at 1845hrs. The strong convection earlier in the day seemed to have brought in cooler air from the east and the lift had an ominously soft feel to it. Passing the Radium Hot Springs with 100km to go I was unable to stay above the peaks, but still found occasional weak lift and much reduced sink against the upper slopes.

Gillian radioed advice of a 15kt northerly funnelling along the valley at Golden and this was confirmed as I ran into heavy sink passing a southern facing bluff 30km out. However, the wind provided a vital benefit because after arriving at 1500ft agl beneath the hang gliding launch ramp I was able to soar up to its level in the smooth hill lift before landing at 1955hrs having covered 910km.

For a site to provide a visitor with such spectacular flying in what the locals swore were very mediocre conditions is testimony to its potential. The Trench running south-eastwards from Golden offers a combination of excellent soaring and reasonable landing possibilities at least as far as Missoula, over 700km away. Routes to the north-west, as well as those crossing the valley systems, also offer exciting possibilities in good weather and a reliable motor glider would come into its own during exploration of these areas. The last two weeks in May and mid July are said to be the optimum periods.

We left Golden to return the Ventus to Hal in Calgary. We spent a memorable evening in that city trying to persuade him and Renate to escape the Canadian winter by visiting us in New Zealand and we still hope to succeed. Hal described the position of soaring in Canada: in such a huge country of only 30 million inhabitants it has proved very difficult for the gliding movement to achieve critical mass. As a result the Soaring Association of Canada has had to battle with an indifferent and largely uncomprehending bureaucracy, and a level of airspace restriction irrespective of the very low traffic density. In this respect perhaps Canada suffers from being home to ICAO.

However, such concerns have less impact on a visitor. Around Golden the restricted airspace is based above the highest mountains and throughout our stay I never saw another aircraft away from the airfield.

The local people were friendly and interested in what we were doing, whilst food and lodging was inexpensive. The scale of the landscape was awe inspiring and the mountains had a noble look about them with magnificent granite faces looking down on the green valleys far below and tarns in the forest ringed with yellow pollen. We will go back!

Postscript: A fortnight after we left Uwe flew his Ventus along the same route we had planned together and completed the first 1000km in the Canadian Rockies. But the course of progress is never smooth: during the Canadian Nationals Uwe was injured whilst landing out the Ventus in the prairies. Sadly he and his backers have decided to close the business. Hopefully it will reopen before too long.

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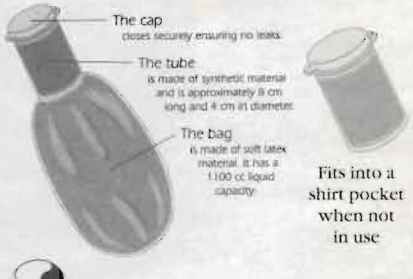
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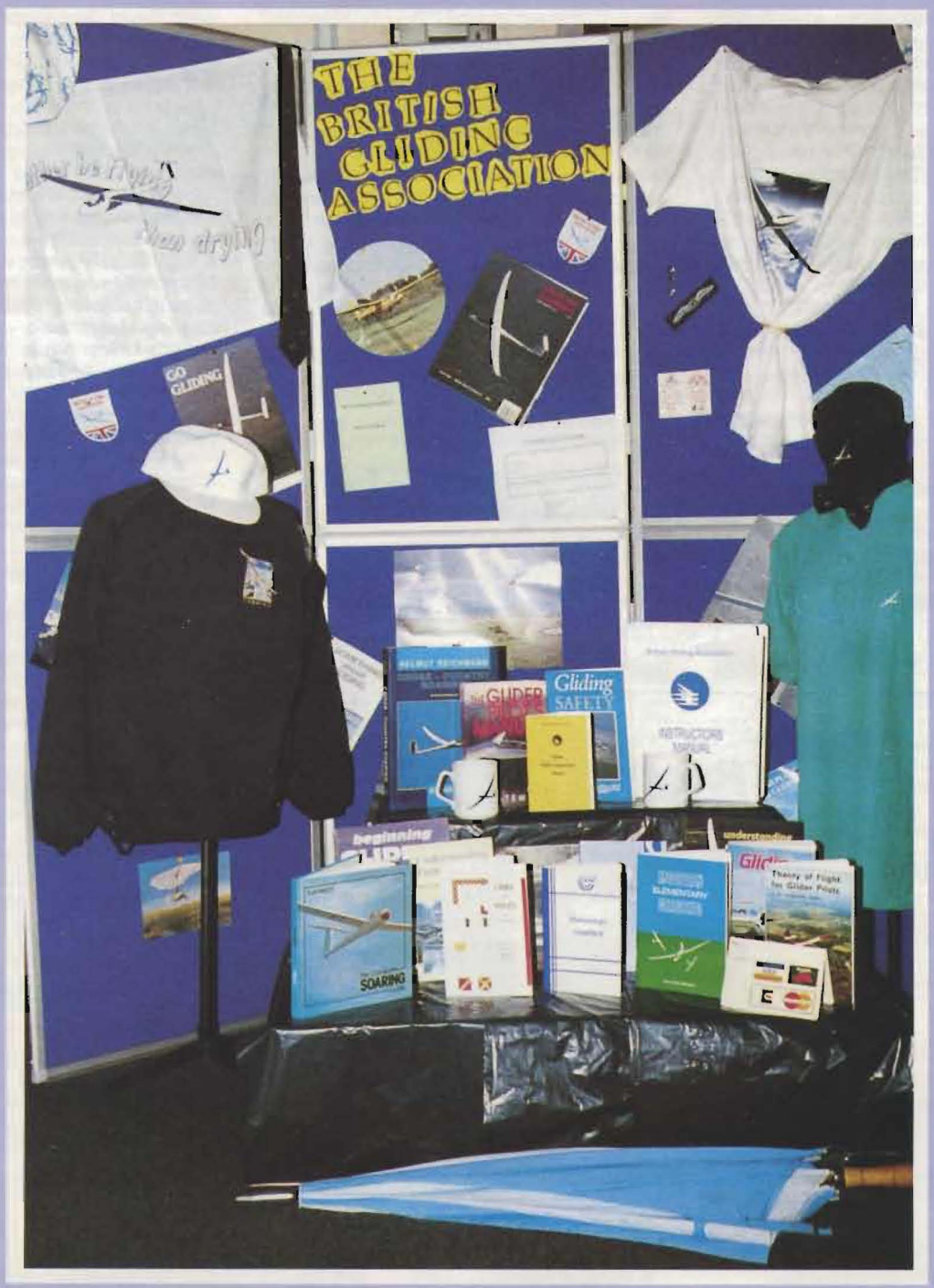


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PHIL KING



The winning Crabb twins with Tim Scott in 3rd place.

OVERSEAS NATIONALS

Le Blanc, France, May 17-25

This was a Comp that may be more memorable for what happened on the ground than in the air. There were several new rules including the controversial one that every pilot must drop one day's score from the overall results - see "Drop-a-Day Rule". The 36 competitors gathered for briefing on Saturday, May 17, were probably the first British glider pilots to compete in France with all the proper paperwork completed.

A month earlier it had become clear that BGA gliding certificates and Cs of A were no longer acceptable to the French authorities. Brian Spreckley, the competition director, considered transferring the competition to Spain. But with great effort and expense he arranged all the necessary paperwork for the Comp to go ahead in France and the competitors owe Brian and his team a debt of thanks. Unfortunately he was not so successful in arranging the weather and we had to wait until Sunday for the first contest day.

Day 1, Sunday, May 18

Met: 10kt W, 3/8 cumulus with some cirrus approaching from the SW.

Task: 229km triangle, Couhé, Argenton.

This seemed like a straightforward racing day. However, for most of us it was our first attempt at using a GPS verified *startline*. This is a 6km imaginary line through the start point at right angles to the track. Since verification is by GPS logger, the most reliable way to know you have crossed the line correctly is to check the bearing and distance of the start point as shown on the GPS - not recommended when you are flying in a large gaggle.

Most of the early starters were soon caught up and overtaken by the Crabb twins who flew together for much of the time in their identical LS-8s. Amongst the later starters Russell Cheetham (also LS-8) managed to catch up and overtake the main gaggles to achieve a convincing win at 87km/h. Paul and Steve Crabb came joint 2nd with only 9sec between them.

This was a day for the Standard Class gliders with Dave Watt (LS-6-18m) the only pilot in a flapped glider to make the top half of the windicapped results. Russell was now the overall leader and wore a pair of shorts decorated with hearts which were to be passed on to each successive leader.

Day 2, Tuesday, May 20

Met: 7kt W, 3/8 cumulus with spreadout.

Task: 352km quadrilateral, Parthenay, Éguzon, Châtillon-sur-Indre.

Brian warned us that there was a chance of damper air from the NW causing the cumulus to spread out. This happened all too soon and many of us arrived at the first TP to find no sun on the ground. One third of the fleet (mostly Standard Class gliders) failed to get back to the sunlight and landed near the TP. Others struggled on despite the spreadout, but nobody managed to complete the task. Paul Crabb went furthest, but sacrificed a few kilometres by turning back to land alongside Steve to give them joint 1st position for the day and overall. Paul and Steve now each wore a pair of shorts decorated with hearts - they were tied together Siamese style at the hip.

The next few days were cold and wet - rather like being in England - however we kept our spirits up by writing limericks like this one from John Tanner (one of the tuggies):

The Crabbs' main rivals were Scott,
Russell Cheetham and even Dave Watt.
To keep them at bay
They used "drop-a-day"
A fair scoring system - or not?

Day 3, Friday, May 23

Met: 12kt E, 3/8 cumulus, cirrus encroaching from the south.

Task: 261km quadrilateral, Port de Piles, Valençay, Chauvigny.

We launched into strong lift with cloudbase rising to 5000ft. But by the time the startline opened the cirrus was already cutting down convection. The first leg caused few problems so that most of us still had a good load of water to take advantage of strong lift and good streeting for the into wind second leg. Cross-country theory required us to turn the upwind second TP as low as we dared, but the cumulus were small and meagre on the third leg, so the cautious conserved their height. In fact there were still good climbs to be found and Russell Cheetham stormed home at 95km/h. Others did not find the good climbs and were caught by the deteriorating conditions forcing them to glide home slowly or even to land short.

The provisional scores showed Paul Crabb retaining the lead, but the GPS told another story. Paul and Steve Crabb, Gill Spreckley (LS-8) and Ed Downham (ASW-27) had all failed to make valid starts and had their day scores reduced to zero. This made Tim Scott (LS-8) the new wearer of the heart covered shorts and put Russell into 2nd place. Suddenly drop-a-day became all important - if we had another competition day the Crabbs could forget their disastrous mistake and regain their lead.

Day 4, Sunday, May 25

Met: 17kt NE, blue anticyclonic weather with low inversion.

Task: 174km triangle, Valençay, St Savin.

This was a director's nightmare - the last day of the competition with everything to play for and weather that was marginal. Brian launched the grid into weak conditions but decided to delay opening the startline beyond the usual 15min until the inversion went up to 3000ft. At 3pm

Brian Spreckley at the open air final prize-giving. Photos: Barbara West. ➡



Drop-a-Day Rule

After four valid competition days each pilot will have his worst day's score dropped from the overall results. Only competition days with a winner's day points in excess of 900 may be dropped.

The intention of this new experimental rule is to encourage more risk taking and reduce gaggle flying by giving each pilot the possibility of winning despite a bad result on one day. The 900pt clause is intended to make the rule apply to high scoring days - without this clause almost everyone would have dropped Day 4 with little overall effect. In practice the 900pt clause is arbitrary and most pilots felt that it should be changed. In this particular case it prevented pilots from dropping Day 4. If the winner had flown 4km further on that day the overall results would have been significantly different. In the results table the dropped points are indicated by a minus sign to the left of the points.

Brian opened the line and the gaggles set off upwind. For most of us it was impossible to make headway against the wind. Tim Gardiner and Richard Blackmore used their ASH-25s to good effect and nearly reached the upwind TP at Valençay. Meanwhile Paul and Steve Crabb flew brilliantly to round the TP and then drift downwind to land back at Le Blanc and win the day with 74pts.

Never have so many pilots flown for so long to cover so little distance for so few points.

For Paul and Steve the number of points for the day hardly mattered. The drop-a-day rules now allowed them to drop their zero point day, take joint 1st place for the day and regain the heart covered shorts!

For some of the other competitors drop-a-day was less agreeable and for Tim Scott and Russell Cheetham it took away their 1st and 2nd places respectively. On the positive side the new rule allowing for control at a TP to be achieved by one logged point within ½km radius of the TP worked well.

The TP co-ordinates used for GPS verification were frequently up to ½km away from the photographic feature on the ground. This meant that the zones for photographic control and GPS control were significantly different in some cases. Many competitors did not bother to fly into the photographic quadrant if they were confident that their GPS logger was working correctly.

			Day 1.18.5 229km ▲ Couhé, Argenton			Day 2.20.5 352km ■ Parthenay, Éguzon, Châtillon-sur-Indre			Day 3.23.5 261km ■ Port de Piles, Valençay, Charuigny			Day 4.25.5 174km ▲ Valençay, St Savin			
Pos	Pilot	Glider	Speed (Dist)	Pos	Pts	Dist	Pos	Pts	Speed (Dist)	Pos	Pts	Dist	Pos	Pts	Total
1=	Crabb, P. G.	LS-8	79.8	2=	905	335.8	1=	889	(0.0)	33=	0	139.2	1=	74	1868
1=	Crabb, S. J.	LS-8	79.7	2=	905	335.8	1=	889	=(0.0)	33=	0	139.2	1=	74	1868
3	Scott, T. J.	LS-8	77.6	5	=877	300.1	4	788	85.9	3	902	25.6	8=	9	1699
4	McAndrew, G.	Duo Discus	(217.0)	29	386	296.9	7	762	87.1	4	896	25.6	15=	8	1666
5	Glossop, J. D	Discus	72.6	7=	822	292.1	5	773	(261.3)	27	=474	25.6	8=	9	1604
6	Watt, D. S.	LS-6	82.0	6	=837	301.7	9	717	90.1	6=	857	0.0	23=	0	1574
7	Hindley, S. A.	Discus	71.7	9	810	288.5	8	760	75.1	13	=792	17.6	21	2	1572
8	Cheetham, R. A.	LS-8	87.1	1	=1000	218.1	14=	549	94.8	1	1000	35.0	6	16	1565
9	Jeffery, P.	LS-8	8.2	16	=756	294.8	6	771	73.8	14	769	116.3	22	1	1541
10	Downham, E.	ASW-27	67.4	21	720	310.7	3	796	(0.0)	33=	0	0.0	DNF	0	1516
11	Spreckley, G.	LS-8	70.4	12	784	269.0	10	691	(0.0)	33=	0	23.8	18=	7	1482
12	Gardiner, T.R.	ASH-25	75.1	22	=690	307.3	11	675	83.3	16	725	66.8	3	31	1431
13	Thomas, G.	LS-7	(75.9)	34	=140	227.0	12	577	78.0	11	824	0.0	23=	0	1401
14	Clarke, A. J.	Discus	72.6	7=	822	(215.6)	14=	549	66.6	19	=698	0.0	23=	0	1371
15	Blackmore, R. H.	ASH-25	74.9	23	=688	(268.8)	13	575	82.9	17	722	63.3	4	28	1325
16	Welford, R. J.	LS-7	70.8	10	798	190.2	21	485	(152.3)	30	=270	45.5	15=	8	1291
17	Baker, I.	ASH-25	(68.6)	35	=92	258.5	16	548	82.6	18	719	0.0	23=	0	1267
18	Langrick, G.	Discus	67.3	17	753	198.3	20	505	57.3	23	=594	23.8	15=	8	1266
19	Spencer, J.	Pegasus	64.4	19	732	198.3	18	517	(259.3)	26	=480	0.0	23=	0	1249
20	Fujimoto, S.	LS-4	67.2	14=	761	183.9	22	475	(110.5)	32	=187	25.6	8=	9	1245
21	Campbell, D. R.	Discus	77.1	4	=881	104.5	27	272	86.1	2	913	25.6	8=	9	1194
22	Allison, D.	LS-8	60.6	26	=658	103.6	31	266	81.8	6=	857	36.3	5	17	1140
23	Cuming, M. F.	LS-4	(189.9)	31	=336	103.9	26	274	80.2	5	858	23.3	18=	7	1139
24	Jennings, N.	Nimbus 2	67.3	25	672	198.1	23	455	64.6	22	=609	25.6	20	6	1134
25	Ell, S.	Nimbus 2	62.3	27	=606	198.2	24	450	70.8	21	664	35.0	7	13	1127
26	Cheetham, H. E.	DG-300	(165.1)	32	=294	203.7	17	525	56.5	24	592	25.6	8=	9	1126
27	Murphy, T. J.	LS-7	70.6	11	=796	102.6	30	267	78.6	8	831	0.0	23=	0	1098
28	Browne, R.	LS-8	62.8	24	=688	105.3	29	270	78.9	9=	825	0.0	23=	0	1095
29	Popika, J.	LS-7	(217.8)	28	=401	99.9	34	261	78.1	9=	825	0.0	23=	0	1086
30	King, P. A.	LS-7	66.4	18	=741	104.1	28	271	75.9	12	801	0.0	23=	0	1072
31	Smith, E. R.	LS-4	68.2	13	774	100.0	32	264	70.8	15	=753	0.0	23=	0	1038
32	Angell, J.	Discus	68.0	14=	761	99.4	35	259	65.2	20	=682	11.3	23=	0	1020
33	Bridges, R.	ASW-20	66.3	20	723	103.6	33	263	(250.2)	28	=437	0.0	23=	0	986
34	Hibberd, G.	LS-1	(19.1)	36	=7	187.9	19	508	(228.4)	29	418	23.8	8=	9	935
35	Johnson, R.	LS-7	(145.0)	33	=257	68.1	37	159	54.4	25	562	25.6	8=	9	730
36	Fairston, B. A.	LS-6	(201.1)	30	345	99.2	36	245	(132.4)	31	=225	0.0	DNF	0	590
Hors concours															
	Geusdon, G.	Pegasus	65.8		=751	103.6		277=	78.4		846	25.6		10	1133
	Doyen, F.	SZD-55	69.0		775	121.0		313	63.3		=661	0.0		0	1088
	Doyen, S.	Pegasus	71.3		=824	57.6		130	77.1		832	0.0		0	962
	Johnson, R.	DG-100	(171.4)		319	99.2		277	(70.4)		=94		DNF		596

=Drop-a-day scores. All speeds/distrancesare windycapped. DNF=did not fly. Scoring by Crabb Computing

INTERNATIONAL GLIDING COMMISSION

Ed, who deputises as the FAI British delegate for Brian Spreckley, picks out the salient points of the IGC spring meeting in Brussels.

Swidnik,manufacturers of the PW-5 World Class glider, promised to revise their decision to not give refunds to reduce the price of the PW-5s flying in the World Air Games this September in Turkey. Also some but not all the technical issues with the glider have been resolved.

You can no longer have start and finish points for your world record 10km apart, but you can change your P2 during international competitions on a pre-declared rotor.

The GFAC committee was instructed to approve data loggers (*eg* EWs connected to separate GPS devices (*eg* Garmins) for badge flights up to Diamond. Also Brian was elected as the IGC delegate responsible for the GNSS FR Approval Committee, chaired by Ian Strachan.

A large circular discussion on recognising an international 18 Metre glider/motor glider integrated Class resulted in no change to international rules and Classes.

We are going to South Africa for the 2001 World Championships.

All motor glider and two-seater records are being merged (best one gets the Open Class record). In addition, records will be awarded for 15m span gliders and the World Class glider. The whole lot is being duplicated for women's records. New records for O/R speed at 500km intervals were introduced for these Classes.

Frightening reports were given on environmentalists banning flights over US national parks (sight pollution, you know) and almost impossible noise restrictions on German tugs. These "standards" have a way of spreading...

Europe is changing radio frequencies which may mean new radios for all, but not for a few years. A continuing battle goes on to keep VFR and glider flight on the international airspace agenda.

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APRIL - A MONTH FOR RECORDS

We have three accounts of record flights, one flown in Germany and two in the USA - the first the largest triangle ever flown in Europe on April 21 and the others of world records flown along the Appalachian Mountains on April 18. Klaus Wedekind begins this triology with a description of his 1122.2km in an ASH-25 at 110.14km/h

A large high pressure system had been sitting over England and the North Sea for five days with low pressure over the Czech Republic. A cold front was going through from north to south-west on April 20 and the low pressure was building up. This front passed over my site - Betzdorf-Kirchen, 100km north of Frankfurt and 50km east of Cologne - at 2pm when thermals starting building to 8kt and giving a 5000ft cloudbase. I was disappointed because I had hoped the front would go over the middle of Germany six hours later - in 95% of cases weather changes have become so rapid in the last seven years that perfect gliding conditions seldom last longer than 30hrs.

A small warm front from Denmark was forecast for that evening and the next day which made me change my plan to declare a 1250km triangle with the first TP north of Berlin near the Polish border.

At 5.30am on April 21 there was no wind, an absolutely clear sky and the temperature at -5°C. An hour later there was a strong shadow on my neighbour's white wall and when this appears an hour after sunrise it tells me that conditions will be good. If the shadow isn't well defined you have a hazy sun and thermals begin later so the day isn't as good as expected.

We have more than 100 little mountains between 1000 to 3000ft asl in the eastern area of our airport. Usually thermals start over the mountains an hour earlier than in the flat country to the west, so I expected them from 9am at the latest. But there was nothing and no sign of convection in the east.

At 9.15 I declared a 1122km triangle, starting half way down the first leg at Betzdorf-Kirchen to the first TP (141km) at Vinsebeck, 20km south of Detmold (where there is an RAF base) - and then 341km to the second TP at Tachov in the Czech Republic, 115km east of Nuremberg, with the third TP (435km) at St Avold Airport, in France, 30km west of Saarbrücken. The rest of the first side of the triangle was 207km. This was a total of 1124km but my site doesn't lay exactly on the leg of the triangle so the record distance is 1122.2km.

I took off at 9.28 and started the task at 9.41am when I saw the first small but high cumulus to the east above the mountains. After gliding 30kms at the minimum sink rate of the big ship, I found the first thermal (3kts) at 400ft above a small mountain and I was away. I took only 1000ft to cross to the next larger cloud which gave me a 10kt climb to 5000ft.

It was then I had a real problem. My young co-pilot, Timo Jährig, who was relatively new to gliding, was sick the first time and then every half an hour! This was terrible and during the phase of the flight when I was dolphining along I thought seriously of landing at the nearest airport to get him to hospital - later on he began to feel better and slept for most of the time.

The first 400km was completed in 4hrs with 6 to 8kt thermals all the way. But I had a little difficulty in the Thüringer Wald area near Erfurt. The north side of this 200km ridge, which was exactly on my route, looked beautiful and I made the mistake of going there. Usually the top of the Thüringer Wald or the south side are the better options and so I decided to leave the fantastic thermals marking my route.



Klaus about to celebrate with his wife Rita just after his flight. Photo: Ingo Wiebeliz. Klaus has been gliding for 42 years, an instructor for 35 years and, including time as a tug pilot, he has more than 10 000 gliding and power hours. He won the Barron Hilton cup in the Open Class in 1986 and flew the first 1000km at the M-Ranch in Nevada. He has been a successful competition pilot, including the German Open Class Champion with good placings in international events. Klaus, an inventor of the Wedekind safety device needed for L'Hotellier connectors for all pre 1993 gliders, had a Mid-West Wankel engine fitted to the ASH-25 two years ago but finds the extra 80kg a disadvantage on long flights.

It was stupid of me not to have been content with 6 to 8kts and cloud streets! I was soon faced with rain and heavy snow showers. The ridge had totally over-developed and I had to go 30km and 90° off course to the south to find the best conditions.

With the cloudbase then up to 8000ft I was climbing at more than 10kts. The race was about to begin!

I only circled twice in 150km to the second TP with an average speed of 125km/h for that part of the second leg, arriving at 1410hrs. The next leg which crossed Germany was 435km. I pushed the "beast" forward at more than 100kts and didn't circle once for the next 330km. The average speed was 165km/h with a 15km/h tail wind. The last 100km of this Formula One leg was flown in blue thermals and the weather conditions didn't change for the last 100km to the third TP in France.

This left me with the last leg of 207km. Often blue thermal streets were visible against the sun. I turned in France at 5.13 and had 3hrs to sunset for the last part of the flight with a headwind of about 10kts.

It was a little tricky finding lift of 4 or more knots because I couldn't finish this large triangle with only climbs of 2 to 3kts. The last thermal I took 70km before the goal was 1kt, but I felt happy having the extra 1000ft - the lost time wasn't as important as having a safe final glide.

I ordered a case of champagne over the radio and my wife Rita arrived at the airport with the bottles just as I was flying over at 7.52.

The flight, which is the largest European triangle, gives me two German records - the triangular distance and the fastest 1000km triangle.

I am very happy and a little proud. And, very important, the champagne helped Timo feel better and he is pleased to be in the record list.



Steve Longland's map of Germany showing the task flown by Klaus.

Looking back on the flight, the major difficulty was the extreme temperature of -18°C to -20°C between 5000 to 9000ft during the 10hrs.

As to my site: We have excellent soaring conditions which start early in the morning. It is often said that there are greater opportunities for long flights here than at the better known airfield, Hahnweide, south-east of Stuttgardt. It is a small, short airfield of 600m but it is owned by our club which is a great advantage. Our British friends are invited to spend their gliding holidays with us and me. They can camp on the airfield, use the airport hotel or stay with me and my wife. I can't guarantee 1000km but 500km is possible far more often. The only problem is that we don't have any gliders to hire and an aerotow licence is necessary.

THE RIDGE FLIGHTS

Karl's Account

Karl, who was 2nd in the 1983 World Championships (15 Metre Class), has had his eye on this record for more than 30 years and has collected records for previous flights along the Appalachians

The Appalachian Mountains of the eastern US have been used by various soaring pilots over the last 30 years for long flights, most of which exploited the orographic lift present after a strong cold front. These were generally O/R or triangular flights; the potential for straight flights of world record proportions, while recognised by various ridge runners, wasn't pursued with the same degree of commitment because there was always a record to shoot for that ended at home rather than a two or three day drive away.

In recent years the straight flights (world goal and straight distance) have been given closer scrutiny and Friday, April 18, seemed to be shaping up as a day to try one of them. The basic ingredients of strong north-westerly winds over the 965km of ridges, coupled with good thermal soaring for the remaining flat land, looked to be in place.

With Roy McMaster and John Good, I converged on Eagle Field in central Pennsylvania. Roy and I decided to attempt the world goal and John the world free O/R. The ships, Roy's ASW-20B, John's Discus and my ASW-27, were assembled and watered the night before. Reveille was 0430hrs and after clearing a layer of frozen snow off the wings the autotowing commenced at 0530. Each task included a remote start about 30 miles north-east in order to use more of the ridge. As we passed the Keystone Gliderport we noticed a glider about to be towed and this turned out to be a surprise fourth member of our gaggle - David Noyes had not declared a task but was heading towards Gadsden, Alabama (1030km) in an 18m Ventus CM "to visit his sister".

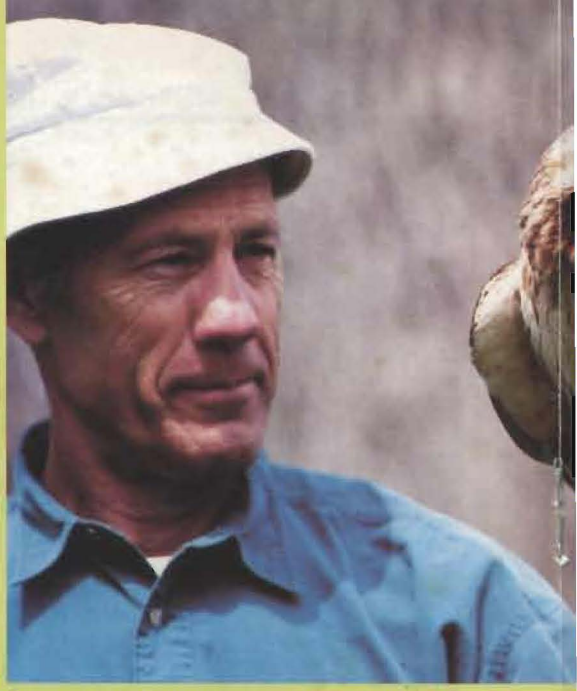
The weather was favourable in that the winds were ideal (320° at 22kts) but skies were completely overcast and we had only 500ft between cloudbase and the ridge top; not really adequate for crossing the eight mile wide Bedford G ap which faced us an hour after take-off. Yet in the event we all made the crossing and pressed on to the dreaded Knobblies, a 40km long stretch of low to non-existent ridges starting near Cumberland, Maryland. Here luck was with us as the sky broke into an obvious wave pattern and we were able to thumb our noses at the Knobblies from 11 000ft, with groundspeeds of 130kts all the way to Covington, Virginia, another 145km along the route.

The weather gods weren't through with us yet because coming out of the wave we were obliged to dive down to ridge altitude to stay under another overcast. But the ridge lift was still very strong and we blasted on another 8km before coming to a screeching halt in the face of a blinding wall of snow. Our flight of four spent a discouraging 75min in a desperate attempt to stay clear of snow, clouds (occasionally below ridge top) and each other. Eventually one of the less sane members made a desperate stab through the "coffin corner" of ridge, cloud and snow to emerge into vastly improved conditions which took three of us to the end of the ridge 727km from our start and John to his declared TP of Clinch Mountains.

It was exactly 1300hrs when we began thermalling off Clinch towards our next rendezvous with ridge lift - the Sequatchie Valley some 80km west. Lift was a generous 5 to 7kts in blue conditions and we allowed ourselves the thought that this mission might be achievable. Back down on the ridge we blasted by Chattanooga and on to Gadsden, Alabama. I had pulled ahead of Roy by some 80km by then and found the thermals to be losing strength (averaging around 3kts at Gadsden at 1600hrs). Birmingham was passed at 1700 with an average climb rate of 2kts to 3000ft agl.

Ninety seven kilometres from the goal lift reached 2500ft agl at about 1kt, but through judicious employment of stick squeezing and entreaties to the deities of lift, I photographed the declared goal at Marion, Alabama (1288.81km from the start). Turning downwind, I flew another 80km to my brother's place at Selma, Alabama, where I landed.

At the time I was passing Marion, Roy was calling it at a day at Shelby, just 80km short. We would see each other the next day when we joined up for our double aerotow home.



Staying with flight, Karl revealing another interest.

Karl and John flew from Eagle Field, Pennsylvania, Kar of 1295.46km to Selma, Alabama, to claim the world and 15 Metre/Open Classes (US). John's O/R (Discus CS) of 1

John with his Discus after his flight.





Karl (ASW-27) a straight distance to a goal, a distance and US national records for a single-seater (world) and) of 1250km for one world and seven US national ecords.

John's Story

John, who has been flying for some 15 years and has 1000hrs, tells his story

I had attempted the distance goal record on March 22 in my Discus. That was another great day, but at the south end of the flight thermal conditions deteriorated early. I landed near Gadsden, Alabama at 1515hrs having completed 1078km. On April 18 I decided that the right task for me was a long O/R, so I chose a TP just north of the Virginia/Tennessee border for a distance of just over 1250km.

The strong ridge winds we need for this sort of flying are easy to tell on the ground: at the ridge top they make a sound in the trees like a fast train that never passes. The sound on April 18 was disappointingly faint at 0500, but by sunrise the crescendo was underway and after launch it was clear that we had all we needed in the way of wind.



At the speeds we were able to maintain (110-130kts), flapped gliders have a big advantage, so I resigned myself to being "tail-end Charlie" for the flight. This gave me the benefit of hearing reports of conditions ahead from the best possible source. It seemed improbable that the Bedford Gap can be crossable with the low ceiling we had, but with the three gliders ahead reporting few problems, I was able cross without delay.

The Knobblies are usually called "dreaded" and with good reason; during my March flight I had to deal with them at very low altitudes, and I had no desire to do so again. The sunlight and reports of wave clouds as I approached the area were encouraging and in a few minutes I was climbing at a smooth 6kts. I've been through this area perhaps a dozen times and this was easily the most comfortable passage.

Motoring along 8000ft above the terrain gives time for calm reflection. It semed to me that bypassing the Knobblies in wave should make the flight reasonably easy. The remaining distance to my TP featured excellent ridges and only one significant obstacle, the gaps at Tazewell.

I should have known better than to think such thoughts, yet even so the retribution we encountered seemed rather savage. Snow in southern Virginia is almost unheard of in April, yet the ridges were covered and we had over an hour of hellish flying. We always had 2km or more of clear air, and there were some fields in the valley that a willing mind could accept as perfectly landable, but the mental strain was at least as much as I cared for.

Yet when conditions cleared a bit and we were able to press on, all that strain was quickly forgotten. Patches of sun appeared and made the snow-covered ridge seem a glorious sight. More snow at Tazewell looked to be a problem, but it quickly cleared and we passed the gaps there with little trouble. My TP arrived and I bid farewell to my three companions, envying them their route towards the sunny south while my task took me back towards the snow.

I should have saved my worry. The snow showers had cleared and conditions were near perfect - a ridge that worked at 120kts and 8kt thermals to deal with any troublesome gaps. As I pressed on north I was hoping I might find some remaining trace of the wave and perhaps avoid the Knobblies in both directions. There was no sign of the lenticular cloud that had been so prominent earlier, but the pattern of cumulus clouds looked favourable and the air was severely rough.

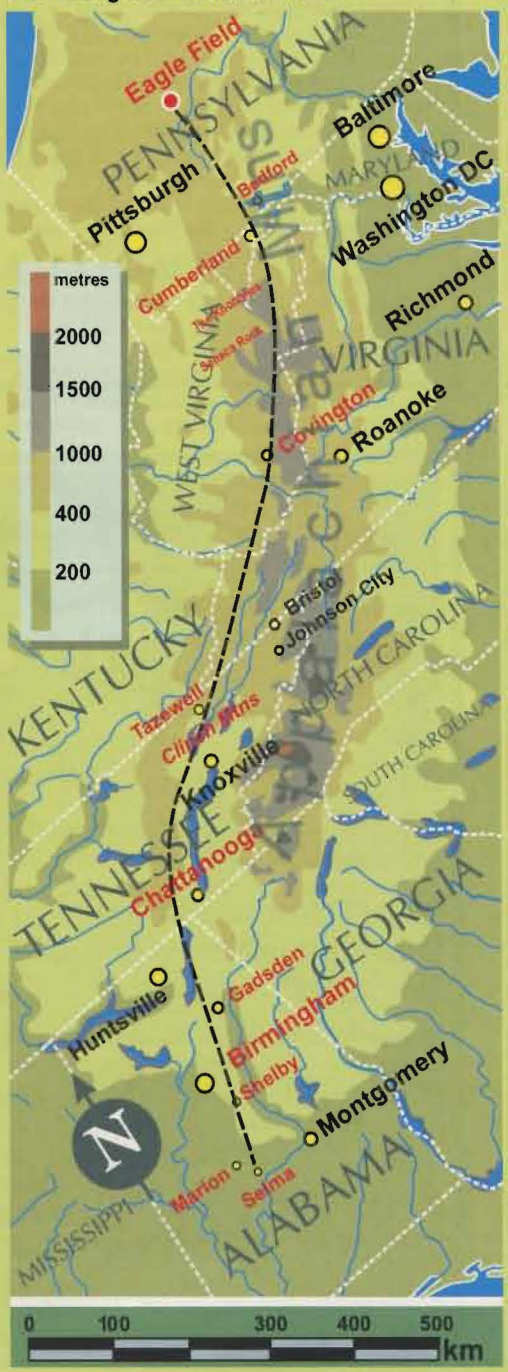
I climbed off the ridge near Seneca Rock to try for the wave. After a certain amount of fumbling, I connected with the smooth lift and watched the terrain fall away from me. My averager counted up to 13kts as fast as it could display the digits (post-flight analysis showed that the peak lift was 16.2kts). I made no attempt to find the stongest lift or to climb high, happily settling for 14 000ft and high groundspeeds.

Yet it's almost certain that this wave lift went to over 20 000ft; thus this could have been the mythical three Diamond, 1000km flight.

With this boost from the wave and the excellent conditions ahead, the flight now seemed assured. I rejoined the ridge downwind of the Bedford Gap and encountered no further problems that the strong thermals could not easily deal with. I arrived at the start/finish point at 1640hrs, then flew south-west to a landing at Eagle Field.

The project for the next two days was the aerotow retrieve of Karl and Roy, an adventure in itself. We finally arrived back at Eagle Field on the Sunday afternoon to a welcome and celebration fully worthy of the flights we had completed.

Steve Longland tracks their route.



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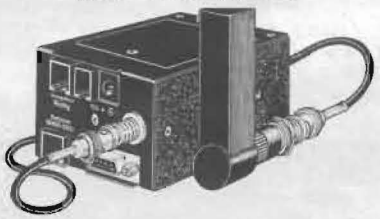
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WRESTLING WITH WATERBALLAST

Mary at last accepts the challenge and her experiences may well help others reluctant to carry water

Bold young pilots don't have any problem tanking up their waterballast to the max and belting off into the blue. This old woman took a long time to come to terms with the use of water to improve her performance. For six years I was perfectly happy without it in the Pegasus, just floating along, meandering from cloud to cloud, evolving a technique of seldom stopping to take a climb. This worked pretty well most days but on strong days everyone beat me.

I watched Paul Crabb syphon jugs of water into his Pegasus wings and tried to copy. Most of it splashed over my shoes in the process and it is not easy to suck water up a long plastic pipe if you are wearing dentures. And my Pegasus developed chronic colic - the plastic wing tanks distended with pockets of air that blocked digestion. After a wrestling match every morning and soaked shoes, up to my armpits in mud stuffing the pipe in after it had burst forth yet again, I was about ready to give it up.

The day they set a 500km *via* Bury St Edmunds I didn't fly that much faster and ended up landing in a very large stubble field. Good thing it was a big one because I had forgotten to dump the water and the ground run went on and on and on. And the hardest thing about the derig was unscrewing the pipe connections. I couldn't remember for sure whether it was clockwise or not, so ended up doing violence with two pipe wrenches, which probably contributed to a subsequent substantial leak in the system.

In 1996 Dave Richardson fixed the leaky pipes and I entered the Booker Regionals. This time water worked! I learned a lot and pass it on to all you fellow strugglers.

Dave advised keeping the wings level when filling the tanks. This prevents air bubbles interfering with the smooth flow. I wrote down carefully which way to unscrew the connections and got straight in my mind what to do with the little levers when filling up.

A lot of onlookers scoffed at our method of filling up the wings. We used a series of buckets and jugs, and poured the water down a funnel made from a two litre plastic coke container with the bottom snipped out, fixed by electrician's tape on to a length of red plastic pipe sold to take the waste from caravans. And it worked. I don't get wet, my crew doesn't get wet (or not very), and with the wings level on two trestles the old dear drinks it down, five or six buckets each side, which seems about right.

Nominating the right person to run with the wingtip is important. He should be young, fit, know how to keep your wings level and when to let go without swerving the glider. Your lap and shoulder straps should be extra tight, because the ground run goes on a lot longer and every bump on the ground sets off a lot more flop in the wings and shocks the spine. But hang in there, keep the wings level and eventually the old girl lifts off.

If it is a hot day and the tug is somewhat feeble, make sure that you are way at the back and have plenty of runway ahead. I always decline the first launch if they have me at the front of the grid. More cannon fodder launching first gives you gliders in the air to mark the lift when you get going at last. Because you are lumbering around with a couple of hundreds of pounds of water sloshing around in your wings, the climb from the top of the launch to start height can be less than certain. The *last* thing you want to do is take a relight, because you should dump the water before you land and it takes at least 2min to dribble out, and then you would have to fill it up again. Luckily, even on the grey grim days I managed to struggle up to the TMA base of 4000ft over Booker and set forth. And on a good day it was a revelation!

It is like flying a different glider. No more being despised by a Discus and out flown by an LS-4. I *can* keep up with the gaggle! Belting back from the last TP at Goring, I took one more climb - a good one - to 3000ft and blasted home at VNE intending to bedew the upturned faces at the finish line. Unfortunately, however, I drew back the two levers that unlatch the canopy instead of the two levers that dump the water. No harm done, the Pegasus canopy will not depart even if you fly the whole day unlatched. Only pulling the red knob up front as well will actually separate the canopy from the glider.

One of course wants to hang on to water having realised the advantage of performance gained by the extra weight. But there comes a time when it's not looking too good ahead, and it's not good where you are, and you don't want to hang on to your water while grovelling down among the desperate.

On Day 5 of the Booker Regionals I struggled on for ages through the gloom before deciding to dump and tweaked the correct levers. Instantly a 2kt climb turned into 4kts.

There are of course one or two finer points of etiquette regarding waterballast in competitions. Raining on the opposition is frowned upon. Even with water on board, it does not pay to fly too fast - between 75 and 80kt seems best between thermals. This is a difficult measure to stick to when you are cruising along and find yourself overtaken and left behind by the hot ships, but never try to keep up with an ASH-25, it doesn't pay.

Just trickle along at best glide on a grey day and you too may have the happy discovery on sliding in at twilight that all the hot ships are still out there, on the deck, bleating for their crews on the tannoy while you get a good night's sleep!

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DAN SMITH MEMORIAL TROPHY

Every body knows it rains over the Easter Bank Holiday, it always does, so why plan an Easter aerobatic competition which requires a 4000ft cloudbase? But this was when we held the inaugural aerobatic competition in memory of Dan Smith at Dunstable.

Dan Smith flew aerobatics in gliders when gliders were not quite as suitable for advanced manoeuvres as they are today. He won the last official Aerobatic Nationals at Dunstable in 1968 flying an Oly. His winning routine included rolling and inverted flying. The judging panel and contestants list ran like a Who's Who of gliding. For some reason the national competition stopped in the 1970s until its recent revival in 1990.

During his presidency of the London GC, Dan remained interested in aerobatics and was planning to support the new Nationals just before his tragic death in a gliding accident two years ago.

Dan's family generously donated a trophy in his memory to the London GC, to encourage "aerobatic excellence". The rules for this first competition were simple. A Sportsman programme (positive *g* figures), open to all levels of aerobatic pilots to be flown in K-21 gliders, loaned by Dunstable. The most demanding figures were stall turns and humpty bumps.

The programmes for the two day event were published in advance which allowed some practice, but on the second day an unknown one was to be revealed. The judges sat on the ridge marking each figure out of 10pts. At the end of the Comp, the pilot making least mistakes would win. The trophy itself would go to the highest placed sports pilot in the competition.

As it turned out most competitors flew three unknown programmes. Not many admitted to any serious practice and those who had featured in the top half. The rest used the first programme as their practice and the standard of the second known programme was noticeably higher.

Debbie Bilham kicked off showing the form that won her the Sportsman Class Nationals last year. John Bastin flew from memory shunning the accepted norm of a written programme and forgot the order of play half way through. Sam Mummery completed without zeroing any stall turns and late entry Bill Craig was so far out of the box the judges couldn't see him to give any marks. The first known programme was won by Unlimited Class pilot Ian Tunstall with 76% with Novice (but ex Pitts pilot) Stefan Kwiecien hot on his heels, flying an almost flawless routine.



Left to right: Ashley Benjamin, Ray Stoward, Debbie Bilham, Chris Cains, Betty Smith (Dan's wife), Sam Mummery, Stefan Kwiecien (with the trophy), Ian Tunstall, Graham Smith (Dan's son), Guy Westgate and John Bastin. Photo: Nikki Marchant.

By early afternoon National Champion Guy Westgate found his old form, winning the second programme with 78%, Stefan again chasing the lead with 76% and flying beautifully. Debbie gave a strong performance but was beaten by fellow novice Chris Cain. John Bastin had a copy of the programme in the cockpit which helped his score and for a second time Sam wowed the amassed crowd by scoring all his stall turns.

By mid afternoon the first day's schedule was complete but Jim Duthie decided to press on and fly the final programme, the unknown. It was then published and flown in reverse order to current scored position.

John Bastin flew his best programme to score 3rd for the unknown. Guy's was very sound with an average of 79% and then he watched as Stefan flew an almost perfect routine but (tragically) fell out of a stall turn to place him 2nd in the unknown. Ian Tunstall also made an uncharacteristic mistake and zeroed the last few figures, dropping him from a favourite to win to 7th for the programme. Sam too spoilt his run of scored stall turns and bagged his first zero.

Like many soaring competitions, the final scores reflected consistency rather than pure brilliance. Guy Westgate took Gold, having won the second two programmes. Newcomer Stefan, after only a month of gliding solo, put his Pitts experience to good use to finish 2nd and, technically still a Sportsman Pilot, took the trophy.

Aerobatic veteran Sam Mummery proved consistency scores by taking Bronze with Ian 4th. Second placed Novice pilot Debbie Bilham was 5th; Chris Cain 6th, John Bastin 7th, Jerry Beringer 8th, Ashley Benjamin 9th, Ray Stoward 10th and Bill Craig 11th.

Our thanks to the judges, lead by Chris Pollard, who sat on the downs all day peering into the sky whilst fending off daft questions from the amassed Bank Holiday public; Nick Buckenham for scoring and Jim Duthie, the contest director.

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PETER WELLS

OTTFUR QUICK RELEASE UNIT

Peter, an aircraft engineer, BGA senior inspector and a glider pilot since the 1950s, traces the history of the Ottfur hook and is optimistic about its future



You suddenly realise that *tempus* really does *fugit* when it dawns upon you that there is probably a generation of glider pilots out there who may never have heard of the Ottfur Quick Release Unit. With a funny name like Ottfur some even believe it to be of German origin and, with the exception of vintage enthusiasts, few are aware that it was conceived as a result of a fatal accident in 1939.

On that July day Frank Charles, a dirt track rider, had a winch launch in a Slingsby Petrel. When the glider entered low cloud the winch driver reduced power expecting the glider to release the cable. On emerging from the cloud Frank, with the cable still attached, turned downwind. Equipped with a hook that didn't have a back release mechanism, and before the winch driver could operate the emergency cable cutter, the glider reached the limit of the available cable and was pulled almost vertically into the ground. Frank was killed instantly.

This terrible accident was witnessed by a certain John "Pop" Furlong (soon to be involved with the initial formation of the Glider Pilot Regiment but later, and more importantly, in the creation of the ATC gliding movement). He was convinced that such tragic accidents were preventable and soon designed a release unit which would automatically release should a glider overfly the cable. His friend, Leonard Ottley who owned Ottley Motors Ltd of Wood Green, London, took on the manufacturing.

And so the Ottfur quick release unit, or more commonly the Ottfur hook, was born. The basic concept has changed very little since the 1940s and it has undoubtedly saved many lives. Its versatility to meet the geometric needs of many and varied type installations by the simple process of reorientating standard components is impressive and its principles are still utilised in today's high performance gliders.



Left, an original Ottley Motors unit, circa 1945-49. Centre, a Slingsby nose hook assembly from about 1960. Right, a Cair manufactured type IP27 (1997) for the T-21.

The Ottfur hook was an immediate success and became a standard fitting in all Fred Slingsby's gliders. Fred also modified it for other gliders such as the Rhönbussard.

Ottfur became synonymous with Slingsby and there were a series of modifications for each new glider type. But when Fred retired and the company was bought by Vickers Ltd, the Ottfur went into decline. Understandably Vickers were more interested in military hardwear. Slingsby/Vickers and the MoD (ATC) did hold spares but without essential manufacturing support the Ottfur was destined to become extinct.

I was introduced to the Ottfur in 1967 when an enthusiastic CFI with a misguided sense of humour presented early solo pilots with a bag of unrelated bits of ironmongery, a pair of pliers and a screwdriver, and told us to make an Ottfur.

It took me over an hour *not* to complete the task, afflicting third degree lacerations to my hands in the process. It was not until 1995 when Colin Street of Cair Aviation, a founder member of the Vintage GC, suggested that some effort should be made to ensure long term support for the Ottfur that I again took the plunge.

Cair Aviation bought the design and manufacturing rights from Slingsby/Vickers in 1990 with the faint hope that eventually it would be possible to launch a long term support service. But it was late 1995 before serious work began and, in parallel, we were able to look at the JAR 22 requirements and the possibility of introducing some British competition into the market.

The starting point was a plastic folder of old drawings, a cardboard box of Ottfur bits, some new but most used and unserviceable, and four wooden trays containing half a ton of original tooling. Although the data on assembly and test procedures were missing, we realised that we could achieve the first objective.

The tooling list showed that some drill jigs were missing and replacements had to be designed and manufactured. The original press dies were discarded in favour of the more modern process of laser cutting and other processes, such as fabrication, heat treatment and plating, were sub-contracted

A big problem was the absence of test procedures. The Australians had produced an OSTIV report in 1983 claiming that the Ottfur did not meet JAR 22 requirements. But the Ottfur had been designed before JAR 22 existed and as the report made no reference to BCAR, it was decided to check the Australian test results and evaluate the Ottfur against BCAR Section E.

We made a test rig and, with many thanks to the engineering department at Crawley College, Sussex, it was suitably calibrated. The tests proved the Australians were correct and an evaluation using the weight and wing loadings of gliders contemporary with the Ottfur proved that it did meet the requirements of BCAR Section E.

The Australian report also showed that wear in the over dead centre geometry (ODC) adversely affected release pull loads. The tests confirmed this and found that the condition of the hook profile also had a significant affect on release operating loads. A combination of wear in the ODC geometry and any noticeable indentation in the hook profile could result in release operating loads which, in certain circumstances, could be high enough to make it impossible for a pilot to actuate the release mechanism. A unit returned from Denmark in 1996 had this fault.

Then we faced another problem. The original hook was made by welding three 14 SWG steel plates together around their outer edge. In one sample corrosion between the plates had so weakened the assembly that the beak of the hook had broken off.

Examination showed this was a common problem, so now the hooks will be CNC machined from the solid, surfaced hardened and plated. A hook with a modified profile to eliminate the risk discussed in the previous paragraph is now being evaluated.

Other points which came to light were that the Ottfur cable rings are not compatible with Tost release units whereas Tost cable rings are compatible with Ottfur's, and that attempts to launch a glider which needs a black, brown or red weak link using Ottfur cable rings could result in a distortion of the rings or, worse, complete failure. The BGA have been told about these findings.

A comprehensive support service for users of the original series of Ottfurs is now available from Cair Aviation.

But what of the future?

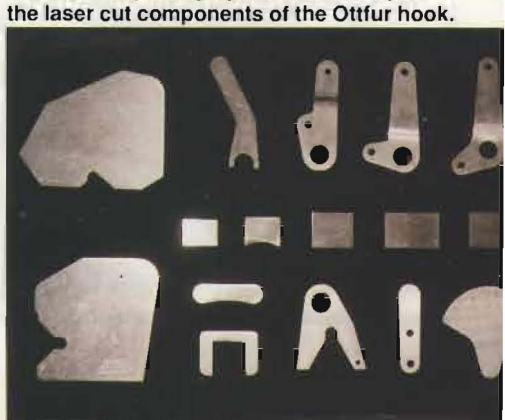
Prototypes of a new generation of Ottfur nose and C of G units are now being tested with encouraging results. They have been designed to meet JAR 22 requirements using modern manufacturing processes whilst maintaining the basic, reliable Ottfur concept, and will fit airframes that take standard Tost units.

There appears no technical reason why they should not be accepted as a valid alternative. However, there remains the problem of type certification and approval, but it should be possible to offer competitively priced alternative units in the near future.

(Dick Stratton, BGA chief technical officer, comments: "It is important to emphasise that any replacement of existing Tost hooks by Ottfurs would require major modification approval, since such a change would invalidate the glider manufacturer's type design certificate.)

See also BGA & General News.

Below: This photograph shows examples of the laser cut components of the Ottfur hook.



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The Rudder's Not For Turning

A scary incident which ended safely

I have been asked by fellow glider pilots to write up the K-13 incident at London GC in April so, reluctantly, here goes:

I had a look at RW's logbook and pre-solo card and all he really needed was a few more cable breaks and a stall/spinning session. As the weather was good, with just some cloud at about 3000ft, we decided to get the K-13 (FSQ) and go spinning. RW had arranged to fly with Malcolm Bland but as they both weigh near 200lbs I (154lbs) volunteered to fly with RW.

I gave RW a thorough briefing on what we were going to be doing on the flight(s) and also how to use the parachute. In view of his weight I decided to put him in the rear seat.

As usual, when instructing, I had my hand-held radio with me and tucked it into my jacket under the harness strap. RW had not flown a K-13 before so he had a few goes on the tow up to 3000ft and, after release, tried a few gentle turns and then did some clearing turns to check for other aircraft below etc. As he had not had a spin before I demonstrated two to the right, with about one full turn, before applying full left rudder to stop rotation etc.

RW was then invited to have a go himself. "OK, now stick fully back and yaw to the right; in she goes, now apply full left rudder and ease stick forward. Heh, what was that bang? I have control."

FSQ had come out of the spin, of course, because the stick had been put forward and the wings unstalled, **but** the yaw string was nearly at right angles and **both** my rudder pedals were forward. After a few moments we realised that the left rudder cable had parted somewhere and the cable tensioning system was holding the rudder hard over to the right.

Time to take stock. We were at about 2000ft over Tilsworth (and some very high voltage cables) going round in large sliding right hand circles, with the wings level and descending slowly. The glider was stable and the circle could be tightened by rolling to the right (the yaw string actually straightened whilst rolling so it was not stuck!) and rolling to the left produced a pretty solid side-slip. The ASI was useless.

We were both wearing parachutes but I have never used one and frankly did not fancy trying one now. We were surrounded by a steel frame, had large crumpable wings and were descending at least as slowly as we would with a parachute, assuming they opened OK. Stick with what you know! In addition, the thought of facing the committee, manager and CFI after abandoning a very nearly airworthy glider would have been too much.

I then remembered my radio, so it seemed a good idea to let someone know of our predicament. How about a Mayday? Hopefully it would be the only chance I'd ever have to call one. I use the key lock on the ICOM so I did not change frequency inadvertently and it was tuned to 129.90MHz. Anyway I did not want the whole of the UK to know about us, just LGC and a few balloonists and parachutists. I could only imagine the reaction in the tower, office, tug and winch to the call. Someone, I can not remember who, acknowledged.

Our circles were drifting slowly towards Eaton Bray. At 1000ft the situation had not really changed and we were looking to see where we might arrive.

I cannot claim that I was selecting a field! I transmitted our Mayday again and tried to concentrate on getting us down in a suitable area. We crossed the new road where there is a sewage works and a fairly large area of bushes, the latter being preferable if we could not reach a field. Then, right on track(!) was a large smooth field, with sheep at the far end, so we went for it.

With the wings level the side-slip was considerable and the glider turns. Who said "the rudder is not for turning?" Try a K-13 with **full** rudder.

My main concern was not to let the glider fall into a spin. We had all the ingredients; over ruddered, underbanked, no ASI and wanting to land at minimum speed. I was sensitive to the slightest hint of any pre-stall buffet!

Stopped with barbed wire cutting into the leading edge

In order to make the touchdown as light as possible, or perhaps I clean forgot about them, I kept the airbrakes closed and we landed very gently on hard smooth ground about 50 yards into the field. However, we were still turning and the glider rotated about 180° and slid sideways towards a fence and hedge. We stopped with the left wing high over the hedge and barbed wire, at the top of the fence, cutting into the leading edge of that wing about a foot out from the fuselage.

We clambered out and I called on the radio announcing our safe arrival and no injuries. "Please will someone get a trailer and retrieve us?" I went and saw the farmer whose main concern was that no sheep were injured! He didn't mind gliders but not those blasted hot-air balloons. Nice fella!

Throughout the whole procedure RW was calm and discussed the various places we might land (arrive). I am relieved that RW has not been put off gliding and is progressing well. We both had two-seater flights later that day.

The BGA were called and both suspended and re-instated my instructor rating that day.

In retrospect I have been embarrassed by the number of people who have congratulated me on a job well done. I am not known for my modesty but in this case, apart from not actually panicking, I was just very lucky and let an excellent glider look after us both. The mechanical failure was at the port rear rudder turnbuckle on the thread. Dick Stratton, BGA chief technical officer, had a look at it and stated that he had never known this happen in a K-13.

There have been several suggestions on things I should have done: take out my trusty cutters from my top pocket and cut the other rudder cable (a trailing rudder would have fluttered to death!); hook my foot round the other pedal and pull (no room); get the student to pull the end of the left cable, assuming he could find it. Oh, and why didn't I side-slip the two or three miles back to the club and land there. Isn't hindsight marvellous.

FSQ now has new turnbuckles and cables and I have taken it spinning again.

NB. On May 28 RW successfully flew his first solo after breaking the winch cable!

Be Warned

Peter Molloy draws attention to a trap many can fall into at this time of year. It was emphasised last August, p209, by Howard Johns but is worth repeating

A glider is airborne for a while and then, from an apparently normal approach, it makes a totally unnecessary low turn away from the approach and crashes during the last part of the final turn.

Why? Why? Why?

Things that jump to mind are stupidity, carelessness, lack of currency. We could go on but none are applicable. It's a little more complicated. Investigation revealed the following sequence of events which may seem similar to days we have all experienced.

The crash was 11½hrs after our pilot had got up. It was hot and cloudless and soon the temperature rose to the high 70°s. He drove some distance to the airfield, helped to rig several gliders and had a number of flights that involved some soaring. These were followed by two tugging trips before a 2¾hr soaring flight.

On landing, he helped derig that aircraft before being told his syndicate glider was at the launch point. Thinking it was an easy way to get it to the trailer, he took one last launch. And it might well have been his last - it certainly was for the glider.

During this long, hot, busy day he didn't wear a hat, had little to eat or drink and didn't have time for a rest. The end result was:-

Fatigue. Heat exhaustion. Dehydration.

These, like oxygen starvation, dull our senses, make us less capable and unable to make the right decision. The symptoms creep up on us in such a way we are the last to be aware of them. And by then it may be too late. So on a hot, busy, action packed day always consider your needs:

Protection. Refreshment. A little rest.

BGA & GENERAL NEWS



FROM THE BGA CHAIRMAN

Dick continues the overseas theme evident in this issue, as well as giving a warning about possible future airspace problems

Visiting gliding sites other than one's own can be good fun and provides excellent opportunities to widen our experience and make new friends. Club visits are therefore a most enjoyable part of my activities as chairman and I have much appreciated the friendly welcome extended to Mary and me around the country and the opportunity to fly at some widely differing sites.

So when we arranged to have a holiday in the Canadian Rockies In May I was keen to get airborne if possible. Bill Scull kindly came up with a telephone number for Pemberton Soaring, "somewhere near Vancouver", and armed with my gliding certificate and an expired FAI competition licence, we set off for foreign parts.

Negotiating a Canadian glider pilot's licence on the strength of these documents was an interesting experience. It says a lot for the Canadian authorities that with a minimum of fuss and after parting with $45, I became the proud possessor of an annual pilot's licence. You have to have a licence if you want to fly P1. Does that sound familiar?

Like Justin (see p217) we drove into the wilderness of the high Rockies (in rain, of course) and had a great welcome from Christine and Peter Timm and Peter's partner Rudi who own and operate Pemberton Soaring.

For once the weather gods smiled and as we were being briefed the clouds lifted dramatically revealing towering 10 000ft snow clad peaks right along the edge of the airfield. We trundled the Super Blanik on to the massive 4000ft asphalt runway and after a quick check for bears (one had invaded the runway the previous day), Peter showed me the local terrain and thermal sources. He then allowed me to take Mary for a flight amongst the most spectacular scenery before the clouds closed in once more.

I can thoroughly recommend a visit and we are grateful to Christine, Peter and Rudi for their ready welcome and hospitality.

Back home it was a question of straight to work, with the French licensing situation still unresolved, despite sterling work by Chris Pullen and input from Peter Hearne.

The CAA had fired the first warning shots that Class A airspace will be next on the agenda for examination. More of this as the picture becomes clearer in the coming months.

In view of the piece by Mike Woollard about the Technical Committee on the opposite page, I will take a break from my series on the workings of our various committees for this issue. In the meantime, as I write this the new soaring season is just getting off the ground, so I take this opportunity to wish you all great soaring in the months ahead.

DEVELOPMENT NEWS



Roger Coote, BGA development officer, discusses some disturbing news about planning controls for airfields

Gliding clubs threatened by unlawful planning policy?

A consultation draft of South Cambridgeshire District Council's "Airfield" supplementary planning guidance policy has caused widespread concern in general aviation circles and to local gliding clubs in particular.

The proposals, which were intended to control new and expanding airfields in South Cambs and which purported to encourage recreational flying, included:-

- Launches/take-offs limited to 40/day.
- Limited operating hours with closure1400hrs on Sundays and public holidays.
- Aircraft limited to 240bhp and seating capacity for four.

The Council received 1077 representations from interested individuals and organisations, including the BGA, RAeC, GAAC and, indeed, the CAA. Of these, 13 were in support of the proposed policies and six offered no comment, leaving 1058 objectors.

The planning director was advised that many of the draft policies were unrealistic, unreasonable and unenforceable. Some of the policies were considered to be beyond the jurisdiction of a local authority, being at best *ultra viries* and at worst unlawful.

In spite of overwhelming opposition to their consultation draft and letters lobbying the councillors concerned, the Council's Planning Committee adopted the policy at a public meeting on May 14 after a minimum of discussion.

Unless these daft policies can be formally overturned by a DoE planning inspector, or by action in the High Court, the supplementary planning guidance will be adopted as part of the district local plan by 1999.

The real danger is that it will then set a precedent, albeit unsound, which will be used as a blueprint by other local authorities with no proper airfield policies of their own.

The democratic processes have been put to the test and have, so far, been found sadly lacking. A well co-ordinated effort is needed from all those interested, not only in aviation but in civil liberties, to ensure that the South Cambs "Airfields" policy is treated with the contempt it deserves and is chucked out before it causes serious damage.

BGA Winch Operators' Manual

This is the first section of the long awaited BGA operations' manual and should be available by the time you read this. It gives advice, information and guidance to those involved in the daily operation and maintenance of the club winch.

The theory and practice of winch launching is covered with particular reference to the safe exploitation of modern, high powered, high acceleration winches which have revolutionised launching techniques in recent years.

John Gibson has written a detailed report on the mechanics of the winch launch and we have reproduced his article "High powered winching without tears" (*S&G*, June 1996, p144), as well as two of Charlie Goulthorpe's recent excellent articles in *S&G*, although instructional aspects of winching have been kept to a minimum as they are fully dealt with in the **BGA Instructors' Manual.**

The section on operation and practice has been condensed from manuals produced by individual gliding clubs, from firsthand experience, manufacturers' data and from qualified expertise.

Although it is written with the Tost winch as a primary example, the principles are easily adapted to suit any make, including those splendid home builds one frequently comes across at our clubs.

Malcolm Hook, DCFI of Lasham Gliding Society, has been closely involved with the safe development of high powered winch launching at his own club and has given invaluable help and advice. So has Steve Longland whose excellent drawings illustrate the text.

Publication was delayed pending the settlement of several contentious issues, including weak link configurations and the use of Ottfur rings. The various BGA committees are now fully in accord and some new recommendations are included before they appear officially in the next edition of **Laws & Rules for Glider Pilots.**

Lottery success at Wormingford

Essex & Suffolk GC has been awarded a Lottery Sports Fund grant of £65 810 towards the cost of building a glider store and workshop at Wormingford.

Since the club moved from Whatfield in 1990, life has been spartan. After providing essential infrastructure and launching equipment, clubhouse and toilets took priority and club gliders had to be rigged every flying day.

Many hardened glider pilots will consider the new building to be unnecessarily sophisticated, but the local council insisted upon design features that precluded agriculutural type structures and added substantially to the cost.

Repeated practice has given the club the slickest rigging team I have yet encountered, but the saving of the chore will cause few regrets and trundling the fully rigged fleet through the hangar doors will be a great luxury.



Eilif J. Ness, president of the Féderation Aéronautique Internationale, on the right, presented the awards. He is photographed with Silver medal recipient Bill Walker who learned to glide with the ATC in 1943 and whose many responsibilities included being CFI at Edzell. As an MP Bill's, support resulted in improvements in the ATC's fleet of gliders and as parliamentary spokesman for the BGA he helped to preserve a prime Scottish gliding site, Portmoak, threatened by an airway.

Eilif also took the opportunity to present the FAI Bronze medal to Tom Zealley for services to gliding including vice-president of the BGA, chairman of the London GC, chairman and later president of the Royal Aero Club, UK delegate to the IGC, vice-president and influential member of the FAI Council and innovating president of the Statutes Committee.



Ann Welch, on the right, who celebrated her 80th birthday this spring, was awarded the Gold medal. Ann founded the Surrey GC, flew Spitfires as well as many other aircraft with the ATA, and has campaigned for both traditional and less conventional flying. She set up and was president of two FAI commissions for hang gliding, paragliding and microlights, and is president of honour of both commissions as well as president of the BHPA and the BMAA. With Ann is Geralyn Macfadyen who won the British Women Pilots' Association's O. P. Jones rose bowl for the most noteworthy performance in gliding by a woman. It was in recognition of the longest flight in the UK by a woman during 1996 - the fifth time she has made such a flight to win a BGA trophy. Geralyn flew 532.9km in an ASW-20F.



Royal Aero Club Annual Awards

The Club's Awards Ceremony was at Goldsmiths' Hall on April 15

Cedric Vernon, on the left, with his Bronze medal. Cedric was involved with gliding's International Development Panel for 33 years and the drafting of the OSTIVAS. For much of that time he was editor of all the published OSTIV papers. He played a major part in preparing the UK BCAR Section E requirements and was secretary to the JAR 22 study group from its inception in 1976 until 1980. His 1000 gliding hours include test flying. The President's Rolex trophy for young pilots went to Jay Rebbeck, on the right. Aged 19, he has a Gold badge and Diamond height and is a promising competition pilot. He was awarded the trophy for a 516km O/R from Bicester to Sutton Bank last June 23 in his K-6E on a day without brilliant soaring conditions. Photos by Belgrave & Portman Photography.



BGA TECHNICAL COMMITTEE NEWS

From Mike Woollard, who last year took over from Howard Torode as chairman. Mike, who has been in gliding since 1980, has two Diamonds, some 1000 gliding hours and more than 550 power, is the engineering director of Irvin Aerospace Ltd.



A Technical Committee barely goes by without some new glider type being considered for a UK permit. Recent examples include the ASW-27, LS-8. Edgeley EA-9, the Genesis flying wing, the Me-7, PW-5, SZD-55 and Fox, as well as the ASC Spirit and Falcon kits from the USA.

Fortunately the standard of glider manufacture is high so the adoption to the UK register is a simple formality. However, rogue problems do occur and we make every effort to identify them and ensure they are corrected. Recent examples include lost control movement between pilot controls and control surfaces, high aileron circuit friction and a poor canopy release.

Although accidents due to technical failure are fortunately extremely rare, when they do happen the committee has to consider the technical ramifications and give support to the BGA accident investigation team. A recent example was the Oly 460 series where a rogue airframe, which had been badly stored in an open trailer, developed serious intergranular



Right: Retrofitted vertical winglets on a Std Cirrus. See Mike's comments on the next page.

➡

corrosion of the main spar duralumin side plates with the tragic fatal consequence of a main spar failure.

The investigation of the type, in conjunction with the CAA who (unusually) had type certificated the design, found a small number of gliders with a similar problem which are beyond economic repair. The remainder can certainly be returned to flight condition once the CAA has rubber stamped the findings. As a precautionary measure the CAA requested the further strengthening modification of additional through bolting of the side plates to prevent any possibility of side plate buckling - this being the mechanism for compression failure of the upper spar boom.

It is unfortunate that this has meant an apparent loss of confidence by owners in the design. This is unwarranted as the problem is relatively easy to monitor. The spar thickness should not show appreciable signs of swelling and provided the root spars have been well maintained and protected through the life of the glider, it is unlikely to be a problem. One safeguard is to provide a D box trailer support for the wings at the root end, rather than supporting the root end on the spar itself. This will prevent trailering loads from "working" the spar which is relatively thin and so flexible in the fore and aft direction.

One of our aims is to promote sailplane development, usually through influencing airworthiness standards and design requirements such as OSTIVAS and JAR 22. On a more practical front we have recently seen some exciting developments in the adoption of retrofitted vertical winglets on a number of gliders such as the Libelle, LS-4, Vegas, Nimbus 2, ASW-20 and Std Cirrus.

Alan Duerden, a newcomer to the committee, devoted his final university year thesis to fitting winglets to his LS-4 after studying the lead given by P. C. Masak in Canada. All gliders fitted show significant improvement in lateral stability, roll control and reduced stalling speeds with likely benefits of drag reduction which are difficult to quantify accurately.

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Occasionally we have to take controversial decisions on equipment. A recent example is the reversion to single weak links for winch cables to prevent double link misassembly - a problem with a simple technical solution.

We have also decided that the risk of a winch hang up caused by mixing the older style Ottfur rings with Tost hooks was unacceptable, so we had no option but to recommend banning Ottfur rings. Tost rings are recommended as they work perfectly with Tost and Ottfur hooks in marked contrast to the Ottfur ring which can be prone to distortion and jamming. The need for this has come with the use of more powerful winches launching ever heavier gliders and the practical difficulty of ensuring the correct ring is always used with the correct hook.

(Mike mentions how fortunate the committee is to have members with such a wealth of theoretical and practical knowledge and pays a special tribute to Dick Stratton, BGA chief technical officer.)

Dick tirelessly watches over the largest M3 maintenance facility in the country for which he is the (our) official engineering signatory. Dick's pragmatic, no nonsense approach to glider and tug maintenance make him a a welcome "official" when he visits BGA clubs all over the country. Under his charge are the 410 inspectors and 110 senior inspectors who supervise the airworthiness of more than 2000 gliders, 180 SLMGs and more than 20 tugs in the UK in a manner which avoids unnecessary bureaucracy, keeps down costs and ensures the highest safety standards. Long may we enjoy such an efficient and cost effective system.

NATIONAL LADDER

Submissions have been limited to a few clubs so far despite reasonable weather during all of April and much of May. Well done to the Cambridge Club in heading both ladders in such dominating style and in particular to Mike Young who is at last starting to get the hang of long distance flying in his immensely under handicapped LS-8.

Open Ladder

Pilot	*Club*	*Pts*	*Flts*
1. M. J. Young	Cambridge	8248	4
2. J. L. Bridge	Cambridge	6600	4
3. S. M. Smith	Cambridge	5591	4
4. P. E. Baker	Cambridge	5180	3
5. E. Downham	London	3770	4

Weekend Ladder

Pilot	*Club*	*Pts*	*Flts*
1. J. L. Bridge	Cambridge	5731	4
2. S. M. Smith	Cambridge	4822	4
3. M. J. Young	Cambridge	3422	2
4. E. Downham	London	3193	3
5. E. W. Johnston	London	2846	3

Please may I have your next entries by the end of July.
John Bridge, *national ladder steward*

FATAL ACCIDENT

Derek Knowlden, a Bronze badge pilot aged 45, was killed on Sunday, June 15, at East Sussex GC, Ringmer. He was being winch launched in an Astir when the weak link broke at about 300ft. Instead of landing ahead he turned, but did not have sufficient height to land safely.

BGA 1000 CLUB LOTTERY

The **May** draw results are: First prize - S. Parsonage (£50.50) with the runners-up - A. Cluskey, R. A. Williams, C. Garton, J. G. Allen, M. J. Wilshere - each winning £10.10.

June: First prize - R. H. Dixon (£50.50) with the runners up - S. Lynn, J. Edyvean, A. Galbraith, C. Smith and R. H. Dixon - each winning £10.10.

THE COACHING PROGRAMME

The two national coaches, Dave Bullock and Gee Dale, have had an encouraging start to their first season. They are running more than double the usual number of courses which had all been filled by late April with just a few places left on the wave weeks in the autumn.

The feedback is very positive with pilots appreciating the mix of skills on offer - Dave concentrating on the instructor courses and Gee the soaring weeks, all under the watchful eye of Chris Pullen.

SUCCESS FOR JUSTIN

Justin Wills (ASW-27) won the 15 Metre Class in the Swiss Nationals, held at Chänis from May 22-30, with 5449pts after seven contest days. The longest task was 350km.

The Open Class (longest task 370km) was won by H. Binder (Nimbus 3T) with 4651pts.and the Standard Class winners were T. and D. Frey (both flying LS-8s) with 4705pts. Their longest task was a 350km.

OBITUARY - Lady Alex Orde

We were sad to hear of the death, a few days before her 90th birthday in May, of Alex who, as Alex Kinloch, was secretary of the BGA in the 1950s. She was married to Cuthbert Orde who was a distinguished portrait painter whose subjects included many famous pilots.

Alex was remembered by Ann Welch as a "friendly, enthusiastic and very competent presence in the BGA".

STOLEN RADIO

Watch out for an ICOM A2 radio , serial No. 04516, stolen in late May in the Waterlooville area of Portsmouth. The battery and Helical antenna were attached but the charger was not taken.

If offered it please contact M. J. Crawley, 36 The Glade, Waterlooville, Hants P07 7PE, tel/fax 01705 251705.

ALPS DEFENCE APPEAL

On June 12 the BGA had received donations from the following:-

P. Wooley, Heron GC, T. Banks, P. Gray, RAFGSA Bicester, T. World, Portsmouth Naval Bar Bottle, Mr & Mrs O.Regan, J. Barrett, S. Dunn, T. McGee, R. Williams, A. Emck, S. Eyles, D. Eade, A. Davis, C & D Compston, Portsmouth Naval GC, Cotswold GC, P. Onn, World Engines, M.J. Wilshere, D. Cadisch, M & J Randle, Alvro de Orleans-Borbon, A.R. Doughty, D. Westwood, The Soaring Centre, P. Storey, J. Dispaux, K.J. Cadman, A.R. Kerwin-Nye, J. King, N. Davies, B. Jenkins, R. Brigden, R. Speer, M. Macefield and R. Glazebrook.

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1997
523	Carruthers, Michael	SGU	28.3
524	Chapman, Christopher	Midland	29.3
525	Robertshaw, Stephen	Derby & Lancs	13.3
526	Hill, Susan	Southdown	2.1
527	Dandie, John	SGU	13.2

DIAMOND DISTANCE

No.	Name	Club	1997
1/761	Nicolson, Keith	Cambridge (in South Africa)	15.1
1/762	Hill, Susan	Southdown (in Australia)	2.1
1/763	Dandie, John	SGU (in Australia)	13.2
1/764	Pigoen, Mark	Lasham (in Australia)	20.1
1/765	Gentil, Paul	Cotswold (in Australia)	20.1

DIAMOND GOAL

No.	Name	Club	1997
2/2534	Nevill, John	Deeside	10.4
2/2535	Laylee, Ann	Lasham	20.4
2/2536	Greenway, Peter	Herefordshire 30.1 (in Australia)	

DIAMOND HEIGHT

No.	Name	Club	1997
3/1382	Rebbeck, Robert	London (in New Zealand)	10.3
3/1383	Brown, Anthony	SGU	20.3
3/1384	Carruthers, Michael	SGU	28.3
3/1385	Chapman, Christopher	Midland	29.3
3/1386	Greensmith, Alan	Deeside	2.4
3/1387	Aspey, Derek	SGU	10.4
3/1388	Robertshaw, Stephen	Derby & Lancs	13.3
3/1389	Mountain, Ian	Cranwell	29.3
3/1390	Stafford Allen, Peter	Fenland	22.2
3/1391	Goodchild, Simon	Cranwell (in France)	20.3
3/1392	Williams, John	SGU	28.3
3/1393	Andrews, Roger	Midland	29.4
3/1394	Bottomley, Robert	Lasham (in Spain)	21.4
3/1395	Thompson, Stephen	Southdown (in Spain)	29.4

GOLD BADGE

No.	Name	Club	1997
1978	Dawson, John	Bannerdown	23.3
1979	Williams, John	SGU	28.3
1980	Nevill, John	Deeside	10.4
1981	Cavanna, Anthony	Essex	16.2
1982	Laylee, Ann	Lasham	20.4
1983	Greenway, Peter	Herefordshire	30.1

GOLD HEIGHT

Name	Club	1997
Geraghty, Vincent	Trent Valley	1.4
Gair, Gerald	East Sussex	26.3
Rebbeck, Robert	London (in New Zealand)	10.3
Nisbet, Graham	London	19.3
Dawson, John	Bannerdown	23.3
Williams, John	SGU	28.3
Aspen, Derek	SGU	10.4
Williams, John	East Sussex	26.3
Goodchild, Simon	Cranwell (in France)	20.3
Halton, Richard	Bidford	26.3
Cavanna, Anthony	Essex (in Australia)	16.2
Andrews, Roger	Midland	29.4
Heaton, Derek	Glyndwr	4.5
Thompson, Stephen	Southdown (in Spain)	29.4

GOLD DISTANCE

Name	Club	1997
Nevill, John	Deeside	10.4
Cavanna, Anthony	Essex (in Australia)	9.2
Laylee, Ann	Lasham	20.4
Greenway, Peter	Herefordshire (in Australia)	30.1

SILVER BADGE

No.	Name	Club	1997
10 191	Nuttall, Gary	Nene Valley	30.3
10 192	Elliott, David	East Sussex	30.3
10 193	Garston, Brian	Bicester	6.9.96
10 194	Hatfield, Andrew	Nene Valley	6.4
10 195	Pocock, Nigel	Lasham	13.4
10 196	Johnson, William	Burn	12.4
10 197	Barter, Susan	East Sussex	16.4
10 198	Kendrick, John	East Sussex	26.3
10 199	Wright, Arthur	Lasham	20.4
10 200	Bird, Gareth	Lasham	15.4
10 201	Johnson, Malcolm	Sackville	12.4
10 202	Clowes, Peter	Southdown	19.4
10 203	Redington, Alan	Perranporth	20.4
10 204	Cavanna, Anthony	Essex	9.2
10 205	Latty, Keith	Borders	1.5
10 206	Hoskins, Martin	Shalbourne	30.4
10 207	Loening, Adrian	SGU	6.5
10 208	Mullis, Paul	Shenington	1.5
10 209	Steinberg, Stephen	London	12.2
10 210	Pursey, Graham	London	14.5
10 211	Churchill, Sean	Bicester	14.5

UK CROSS-COUNTRY DIPLOMA

Part 1

Name	Club	1997
Bryson, Richard	Wyvern	13.4
Jackson, Robert	Welland	12.4
Rowland, Robert	Welland	12.4

Part 2

Name	Club	1997
Bryson, Richard	Wyvern	13.4

Late News

On going to press we have had the following statement from Peter Hearne, BGA vice-chairman

The French DGAC has provisionally agreed to British pilots flying in France subject to:-

1. Having a CAA medical class 3 with a two year validity for those under 40 years of age and a one year validity for the over 40s.
2. Sending above, plus a photo copy for the BGA certification, the last logbook page, passport pages plus passport photos to the DGAC regional office.
3. Carrying out a normal site check flight with a French instructor on arrival.
4. Subject to above, British pilots may fly P1 on British single-seaters and as student pilots on French registered single-seaters and two-seaters. Two British pilots may share a British two-seater.
4. The requirement for pre visit ratification of Cs of A will be cancelled. However, take it with you.
5. SLMG pilots with CAA licences are unaffected.

If you would like to write about your club (see p213) we would be pleased to hear from you. The aim is to try and reflect the varying character of our UK clubs. You may wish to make it a picture feature or use the space (a maximum of 1000 words with two good quality colour prints) to get over its atmosphere. Or perhaps you would prefer to concentrate on individual members who have had a strong influence or made an outstanding contribution.

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Maureen Haddon receiving her wings from Lincoln GC's CFI Dick Hannigan after going solo.



Above: Mark Courtney from Devon & Somerset GC goes solo. Below: Southdown GC bursary cadets Kirstin Speary and Fan Zanardeni.



CLUB NEWS

Copy and photographs for the October-November issue of *S&G* should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 01223 247725, fax 01223 413793, to arrive not later than August 12 and for the December-January issue to arrive not later than October 14.

GILLIAN BRYCE-SMITH *June 11*

AQUILA (Hinton in the Hedges)
Most of our late spring cross-country activity has been frustrated by the weather, including the Inter-Club League we hosted. As ever, Mary Meagher had the best story, returning to RAF Benson the following day with a metal detector to find the tailplane main pin in the grass. At least we flew fun tasks - as we have on 17 of the last 18 League days we have hosted. Is this a record?

A Lak-12 has arrived, though we sadly say farewell to Doug Edwards after five years as our cross-country organiser, work commitments driving him south.
M. E.

BATH, WILTS & NORTH DORSET (The Park)
We have been given a £21 700 grant by the Foundation for Sport and the Arts towards our new winch. We are most grateful.

We have had a second very successful flying week. Alan Milne, DCFI, and Phil Gascoigne have run another well attended Bronze badge course, resulting in a number of badge and cross-country endorsements.

Dave Smith and Alastair MacGregor have their full Cats and we have a new instructor, Mike Edwards from Portmoak.

Our third Bocian is about to return after being re-covered and resprayed in the club livery.
J. L.

BLACK MOUNTAINS (Talgarth)
Hamish Mead gained Silver height and duration during one flight; Grenville has resoloed and flown his Cirrus; Fred Bishop has been to 15 000ft in wave and Mike Tomlinson has completed his Silver. Two weeks of easterly wave at the end of May produced climbs up to 12 000ft.

The first barbecue of the year on a Friday evening was followed by snow on the Monday! Plans are progressing to buy the airfield.
J. C.

BOOKER (Wycombe Air Park)
Although the weather hasn't been brilliant, Rod Hamilton flew Diamond goal in the Junior in 7.5hrs; Ken Stukey and Nick Gilbert achieved 5hrs, Nick, a cadet, on his 14th solo flight, and Edward Garner, following brother Richard in the scheme, soloed on his 16th birthday. Richard is again flying our club Discus in the Junior Nationals. We now have 14 cadets.

"Shep" has organised the installation of a 1000 gallon water tank in the rigging area. It has eight outlets, both large and small, and the larger can fill a standard water container in around 10sec. It should be useful at the Regionals which are now almost full. The 265hp Pawnee should be delivered by then.

An aerobatics course is being planned with Sam Mummery. The RT courses were so successful more are being organised. The Me7 demonstrator was great fun and we again have the chance to send our Discus to South Africa next winter.

Our former chairman, Bernie Morris, has not retired from BA (as I implied in the April issue) - he does not do so for about two years.
R. N.

BOWLAND FOREST (Chipping Airfield)
We have two new cadets from our local school, Sally and David. The completed lounge and bar will help us develop the club's social side.

We have already had some good cross-countries and there are expeditions to Shenington

Oxford University GC members during their expedition to the Long Mynd. Photo: Jamie Allen.



and The Soaring Centre. Some members have entered the Northern Regionals and Enterprise.
S. R.

BRISTOL & GLOUCESTERSHIRE (Nymspfield)
We have a new summer winch driver, Kay Whittaker. Members wished Andy Davis well for the World Championships.

Visitors to Nympsfield should note there is a new feature on the landscape just south of the site - a wind turbine. It's not easy to see from every angle, so beware.
B. F. R. S.

BUCKMINSTER (Saltby Airfield)
We have negotiated with the help of Roger Coote a new 27-year lease which adds a grass strip to our concrete runway for simultaneous winch and aerotowing. The BGA soaring course in June was full and a great success thanks to Gee Dale. We continue to see an increasing demand for SLMGs and now have a DG-500M and Dimona based at the club in addition to the club Falke.
N. R.

BURN (Burn Airfield)
Members of 578 Squadron held a moving reunion at their former wartime base and visited the memorial to this unit in our clubhouse. All three wartime runways, although a little worn, are still in regular use.

We have rediscovered wave at Burn. Some excellent flights have been made at various levels of experience with March seeing us at 10 000ft. Dave Johnson has a Silver badge. Danny McNeill and partners have a Pirat. Ex CFI Jack Sharples and wife Edna threw a memorable retirement party. The stripagram raised the odd eyebrow.
S. J. K.

CAMBRIDGE (Gransden Lodge)
Phil Seeney has resoloed and George Sanderson has his 100km diploma.

Anthony Edwards has retired as president after 19 years - he was chairman for eight years before this - and handed over to Bryce Bryce-Smith who has just finished a 42 year stint on the committee as secretary, chief tug pilot and chairman.

Our most recent band of cadets are progressing well. Funds have been allocated for our entrance track which is in desperate need of repair.
K. M. B-S.

CLEVELANDS (RAF Dishforth)
Doug Stewart has completed his AEI in time to assist with our evening visits, and Mark Tolson has his 5hrs.
J. P.

Obituary - Dr Arthur Chadwick
Arthur was a popular and hard-working member, but such was his modesty that few who knew him on the airfield realised the full extent of his many talents and achievements.

A biologist of world renown, he was also a gifted musician who played his violin as happily in the club bar as he did at orchestral concerts. He was president of the Leeds Philosophical and Literary Society and a skilled craftsman with interests in aeromodelling, archaeology and early



Alan Robert (left), Marchington GC's cadet co-ordinator, with cadets Robert Shand and Claire Lanham and, far right, chairman Val Roberts.



ndip Gliding Club

Above: Mendip GC's first three cadets, left to right, Rhys Davies, Robert O'Sullivan and Luke Endsor. Below: Three Scottish Gliding Union solos from the same holiday course:- left to right, Steven Dobbie, Bob Street, instructor Tony Spirling and Bill Alexander. ➡



photography, but none of this prevented him flying enthusiastically at every opportunity.

He began on Harvards with Bristol University Air Squadron in the 1950s and took up gliding at Dishforth in the mid 1980s, quickly becoming mentor to our Leeds University students. Soaring, aerobatics, competition, vintage gliders, motor gliders, any conditions the sky could throw at him, Arthur delighted in them all.

Last summer he went to Africa, we thought on holiday, and subsequently fell ill. Only after his death we discovered he had gone there as an honoured guest, to open a school which he had raised the funds to build.

Arthur's packed life has inspired us all, and our sympathy goes out to Sibyl and his family.
Jill Povall

CORNISH (Perranporth)
Rachel Pegg and Sid Hillman have soloed, Sid in a motor glider. Alan Redington's Silver height completes a rare all Cornish Silver badge. A M200 and LS-7 join our privately owned fleet.

The 40th anniversary was well attended with visitors from eight clubs. The weather was kind and we flew all three days of the Bank Holiday weekend. Many old members came back - at least for the cream teas and pig roast if not all of them flew! With a T-21 and a Tiger Moth it was almost as though we had turned the clock back.
S. S.

DARTMOOR (Brentor)
We have had more east winds than usual giving good wave and thermals. A K-6E, Vega and a Swallow, which once had an engine, have arrived. The Swallow had been in a floorless trailer for many years.

Keith Hubbard has gone solo. Sue Smith (tel 01752 364856) has taken over from Gill Meakin as secretary. We thank Gill for her great efforts.
P. W. W.



DEESIDE (Aboyne Airfield)
Apart from a poor early May we have had a good spring, with a challenging mix of wave and thermal. Exploring the Cairngorms by thermal has made a nice change from the usual rather detached view through the wave gaps.

Following his Gold and Diamond heights in February, John Nevill completed his Gold with a Diamond goal, while Steve Thompson was only just short with an excellent flight in the club's Junior. Dave Roper went solo.

Our Camphill visitors notched up lots of kilometres. We had bad weather for the first two Inter-Club League weekends.

Resident instructor, Mike Law, was awarded the Chairman's trophy at the AGM by retiring chairman, Lionel Sole. Our thanks to Lionel, together with Glen Douglas and Graham Morrison, for their work on the committee. Ed Colver has taken over as chairman.

CFI Al Eddie and Mike Flaherty are making progress on improving the procedures for using the airspace above Flight Level 245. The RT licence course at the club was well supported, although thankfully most of our operating area remains free airspace.
J. D.

DERBY & LANCS (Camphill)
Phil Measures has gone solo and Dave Robertson and Dave Stanger have Bronze badges, Dave with a cross-country endorsement.

We hosted the Vintage Glider Club rally which was was a great success with good soaring. Our thanks to Ian Dunkley for his tireless efforts.

Sylvia McKenzie, catering manager, is retiring after eight years and we are appointing a steward and stewardess. Our thanks to Sylvia, who will be sorely missed, and to Carol Velnoweth for organising an enjoyable caelidh.
W. T.

DEVON & SOMERSET (North Hill)
We have had an exciting two months with a BBC film crew preparing Sue Cook's "Out and About" series which was shown in May. It has given the club excellent coverage and our thanks to Stewart Procter for doing the flying.

The Inter-League Club now includes Dartmoor, Mendip and Bath, Wilts & North Dorset GCs. On the first day, despite difficult conditions, John Pursey was at 15 000ft over Dartmoor.

Some 20 members, taking a K-21, T-21 and a tug, enjoyed the Cornish GC's 40th anniversary.

Julie Minson has her Silver badge and Mark Courtney and Tom Wythe have gone solo.

The expeditions to Scotland have given members memorable wave flights.
S. C. L.

DUKERIES (Gamston Airfield)
At our annual dinner-dance a surprise party was held for our retiring CFI John Swannack who was awarded a life membership in recognition of his hard work and dedication. Trophies went to David Prosolek (2) and Gary Wardle.

Our thanks to Colin Pellat and his team for an amazing effort resulting in our second Lottery Sports Fund grant to buy a plastic two-seater.
D. P.

EAST SUSSEX (Ringmer)
Brian Geere has gone solo; Karl King, Derek Knowlden, Alan Pemberton, Ron Simpson, Dave Watson, Graham Wheeler and Peter Wilkins have Bronze badges; Barry Clarke, Karl King, Dave Lingford, Nick Pearson and Alan Pemberton cross-country endorsements; Barry Clarke and Dave Linford Silver heights; Gerry Gair has 5hrs; Alan Pemberton Silver height and 5hrs and Sue Barter, David Elliott and John Williams have completed their Silver badges.

John Williams and Gerry Gair gained Gold height at Glyndwr; Peter Davey, Nick Davies and Adrian Lyth have AEI ratings and Ian Bull, safety officer, is a full Cat. Steve Barter, DCFI, completed his 2000th launch in March.

Sadly Ian Agutter has given up instructing, a position he has held since we were formed in 1973/74. He will be much missed and was thanked for this invaluable service at the AGM.

Building an immaculate launch point vehicle was a club team effort, the idea originating from Geoff Reeves with the construction expertly led by Les Groves. We have a good crop of newcomers including junior members we have encouraged. We plan to improve the club fleet and iron out some of the airfield bumps.
R. S.

ESSEX & SUFFOLK (Wormingford)
Thanks to the Sports Fund Lottery grant (see the BGA News) a new hangar will complement our excellent clubhouse and site facilities.

Mike Benson and Phil Duffin have become instructors and Chris Nunn and Darryl Simpson have AEI ratings. There are new ships for CFI Paul Rice and Pete Nicholls (ASW-20L); Phil Duffin and Mike Benson (Discus) and Dave Griffiths pairs with Nick White in a Club Libelle.

We are hosting the Inter-Club League in August.
C. B.

FENLAND (RAF Marham)
The soaring season is going well and we even had our first wave flight when Del Lay climbed to 4200ft for an 81min trip - not bad for Norfolk.

Martin Pike and Padge have their SLMG PPLs. Mick O'Brian has Silver height and 5hrs; A. J. her Silver badge and Simon Driscoe, Nick Major and David Wren have gone solo.

We are celebrating our 45th anniversary over the August Bank Holiday. All ex members are invited and may bring their own aircraft. Included in the programme will be a party on the Saturday night. For further details contact Martin Pike on 01553 771352 or 01760 337261 ex7601.
N. M.

FOUR COUNTIES (RAF Syerston)
Paul Armstrong has taken over as CFI from Allan "OJ" Garrity. Sam Cooke, James Rubio and

Gary Wallace have gone solo; Mark Paddock has Silver distance and 5hrs; Pete Dixon Silver distance; Gary Bridgeman 5hrs and Terry Moyes Gold height and Diamond goal.

Five enjoyed a 300km milkrun on May 24. We are hosting the 15 Metre Class Nationals.
D. M. R.

FULMAR (RAF Kinloss)
The season started well with Steve Darke getting his 5hrs and Diamond height with 19 750ft at Systeron. The Connel expedition was as successful as ever. Martin Pearce and Mark Whittaker gained their 5hrs. (Mark was so excited the first time he forgot to claim it.)

Jonathon Joynson is a tug pilot, Mark Whittaker has soloed on the Falke while Eddie Pratt has his SLMG PPL.

A big thank you to Martin Pearce who is smartening up the clubhouse so the powers that be at Kinloss aren't fooled into thinking it should be pulled down.

We have the ASH-25 for a week at the end of June. Nick Joseph, who trained at Fulmar, went solo on his 16th birthday.

Dave Brown, our new officer i/c, on his first flight with the club was flown to 13 500ft.
J. P.

HEREFORDSHIRE (Shobdon Airfield)
We had good weather for the London GC's spring visit and splendid conditions for our club week in May with continuous thermals.

The new bureaucratic requirements have caused a lot of disturbance among our members who normally take a gliding holiday in France. It seems that less than half the usual number will go this year.
R. P.

KENT (Challock)
At our recent AGM Cyril Whitbread was re-elected as chairman, Stefan Bort as secretary and Tim Gardiner as treasurer, assisted by Peter Charaton.

The season started well with a good midweek day in May when we operated to our ceiling and flew several 100kms. Graham Drury gained his third Diamond in South Africa making six members with all three.

We have a task/fun week in late August. Nigel is course instructor for the season.
A. R. V.

LAKES (Walney Airfield)
Our club outing to HusBos in June was hugely enjoyed - five out of six of the club gliders went and every private glider was there at some point. Four Silver distances were flown by David Bull, Martin Lewis, Andrew Tebay and Lyn Martindale, Lyn being our first female pilot to have a Silver badge.
A. D.

LASHAM (Lasham Airfield)
Up to the middle of May, we have had 20 300kms, one 400km and five 500kms from Lasham. John Caton and Jim Lyell gained Diamond heights at La Cerdanya, Spain.

Our new seasonal staff instructor is Jamie Halstead from New Zealand. At present we have expeditions at Le Blanc and in Austria.

We are enlarging the NE landing area which has meant removing a large bank of earth, left when the airfield was constructed in 1942, and levelling bumps in the peritrack. The vintage aircraft in this area will be moved.

The social committee are buying disco equipment instead of hiring it for each social event.
A. M. S.

LONDON (Dunstable)
The PW-5 and Me7 demonstrators have been much flown and greatly enjoyed, as has the Dimona. Recent experience has highlighted the need for motor glider instruction in field landing techniques.

There is satisfaction at our much improved financial performance, hence the AGM went very smoothly with Mike Bird and Rupert Robinson joining the committee.

We hosted a successful BGA gliding day for ATCOs which we hope will result in better relations between us. After a presentation on our airspace needs by Carr Withall, members were able to buttonhole their guests in a convivial atmosphere.

We still have a few places on our Regionals.
R. C.

MARCHINGTON (Tatenhill Airfield)
The season is here with most members enjoying long local flights in superb thermals. We have a BGA cross-country course in June.

Our cadet scheme has started with two pupils from local schools each being given £1000 worth of flying. This is the first stage in our subsidised training programme being developed this year.

Finances are just breaking even (according to the re-elected committee).
I. N. R.

MENDIP (Halesland Airfield)
We have launched a cadet scheme after canvassing 30 schools with five of the six places awarded. Local newspaper interest has generated good publicity just ahead of our open day.

Dave Wood, a member for many years, has at last gone solo with his recent retirement giving him more chance to fly. Steve Little has also soloed. Paul Croote flew a Bocian on a 100km O/R in just over 1hr on a wildly unstable day. The co-pilot Mike Bridges commented "What a ride".

PS. It is rumoured that one of our Inter-Club League team landed out when he got lost - on the aerotow!
K. S.

MIDLAND (Long Mynd)
The soaring season has made a variable start but on April 14 a total of 1500km were flown, with Nick Heriz achieving 500km, Richard Justice 300km and Roger Andrews 180km in the Oly.

On April 29 Roger flew Diamond height and course members enjoyed cruising round Wales at high level. Having acquired a taste for Celtic cruising, John Stuart and John Parker thermalled to Aberdovey in an early June easterly, but the K-21's lack of penetration left them in a field at Caersews on the return trip.

Richard Langford, Ron Stokes and Colin Calderwood went solo on courses and Chris Nicklaus and Chris Gilbert on their 16th birthdays. Jon Blackhurst has a full Cat and Charles Carter an AEI rating.

Sadly, former members Ron Hayes and Peter Wulff have died.

Airfield improvements continue, supervised by Howard Bradley, with filling in and seeding of the Portway. This should all be completed in time for our task week in late August.
P. A. S.

NENE VALLEY (Upwood)
Paul Cooper has gone solo; Guy Brook has both Bronze legs and Les Walsh a Silver leg.

Our new site is now fully operational. We have a 60m x 1100m NS facing grass strip approx 500m west of the RAF Upwood perimeter fence. Visitors, please do not land at RAF Upwood. We no longer have access and it is a secure site.

The site move was surprisingly smooth and building work is progressing well. The clubhouse is in position and the hangar foundations were laid in June.

Martin Reynolds is resigning as chairman, the RAF having posted him to Scotland. We thank him for his significant contribution as chairman and instructor.
A. F.

NORFOLK (Tibenham Airfield)
Our seventh Eastern Regionals was won by Sarah Harland. With excellent weather and seven competition days, 25 competitors flew well over 30 000kms and went away happy.

Barry Marcham and daughter Cheryl have soloed - both on the same day. Paul Taverner and Steve Cattermole have Silver distance and Mark Panton his Bronze hours. We have put in a grant application to upgrade our fleet.
B. W.

NORTHUMBRIA (Currock Hill)
Our new Skylaunch winch and its dramatic affect on launches (and some members!) has made the long wait worthwhile. Now that we have secured our future by buying the site, we continue to update our development plans for the next three to five years.

We have three more cadets who are proving very willing to learn - Jamie Norris is the first cadet to go solo on reaching 16.

John Dickson completed his Silver badge with a flight to Carlisle; Brian Hindmarsh has a Bronze ➡



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Left: A T-21 and Tiger Moth at the Cornish GC's 40th anniversary. Photo: Nigel Climpson. Right: Diana Wright of Bath, Wilts and North Dorset GC on final approach during her first glass-fibre flight. Photo: John Garland.

badge and our chairman, Colin Tweddell, has become an instructor.
D. H. & J. R.

OXFORD (Weston on the Green)
We welcome our six cadets. Gary Cuthill has gone solo. We have ordered the new LPG engine for our winch, and look forward to the best launches in the country for all our gliders.

The soaring season has got off to a slow start.
J. S. G.

PETERBOROUGH & SPALDING (Crowland Airfield)
A Skylark 2, beautifully restored by Dave Mason and Richard Kilham, has joined our private fleet.

Dave Leggett has Bronze legs; Sheena Fear and Byron Smith Silver distance and Shirley Elsdon and Ravi Sharman have resoloed.

Our annual barbecue and gliding evening with neighbouring Fenland Aero Club increases in popularity with 23 sampling gliding. Now we plan a return event to try power flying. Our annual task fortnight begins on August 4, concluding with the Inter-Club League and barbecue.
F. R. P.

PORTSMOUTH NAVAL (Lee on Solent)
We had seven consecutive days of almost perfect gliding weather for our Easter *ab-initio* course, which produced nine solos. We have two further courses in July and August.

The early May Bank Holiday was designated a "Sproule Weekend" to mark the 50th anniversary of the RNGSA. We were visited by Murray Hayes and his syndicate partner, Laurie Woodage, who brought with them a Fleetlands-built Grunau Baby 2B. Sandy (John Sproule's son) also spent some time with us and brought his father's logbooks and photo album.

Tony World has a full Cat and Rich Weeks has gone solo.
K. S.

SCOTTISH GLIDING UNION (Portmoak Airfield)
The season has continued to produce some excellent thermal and wave conditions, with Derek Aspey gaining Diamond height with a climb to 21 000ft in a club Junior.

Steven Dobbie, Bill Alexander, Mark Hutchinson, Robert Street, Andy Young and Chris Robinson have gone solo.

We have renovated our briefing room with the addition of a video and TV for non-flyable days.

Vic Blaxill has taken over from Eoin McDonald as CFI. We thank Eoin for all his hard work.
N. F. G.

SHALBOURNE (Rivar Hill)
The weather remained fine for the April cross-country week but although not brilliant for soaring, Phil Morgan flew Silver distance. A week later Rob Jarvis missed his 5hrs by a narrow margin during a club trip to Sutton Bank.

Liz Bertoya has her 300km and we had a successful *ab-initio* week in May with Bill Chaffey, Pat Lucas and Roy Nash going solo and Keith Lovesy resoloing.



Kay Whittaker, Bristol & Gloucestershire GC's summer winch driver, went for a check flight with chairman James Metcalfe in the aerobatic DG-505 bought with a grant from the Foundation for Sport and the Arts. Photo: Bernard Smyth.

SOUTHDOWN (Parham Airfield)
The "Columbus Club", formed to foster competitive cross-country flying, had a good start with Julian Hitchcock's 442km in the LS-7. Julian Hall and Giles Thomas have soloed, whilst John Heykoop resoloed after a long break.

Peter Tratt has handed over running the trial lesson evenings to Frances Backwell.

Six have been selected for our bursary students scheme and another has been offered free membership. Stuart Ross is their mentor and we are delighted with their attitude.
P. J. H.

The new catering van should be ready for our next open day in June.
C. N. H.

SHENINGTON (Shenington Airfield)
John Vella-Grech went solo; Chris Palmer has a cross-country endorsement; Mike Jaban, Robin Adams, Andre Stokes, Emma Norris, Nick Powley, Keith Marchant and Harry Phelps gained Bronze legs; Paul Mullis Silver distance and 5hrs for his Silver badge; Mark Wilksch has an AEI rating and Chris Kidd is now a tug pilot.

Bob Playle and Shaun Badby came 1st in

Below: Left, Northumbria GC's cadet, Jamie Norris, photographed with his instructor, Martin Fellis, after going solo. Right, Welland GC's SF-27 with the club logo. ➡





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Bidford's Wood Comp. Weekends and mid-weeks are very busy (we did 2300 launches over April and May) and John Harwood is back from New Zealand to assist. The BGA soaring course we hosted in April went very well.

The K-8s, and soon the K-13s, have new instrument panels with electronic varios and we have new kitchen equipment. There is a barbecue on the first Saturday of each month.
T. G. W.

SURREY & HANTS (Lasham Airfield)
David Masson was elected chairman at the AGM. Wally Kahn has been a member for 50 years. The trophy for the earliest 300km flight of the season in a club glider was presented to Mike Nash-Williams for 1996. Peter Paterson has already flown 300km (in April) in a club DG-300 on his fourth ever cross-country.

Members are taking an increasingly active part in maintaining the club fleet and trailers.
A. M. S.

SURREY HILLS (Kenley Airfield)
It is worth recalling that the only gliding club within the M25 did keep flying throughout the cold season on every weekday when the weather permitted.

We have enjoyed having a full fleet of gliders after minor problems last year. By moving the T-21's belly hook further aft we have been getting significantly improved winch launches. Not only is our Bocian resplendent outside, the cockpit and seats have been refurbished.

Our annual charity open day on Spring Bank Holiday Monday was well supported by the public and raised some £750 for the London Helicopter Emergency Medical Service.

The tel number given in the April issue (p98) was incorrect - it is 0181 7630091.
P. B.

THE SOARING CENTRE (Husbands Bosworth)
We have won approval for a Lottery Sports Fund grant for a Duo-Discus.

Our first task weekend was a great success with three out of four days and tasks of over 250km flown - our thanks to Derek Abbey and his team.

Ken Payne, Mike Hughes, Tom Burton and Richard Johnson are now instructors.

The first Silver distance of the year was completed by Peter Dowse in a Junior. Our four drum winch has a replacement engine after it finally expired after many years' service. Our thanks to Lester Goodman and Malcolm who worked hard to get it back into service.

We have applied for planning permission to build a private members' hangar funded by those wishing to keep their gliders rigged.

Our newsletter, "Hot air and thermals", has a circulation of some 400 and can be viewed on our website.
T. W.

TRENT VALLEY (Kirton in Lindsey)
John Kelsey has an AEI rating; Shaun Lewis has gone solo and Cyril Lavender has resoloed after a 50 year break from flying in the RAF.

After careful negotiations with our landlords we have a 12-year lease on the airfield.

Peter Holland is in his 31st year as treasurer (is this some sort of record?). Many thanks for all his hard work.

We will have a three glider contingent at the Two-Seater Comp in August.
J. R. & S. R. W.

ULSTER (Bellarena)
By early June hours and launches were at record level, boosted particularly by a very intensive Easter, though a blustery SE gale wiped out our open day on June 7. There was more early season cross-country flying than for some years and on May 25 Jim Weston took his DG-300 on a 320km four TP ramble round Ulster.

Latest soloists are Jay Nethercott and teenager Rickie Nolan who jointly hosted a splendid "thank you" barbecue for the whole club. Fred Parkhill has become an AEI.

Our youngest current soloist, Rachel Neill, 16, has been selected for two-seater task flying with an instructor at the Bidford Junior Championships in August, to follow a stint as an organiser's gofer at the Dunstable Regionals.
R. R. R.

VALE OF WHITE HORSE (Sandhill Farm)
Although weekend weather has not been very good recently we have kept up our record of flying every weekend this year.

Tony McNicholas and John Ashcroft flew a 100km triangle in one of our K-13s, which Tony repeated the next day in the club K-18.

In the Inter-Club League on May 18, despite a 2000ft cloudbase, Chris Key managed to get to Keevil, landing out near Marlborough on the return leg. The poor weather has been put to some good use with 25% of members now having RT licences.
G. N. T.

VECTIS (Bembridge Airport, Isle of Wight)
Adrian Flatt and Darren Card have soloed; Ray Ginsburg has his cross-country endorsement and Silver badge; Malcolm Huddart has part 1 of the cross-country diploma; John Leonard both parts and John Pretty and John Kenny have Gold badges. Chris Waghorn is now a seasoned tug-gie, coping manfully with our crosswinds.

Due to the dreaded sea breezes most of the badge claims beyond Bronze are made from expeditions to the mainland or France. Currently we have an expedition at the Mynd and imminently to HusBos and France (paperwork permitting).
J. E. K.

WELLAND (Lyveden)
We have an "adopt-a-glider" scheme with groups of three giving a club glider extra care, keeping it clean and tidy, doing minor repairs and reporting more serious ones to a BGA inspector.

The paintwork on the club fleet - three K-7s, two K-8s and an SF-27 - has been smartened up by Fred Thomas who has also put club logos on all the gliders.

Our open day in May was a great success, being blessed with good weather. We gave 76 trial flights and several are joining us.

Howard Barnard and John Taylor have gone solo on the *ab-initio* course run by Andy Parrish.
R. H. S.

WREKIN (RAF Cosford)
We are flourishing. Our membership has increased to 100 and our Wednesday evening flying attracts good attendance.

Work on converting two old houses into a first rate clubhouse is nearing completion, with some discovering DIY skills they didn't know they had.

Steve Crane, Andy Done and Chris Kyte have gone solo and secretary, Dougie Bye, has his SLMG PPL.
N. E. R.

YORK (Rufforth)
We are running "Early Bird" courses for members first thing in the morning on weekends, which have proved a valuable method of concentrated training. It also avoids launch conflicts with pilots starting cross-country tasks and air experience flights.

The late May Bank Holiday task weekend was a huge success, with cross-countries on the first two days and wave to 11 000ft on the third.
M. D. C.

YORKSHIRE (Sutton Bank)
Over the Bank Holiday weekend Richie Toon organised a successful Mini Comp with Jon Hart winning the Pundit Class and John Goodall the Intermediate Class.

Gavin Ward and Robin Strarup have gone solo. Several members have entered competitions and Steven Ell went to the Overseas Nationals at Le Blanc.
C. L.

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What a Retrieve!

With gliding you never know how the day will end, as Grenville discovered



Grenville, photographed with his four year-old daughter Eleanor, is a member of Rattlesden GC, flies a Nimbus 2 and has 500hrs, a Silver badge and Diamond goal.

It was a blue day in May. Cambridge GC were hosting the Inter-Club League in which I was competing. I had squeezed my large frame and a parachute into the tiny cockpit of the club K-6CR. Rob Smith was standing over the cockpit. I could hear his usual incantations about field landings and inexperienced young pilots. His wise words were interspersed with illuminating Anglo Saxon expletives. It wouldn't have been Rob without them.

Cable on. Up Slack. All out! And a 2000ft aerotow into the last remaining thermal which took me to 3000ft. The wind was south-westerly and the task was Tibenham. A simple downwind dash for the Novices. I was last to launch. All I could see were loads of blue sky. No circling gliders and a line of cumulus in the far distance where everyone else was.

So there was nothing for it but to glide in a straight line as far as I could and at least get past X. Before I knew it I had landed at the private strip at Newmarket racecourse. The place was deserted. I tried all three phone boxes around the circumference of the track. They had all been vandalised or were not working.

Standing idly around near the Newmarket Road, I noticed a sweaty but nevertheless rather attractive young female in a grey track suit appear as if out of nowhere.

"Excuse me" I said. "Do you know if there is a phone box that works round here?" Surprised, the jogger stopped and muttered breathlessly "Have you tried the one round the corner?" "Yes - it doesn't work - nor do the other two on the other side of the racecourse," I grumbled.

"Oh well, I'd better give you a lift into Newmarket and you can call from there," she said cheerily. Pleased with my luck, I got into her modest car, and we zoomed off towards Newmarket.

As I quietly sat there minding my own business, I saw her head turn towards me. "My name's Katrina. What's yours?" she asked, smiling brightly. Slightly surprised at her - well - friendliness, I replied. We chatted idly for a minute or two until we reached Newmarket town.

I remember it vividly. A line of bright red phone boxes standing proudly outside the post office. I reached for the door handle and said thanks for the lift, I'll phone from here.

There was a jerk, a slight screech of tyre on road and we made a very sharp right hand turn into a back street. "You can call from my house" said the sweaty, friendly jogger. Surely enough, we arrived at her house in the back streets of Newmarket. A simple terraced house. Nothing remarkable.

We went in, she pointed to the phone and disappeared. I phoned for a retrieve. Back she came. "You must be thirsty after your long flight - can I get you a beer?" "No thanks, an orange squash or something will do" replied I, modestly. "You must be hungry, can I cook you a meal? Omelette and chips perhaps? Would that be OK?" Although bowled over by her generosity I felt it only right and proper to decline.

Katrina and I sat talking for a while. "What do you do for a living?," she asked inquisitively. "Oh, I run this software publishing company in Colchester." There was a pause.

"I'm a pop star" said Katrina.

You could hear a pin drop. "Would you like to listen to some of my records?". A CD player blared out for ten minutes, but I didn't recognise much. Katrina sang along as if to encourage me to recognise her music. But no, I admitted defeat. "I don't think I recognise the tracks, but they sounded good anyway." "Walking on Sunshine" sounded vaguely familiar though.

A few minutes later, Katrina ran me back to the landing strip at the racecourse and soon after Mark Wright arrived and listened patiently as I re-told the story of the retrieve for the first time.

A trip to WH Smith the following day revealed conclusively that indeed I had just been retrieved by Katrina out of "Katrina and the Waves". Her picture was on the front cover of the album I bought. Almost exactly ten years later, Katrina won the 1997 Eurovision Song Contest. A whole gliding club moaned - shine a light - not that story again! Thanks again Katrina.

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IT'S ALL ABOUT ATTITUDE

A story which illustrates the elusive nature of gliding



Ian, who has just finished at Aberdeen University with hopes of becoming an airline pilot, photographed with the Junior. He still flies with Deeside GC as a university member and went solo with the Air Cadets in 1990.

August 1995; blue skies, big wave, bouncy thermals and as much gliding as this humble student could spend five hundred quid on. It seemed to me that summer that the sky in its subtle workings was teaching me a valuable lesson. It felt as though it was showing me that patience is indeed a virtue and, above all, was helping me to enjoy life all the more in the process. That well known proverb: "All will come to those who wait" rang true in my ears and saw me through the subsequent flightless year.

I had two weeks of uninterrupted soaring at Deeside GC and I was hell bent on one objective; to complete the Bronze badge syllabus and as much of the Silver as I could. Immediately after my time at Deeside I was due to begin a course of 15hrs powered flight training through an Air League Educational Trust flying scholarship, and naturally wanted the reduction in training hours that a Bronze and Silver badge allows a would be PPL holder.

Therein lay my problem; I had removed the element of freedom, the joy of flying for flying's sake, and had laid the foundations of frustration and dissatisfaction. In short, I had brought the rat race with me to fly. Luckily, the sky had a thing or two to say about that and eventually I saw the light!

The first day went quite well despite a cloudless sky and a three month lay-off. After a good check flight with the CFI (sometimes quite a scary bloke!) I was allowed to have a stab in the club's Junior. Let us say I was feeling not underconfident and ready to go and conquer the sky in my gleaming white chariot! Needless to say, an uneventful flight of just under 25min followed and this was enough to sort my attitude out for the next go. This time, I had no expectations and simply wanted to enjoy the soaring.

After descending without any luck from a 2000ft tow, I stumbled into a thermal at 1250ft, just when I thought I would have to join the circuit, defeated again. It was pretty gusty with strong intermittent peaks of about 6-8kts and took me up to 3400ft where it topped out.

I flew back upwind to the probable source and after groping around for a while, managed another climb back to 2500ft, repeated this and then scratched around at 1500ft for 10min or so before I came back in. To my surprise, I had been in the air for 54min! Now to me this was a considerable improvement on my previous record of 31min and the Bronze badge seemed to creep closer to my ever more desperate grasp.

At this point, I should have listened to the sky's subtle teaching and listened well. My first flight in the Junior, where I was full of high hopes, ready to break all known records and show the world what a great pilot I was, proved fruitless. My second flight though, in which I held no expectations and showed a greater degree of humility and respect, brought me tantalisingly close to that magic hour. However, I did not take the hint and went to bed that night practically convinced of getting my two Bronze legs the following day; after all I had come within 6min of one on the first day of my return to the gliding world.

Day two and the sky was to remind me again who was boss. I managed 25min in patchy and broken thermals on my first flight of the day with a moderate crosswind. As the day went on the crosswind strengthened and conditions on the tow and in the circuit were becoming quite rough. This left me grounded until the crosswind died down and the CFI deemed it safe for me to fly.

Consequently, I spent the best part of the day milling around, pushing and fetching gliders for the more experienced pilots and becoming increasingly frustrated. Eventually, though, the crosswind died down by early evening and I was allowed to go.

After a bouncy tow, I released east of the airfield and found myself in the middle of some pretty nasty rota. I was being thrown around all over the place and it is the closest I have ever come to sympathising sincerely with a pin-ball! There was strong lift, but I was repeatedly thrown out like some troublesome gatecrasher at an expensive party: "If your name's not down, your not coming in" the sky was saying. I suppose the conditions were what the old timers call "sporting", but little old me in my little glider had had just about enough.

By day five and seven flights later, I still had not come anywhere near an hour's solo and became quite depressed. Perhaps the sky took pity on me at this point, feeling that I had learned my lesson and now needed some encouragement, for the next day I managed to stay in the air for 52min! In gusty thermals!

It was then that I finally came to my senses. I asked myself why I was doing this gliding lark, spending all this time and money trying to stay in the air with aircraft that have no engines! The answer was simply that I enjoyed it, loved it, wanted to fly more than anything - not to get a PPL with less hours, not to work my way up the certificate ladder, but simply because the feeling of flying a glider is like no other. It brings you closer to the sky than any form of powered flight.

The sky demands respect and humility and brings great rewards. It is not something to be used, but something that is to be worked with; man, machine and environment in harmony together. This is what I was striving for all along; a close intimacy with the sky, not possible with powered flight, as fun as it is. The solution then was to chill out!

With this new realisation, a weight was lifted from my shoulders. If I did it, I did it, if not, it didn't matter. I would still have had two weeks tremendous fun and get to know the sky that bit more. On day seven I got my first 1hr flight and on day eight my second. On day nine I climbed to 6000ft in steady wave and looked out in awe at the views of Lochnagar and the silent majesty of the Cairngorm mountains. Oh, and I bagged my Silver height too.

That summer saw my love of gliding deepen to a more mature level, taught me the real reason why I fly, taught me that you can not rush these things and so after eighteen months with my feet stuck firmly on the ground, I'm back. And this time with the right attitude!

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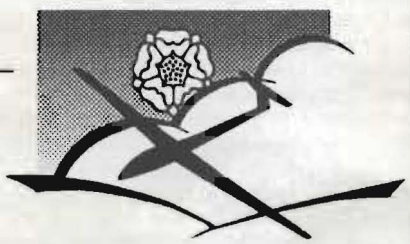
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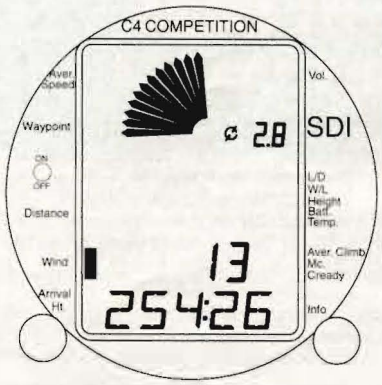
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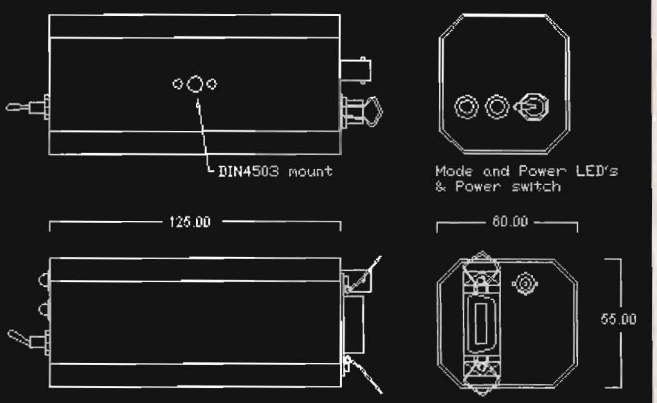
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BGA ACCIDENT SUMMARY

Compiled by DAVID WRIGHT

Ref. No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Injury	Hrs
143	PIK 20D	–	Minor	16.6.96	Incident Report	54	None	83

During the tow out behind a car the driver allowed the starboard wing to hit a hedge. This swung the glider around and the left wing hit the car.

144	K-13	–	Subst	–.9.96	Incident Report	66	None	1708

During crosswind winch launching operations a retrieve was diverted off the normal track to avoid a slope. This change took place after a launch started and the released cable drifted towards the towed glider. After trying to retrieve the cable before it fell over the glider, the driver cut the power but the cable damaged the wing.

145	Libelle 102B	3841	Minor	14.9.96 1534	Dunstable	69	None	543

The pilot received a thorough flying qualities briefing but not on the canopy locking mechanism. Shortly after take-off the canopy lifted and the pilot held it shut until he was at a sufficient height to sort it out. He could not shut it so held it shut down to finals when, adjusting the brakes, he lost his grip and the canopy flew off.

1	K-21	4105	Minor	2.10.96 1010	Portmoak	44 24	None None	1000 0

The student flew a normal full airbrake approach at about 55kts but rounded out rather too late and over-rotated. As a result the tail wheel impacted first and pitched the glider forward on to the nose wheel which was damaged.

2	SZD Puchacz	N/K	Minor	5.1096 1600	Camphill	57	None None	1000 0

At about 1200ft on the winch launch the weak link broke and, unknown to the pilot, the cable hit the tailplane puncturing the port tailplane and elevator. Demonstrating the effects of the controls to his student, he noticed a "rumble" similar to a loose tape. As this was increasing he made a precautionary landing and found the tailplane damage.

3	Ventus	–	Minor	–.10.96	Incident Report	53	None	

After a safe and uneventful field landing the pilot went to find the farmer and 'phone his club. When he returned he found the glider surrounded by young cows, one of which had broken and cracked the canopy.

4	ASW-19B	2552	Subst	13.10.96 1038	Feshiebridge	Minor		1151

The aerotow started normally until at about 20ft they hit severe rotor from local wave/hills. The tug was forced back, sideways,on to the runway and released the glider. The tug pilot managed to get airborne then land safely. The glider landed heavily, breaking the fuselage and injuring the pilot's back.

5	Janus CM Motor glider	G-LOAF	Subst	13.10.96 1630	Nr Gt Hucklow	48 57	None None	500 750

During a cross-country flight, after eight engine extensions and starts, the engine failed to start so the crew returned to ridge soaring while looking for a field. With few good fields they crossed the valley to land upslope and into wind. On final approach they saw power cables and in flying over these lost speed and stalled in from 20ft.

6	Std Cirrus	1706	Minor	17.10.96- 1615	Tomatin, Invernesshire	44	None	303

While outlanding on a wave cross-country flight a field was selected at 1500ft. A normal approach was made until during the roundout the pilot saw the line of an old stone wall that he had not seen from the air. He tried to hold the glider off to clear the stones but landed just short, damaging the underside of the nose.

7	Std Jantar	N/K	Minor	9.10.96 1740	Aboyne	49	None	150

After a wave flight the pilot approached at 70kts with the airbrakes open. It is possible that the noise in the cockpit may have prevented the pilot noticing that the undercarriage did not lock down and the gear retracted during the landing run on the runway. (It is not known if a warning buzzer was fitted.)

8	K-21	3673	Subst	18.10.96 1600	Torphins (nr Aboyne)	43	None	11

The low hours visiting pilot was soaring in wave when conditions deteriorated and pilots were called back. Descending through the nearest cloud gap the pilot found he could not recognise the area so called for assistance. Having identified his position he landed crosswind in a field damaging the glider's nose in the process.

9	K-13	3952	W/O	04.10.96	Aston Down	61	Serious	11

After a normal launch to 1400ft the pilot released and flew straight ahead. He then found his speed was excessive (80kts indicated) and he "could not control by the use of the stick". He used the airbrakes to slow and made a downwind crash landing. It is possible he was seated too far forward due to a seat insert and 'chute, obstructing the stick

10	K-7	–	Minor	?.10.96	Incident Report	None		

The aircraft was being moved from the hangar with the canopy held open by a club member to provide a hand hold on the fuselage. The glider's wheel ran into a pot hole and the person holding the canopy lost his grip and dropped it. The restraining strap broke and the canopy smashed against the side of the fuselage.

11	Astir CS77	3995	Minor	29.10.96 1617	Aboyne	36	None	175

Returning from a wave flight, the canopy iced up and a sleet shower near the airfield caused the pilot to fly a hurried circuit and miss his downwind checks. As a result he landed with the wheel updamaging the fuselage gel coat.

➡

12	Mosquito	2225	Subst	1.11.96 1130	Talgarth	52	None	1248

The pilot attempted to wave soar in deteriorating conditions but the cloud gap closed below him. Rather than flying east towards lower ground he elected to descend through cloud over high ground by using GPS. He made a distress call before breaking cloud just before hitting the hillside. Unhurt, he left the glider and walked back.

13	Ventus CT	R38	W/O	8.11.97	Aboyne	42	Minor	1222 1220

The pilot returned from a wave flight into known turbulent conditions due to rotor. He chose to fly a left hand circuit which meant he encountered very severe turbulence during which he lost roll control and crashed while being blown downwind. Club briefings made it clear that a RH circuit should be flown in these conditions.

14	Not Known	HQV	None	30.10.97 1030	Husbands Bosworth	52	None	23

During the flare the pilot closed the airbrakes too quickly causing the glider to balloon then stall and land heavily.

15	K-21	2591	Subst	15.11.97 1330	Booker	60 44	None Minor	705 0

The instructor, after demonstrating the airbrakes to his pupil, omitted to check they were locked before starting the aerotow. At about 130ft, and descending, the tug pilot had to release the glider. The instructor was slow to realise his problem and sunk rapidly, cartwheeling into the ground, fortunately causing only minor injuries.

16	SZD Puchacz	3864	Minor	161.11.97 –	Yeovilton	55	None	162

As the autotow launch commenced the vehicles engine hesitated causing the glider to overrun the cable. The cable became jammed in the wheel and could not be released by the pilot and the glider was dragged sideways. The tow driver could not operate his release due to the tension in the cable so had to brake hard before it would work.

17	K-21	3586	Minor	8.12.97 1126	Long Mynd	48 42	None None	650 85

The instructor arranged for a simulated winch launch failure at about 500ft. Despite the height and the lack of any headwind P2 decided to land ahead. Realising he was too high he sideslipped but took it off too early and landed well up the strip. The glider ran off the strip at low speed into a recently cleared area where it hit a small tree stump.

18	Astir	2582	Minor	04.12.97 1305	Tibenham	65	None	31

After a rather low circuit the pilot was seen to make a perfectly normal landing. During the ground run the glider ran over a rut and the pilot, who was wearing a hat with a "button top", hit the canopy and cracked it. He was using a seat cushion and this, combined with insufficiently tight straps, allowed enough movement to strike the canopy.

19	K-13	–	None	?.11.97 –	Incident Report	69 64	None None	1989 26

The two-seater was winch launched In calm conditions. At the top of the launch the pilot hung on rather longer than normal as he waited for the winch driver to reduce power. As a result of this and a changed upper wind the cable drifted over the winch and fell across a road, damaging a passing van.

20	K-7	1664	Subst	1.1.97 1419	Perranporth	47	None Minor	332 0

On a training flight P1 allowed the student to balloon to about 10ft and the glider stalled to a heavy landing on very hard ground. This pushed the wheel box up into the fuselage and damaged the structure.

21	K-7	2223	Minor	5.1.97 1241	Winthorpe	52 44	None None	676 0

The pre-solo student pilot flew a good circuit and approach without prompting. He then failed to round-out adequately and the instructor failed to take over in time to prevent a heavy landing which damaged the fuselage tubes.

22	K-18	2317	Subst	3.2.97 1130	Lasham	61	None	2.3

On final approach the, inexperienced pilot opened the airbrakes as he was a little high. He realised he was descending too quickly but did not fully close the brakes and as a result undershot the runway. The right wingtip hit a treetop which spun the glider into the ground.

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23	K-13	–	None	?.1.97 –	Incident Report	50	None None	1640

The experienced instructor was looking for local wave soaring conditions but was unsuccessful. The glider was seen to be rather low in the circuit and, because the sun was in the pilot's eyes he misjudged the approach and the glider undershot, brushing bushes before landing without damage

24	Motor Falke	G-FHAS	Minor	6.3.97 1435	Burn	68	None None	700

At about 3 to 4ft above the ground the motor glider appeared to round out and then balloon slightly. The nose was then lowered and the aircraft landed heavily nose down. The prop struck the ground before the motor glider bounced back into the air and settled into a normal landing.

25	K-8B	2307	Minor	14.12.97 1253	Halesland	48	None	12

During the winch launch ground run the glider hit a frozen molehill causing the pilot's head to hit the canopy quite hard. After this the launch continued normally, including through a "too fast" yawing signal. The pilot then closed the DV window and this dislodged the canopy which flew open. He closed the cracked canopy and made a safe landing.

26	Discus	N/K	Minor	7.3.97 1403	Sutton Bank	63	None	36

The pilot, upon returning to the airfield, encountered turbulence which became worse on final approach. At about 30ft he reduced airbrake and at this stage the canopy opened, closed then flew off, hitting the leading edge of the starboard wing. The pilot was surprised by this and the glider made a heavy landing.

27	Motor Falke	G-AYZW	Minor	16.3.97 1230	Portmoak	65 58	None Minor	2122 1032

After maintenance the motor glider's engine was ground run satisfactorily so an air test was made. After a good climb the engine was shut down and a glide approach made. After a sideslip approach the pilot encountered strong sink and was unable to prevent a heavy landing which burst the tyre and broke the prop.

28	SZD Junior	3951	None	08.3.97 –	Camphill	None	52

While towing the glider back to the launch point for its third flight of the day the next pilot heard an unusual rattle from the rear fuselage. Close inspection found the elevator disconnected. The pip pin for the locking sleeve had not been fully home and this had been missed in the DI, including full positive control checks.

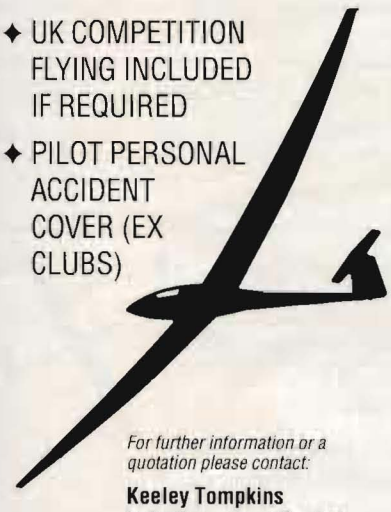
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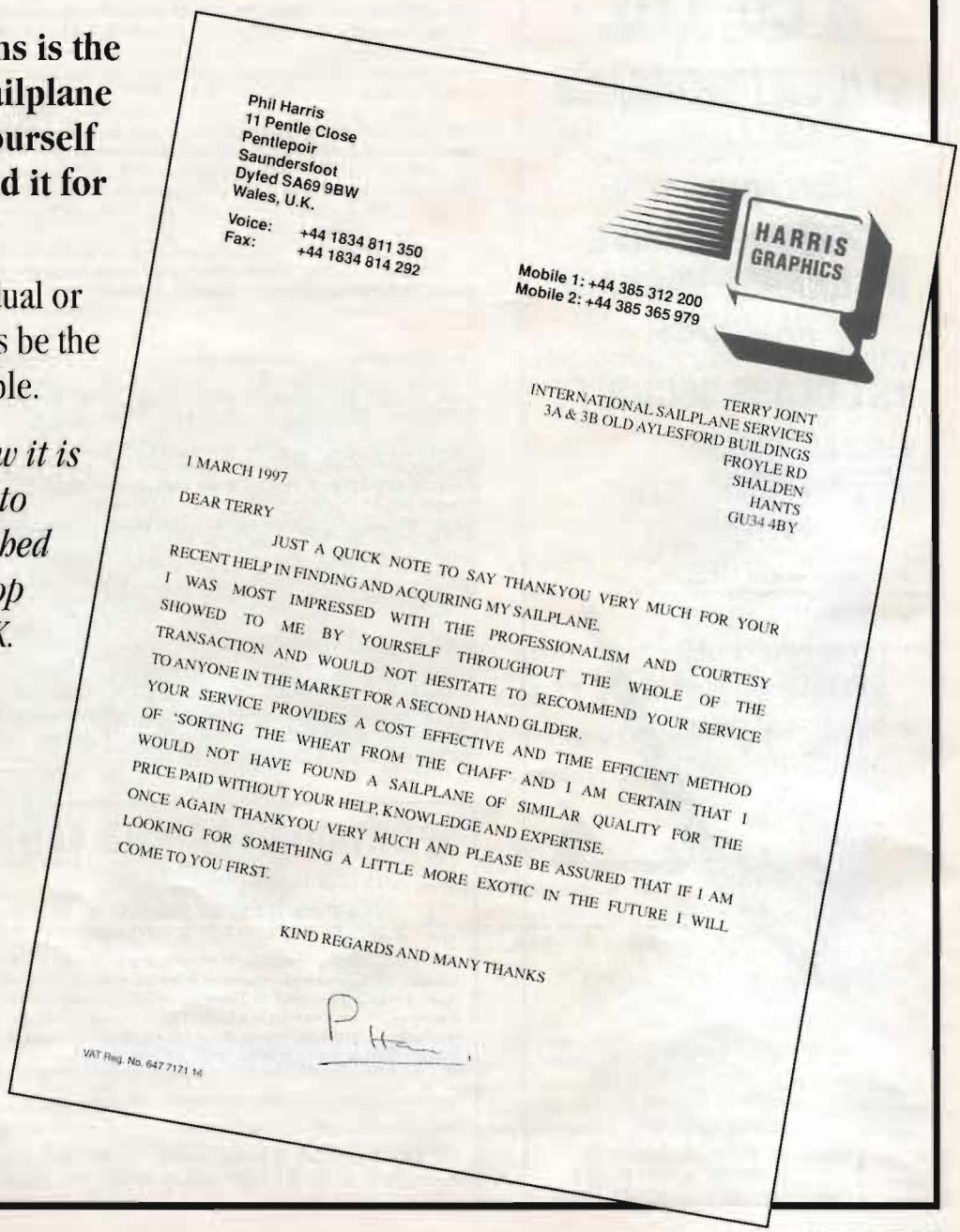
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On going to press we have the following results of the World Championships:

Open Class: 1. Gerard Lherm (ASW-22), France: 2. Didier Hauss (Nimbus 4), France: 3. Robert Schroeder (ASW-22BL). Germany: GB: 13. Philip Jones (Nimbus 3DT), 16. Robin May (ASW-25). **15 Metre Class:** 1. Werner Meuser (Ventus 2A) Germany: 2. Michael Grund (Ventus 2A), Germany; 3. Giorgio Galetto (Ventus 2A), Italy: GB: 5. Justin Wills (ASW-27); 11. Alister Kay (Ventus 2a); 12. Steve Jones (Ventus 2a). **Standard Class:** 1. Jean-Marc Calliard (LS-8A); 2. Jean-Derie Barrois (LS-8a); 3. Jean-Claude Lopitaux (LS-8), all French: GB: 5. Andy Davis; 12. Martyn Wells, 24. Brian Spreckley, all flying LS-8A.

A full report and results will be in the next issue.

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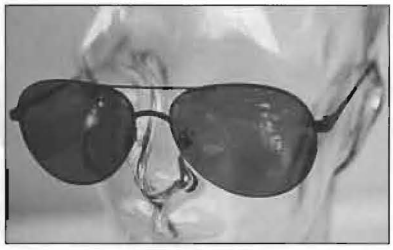
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				7th Jun	8th Jun	9th Jun	10th Jun	11th Jun	12th Jun	13th Jun	14th Jun	15th Jun	TOTAL
1st	K1	Kay A	Ventus 2a	0	986	1000	270	0	0	234	0	0	2490
2nd	110	Jones S	Ventus 2a	0	946	998	266	0	0	234	0	0	2444
8th	841	Dawson M	Ventus a	0	901	727	266	0	0	184	0	0	2078
9th	L88	Coward P	Ls 8	0	904	834	316	0	0	0	0	0	2054
10th	172	Morris G	ASW 20l	0	810	867	103	0	0	218	0	0	1998
11th	721	Johnston E	Ls 6a	0	899	796	0	0	0	235	0	0	1930
12th	C65	Crabb SJ	Ls 8	0	574	841	245	0	0	234	0	0	1894
13th	E1	Cheetham RA	Ls 8	0	956	422	295	0	0	219	0	0	1892
14th	104	Metcalfe G	ASW 24	0	909	616	176	0	0	190	0	0	1891
15th	L8	Edyvean J	Ls 6	0	610	763	270	0	0	232	0	0	1875
16th	D1	Shelton P	Discus b wl	0	812	666	196	0	0	186	0	0	1860
17th	76	Howes N	ASW 20	0	804	678	104	0	0	241	0	0	1827
18th	247	Dale G	ASW 24w	0	549	764	260	0	0	191	0	0	1764
19th	58	Lysakowski T	Ventus 2c	0	540	679	176	0	0	350	0	0	1745
20th	847	Marsh B	Ls 8a	0	422	754	359	0	0	186	0	0	1721
21st	218	Hurd P	Ls 6	0	859	672	0	0	0	186	0	0	1717
22nd	HPR	Fox B	Discus b	0	723	737	0	0	0	240	0	0	1700
23rd	135	Cheetham HE	Discus b	0	529	687	219	0	0	227	0	0	1662
24th	68	Cooper BL	Ls 6	0	849	793	0	0	0	0	0	0	1642
25th	634	Wilton JN	ASW 20c	0	549	852	0	0	0	193	0	0	1594
26th	42	Smith G	Ls 7	0	870	210	293	0	0	219	0	0	1592
27th	781	Langrick J	Discus	0	815	683	21	0	0	0	0	0	1519
28th	804	Westwood D	Ls 4	0	406	697	188	0	0	186	0	0	1477
29th	EFZ	Gardner DH	Ls 3a	0	400	702	176	0	0	195	0	0	1473
30th	Z1	Harvey P	Ls 6	0	857	355	0	0	0	240	0	0	1452
31st	HVR	Toon R	Discus b	0	451	798	193	0	0	0	0	0	1442
32nd	900	Starkey C	ASW 20	0	851	351	21	0	0	186	0	0	1409
33rd	676	Jordy M	Ls 6c	0	0	851	287	0	0	219	0	0	1357
34th	Z6	Housden S	ASW 20cwl	0	461	620	0	0	0	234	0	0	1315
35th	161	McCoshin J	ASW 24	0	406	678	0	0	0	212	0	0	1296
36th	526	Passmore NJ	Discus b	0	656	378	0	0	0	214	0	0	1248
37th	753	Forman M	Ls 7wl	0	406	354	196	0	0	241	0	0	1197
38th	586	Hatton AP	ASW 20f	0	549	421	0	0	0	219	0	0	1189
39th	S5	Freestone I	Ls 4	0	413	565	0	0	0	186	0	0	1164
40th	302	Nunn AVW	Szd 55-1	0	410	735	0	0	0	0	0	0	1145
41st	232	Rebbeck HA	Ls 4	0	516	410	158	0	0	0	0	0	1084
42nd	70	Murphy TJ	Ls 7wl	0	406	605	0	0	0	0	0	0	1011
43rd	126	Browne R	Ls 6c	0	176	413	182	0	0	227	0	0	998
44th	952	Durham MW	Ls 7	0	0	709	259	0	0	21	0	0	989
45th	646	Aldis CJ	Ls 4	0	364	329	0	0	0	172	0	0	865
46th	941	Lyttleton CC	Ls 6c	0	0	683	0	0	0	115	0	0	798
47th	659	Throssell MG	ASW 19 club	0	463	287	34	0	0	0	0	0	784
48th	658	Dalling R	ASW 19 club	0	0	329	78	0	0	0	0	0	407
49th	241	Gorringe J	Ls 6	0	180	0	0	0	0	0	0	0	180

For more information on the Ventus 2 and the Schempp-Hirth range of sailplanes contact:

Southern Sailplanes

Membury Airfield, Lambourn Woodlands, Hungerford, Berkshire RG17 7TJ

Tel: 01488 71774 (day) 01488 682058 or 668484 (eves) 0468 372806 or 0374 429404 (mobiles)

Fax: 01488 72482