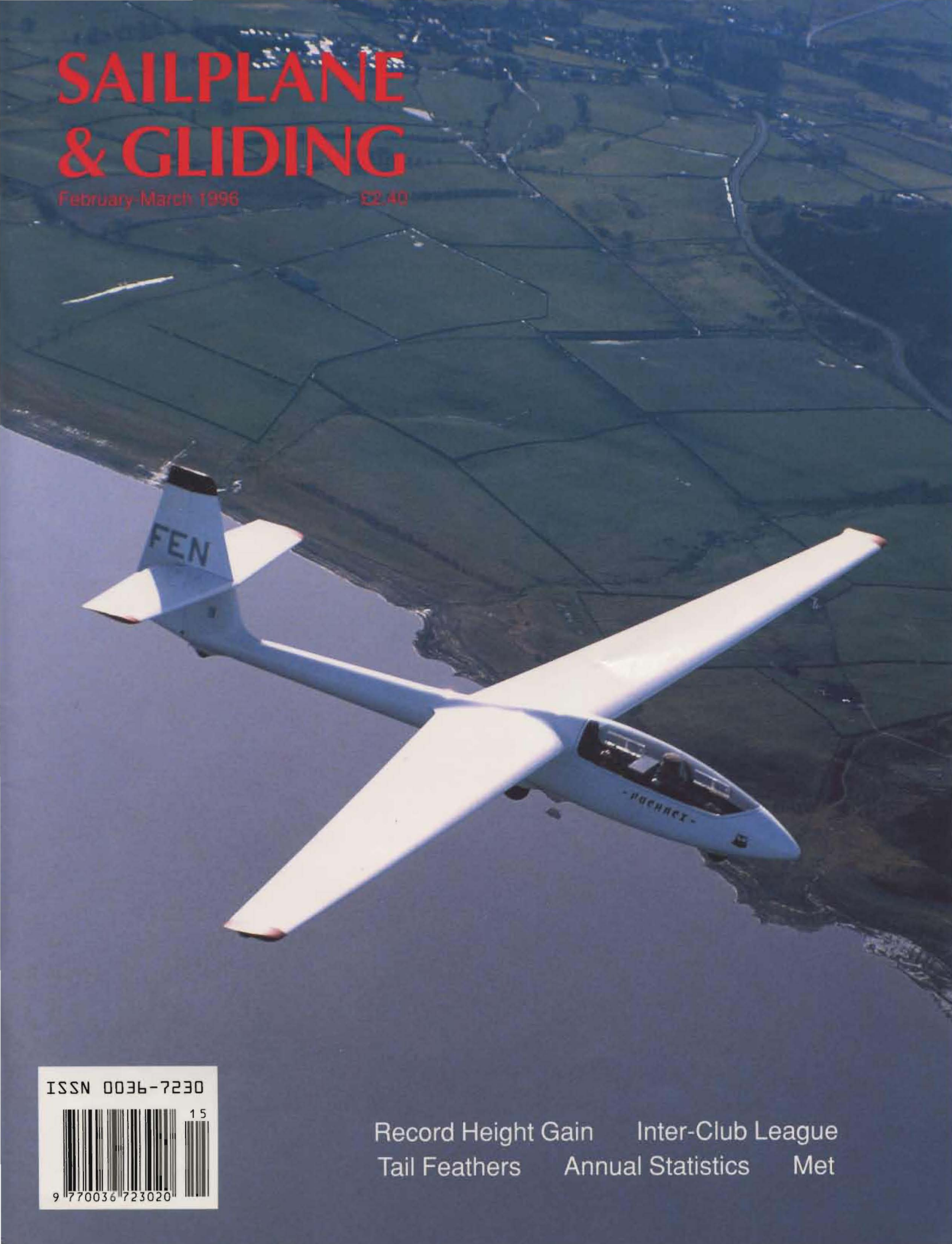
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British Gliding Association

February-March 1996
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Cover: Northumbria GC's Puchacz flown by Alan Scott and Rob Thompson over Derwent reservoir. It was taken by Tim Richardson of the *Durham County Magazine* for a feature on the club.

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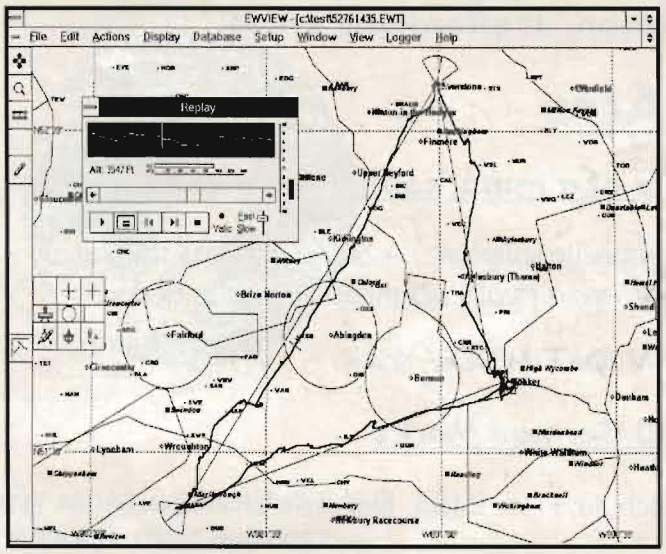
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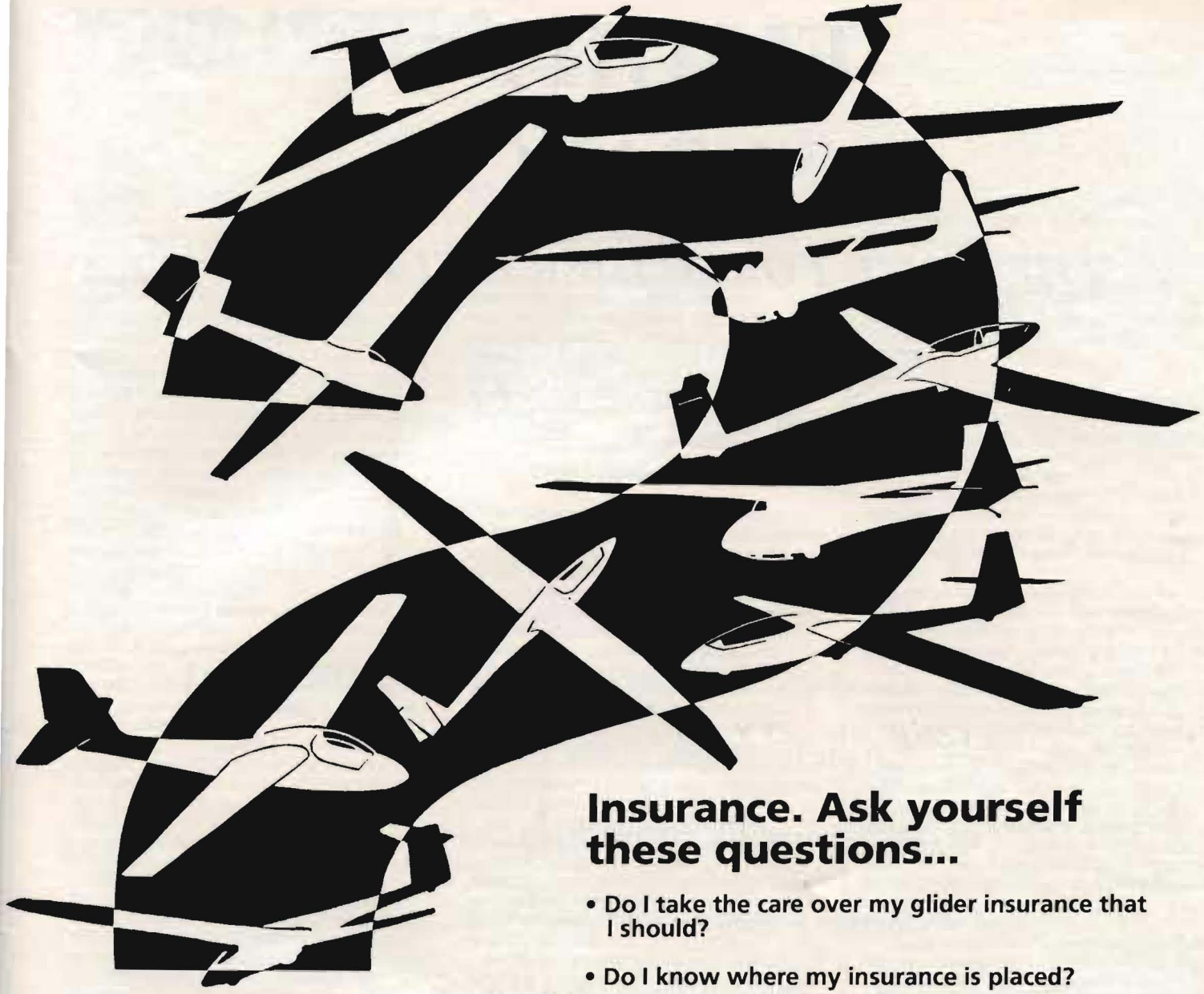
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YOUR LETTERS

LAUNCH FAILURE TRAINING

Dear Editor

When the first glass-fibre gliders appeared they quickly gained the reputation of being "slippery and hard to land in fields". Subsequently, the problem was identified as one of pilots moving from wooden gliders, such as Skylarks and Darts, which were excessively airbraked, to the lesser airbraked machines like the Libelle and Std Cirrus. The problem was not of the glider designer's making but one of training. With a glider with large airbrakes (most training gliders), it is possible to "dive" the glider at the ground (or aiming point) without excessive speed build up. Any extra speed gained over the desired speed is quickly lost due to the drag of the airbrakes when the roundout to land is made. With many glass-fibre gliders this is not the case as the smaller airbrakes will not dissipate the extra energy as quickly. The result is a longer float up the field.

The answer was found in education and training. Accurate speed control on the approach by using attitude control and using airbrakes to control the rate of descent was, and still is, regarded as the only safe way to teach approaches. This system will work on all types of glider.

The technique suggested in Chris Rollings article, "Launch Failure Accidents" in the October issue, p279, to facilitate landing ahead after a cable break, seems to take us back to the old habits. If this is the case then we can expect to see an old type of accident being resurrected, *eg* field landing overruns. While on this subject, there seems to be a school of thought that "the accident you will have if a landing ahead after a cable break" goes wrong will be less serious than one following a low turn. If the low turn results in a spin, this may be true, but those flying from a site where the boundary fence consists of barbed wire may disagree.

So please let's not dive into (no pun intended) crisis management solutions for accident prevention and as a result risk just swapping types of accident. If the BGA want to sort out winch launching problems, then surely a giant step in that direction would be to introduce winch launching on instructors' courses. After all almost four times as many winch launches are carried out in Britain as aerotows, and winch launch training has always been a glaring omission in our instructor training system.

I cannot absolve myself from blame in this area as during my time as national coach I also followed the system which allowed convenience and the time factor to dictate that such a fundamental part of instructor training be neglected. If available time on instructors' courses is a problem, then let's make an instructor's ability to teach winch launching an additional qualification, gained after a training weekend.

Surely we owe it to our students to be qualified.

KEN STEWART, *London*

Chris Rollings, senior national coach, replies: Ken's letter is interesting and deserves a response. It also gives me the opportunity to comment on Chris Chapman's letter in the last issue, p319.

To take Ken's last point first. When I took over from him as national coach I fairly quickly modified the system to require some post-instructors' course winch training (with launch failures) at club level. However, I agree with him that this is not enough. Our concentration of BGA instructors' courses at Bicester this season will enable us to make winch launching a standard part of the course from this year and Chris Pullen and I are currently working on the details of the new programme.

Regarding the suggestion that we risk swopping one type of accident for another, my advice in the article in question was aimed at developing a judgment that would avoid overrun accidents, but without unnecessary turns. But if I can swop spin in for overruns on a one for one basis I will.

Finally to the controversial point. Full airbrake and the most rapid acceleration that can *safely* be used with the available height will normally result in a shorter landing than a steady normal speed approach with or without sideslips. How much shorter depends on type and circumstances - certainly the advantage is less with the Libelle or Std Cirrus than with better braked types, but it is still usually an advantage.

The exception is if the glider is fairly low and there is quite a strong headwind when the acceleration may just enable the glider to penetrate into wind better. This would only occur from well below 200ft in a wind of 20kt or more - surely a case for a straight ahead landing anyway?

My article suggested trying the technique in safety from a normal height approach with the whole airfield available as an undershoot. Ken, Chris and all the other sceptics, try it and then discuss it. Don't theorise in a vacuum.

Dear Editor,

I found Chris Chapman's letter on launch failure accidents and approach angle control very much a curate's egg. I have presumed to make my selection of the key point, using his words with mine in brackets.

"I can't think why it (losing excess height by using full airbrake and increasing speed for a short time) hasn't been suggested before, and I'm sure it will do wonders for (reducing) the accident rate."

As far as I am concerned this technique has been in extensive use as a safe way of reducing excess height for many years. In my case ever since I stopped instructing in the T-21 and T-31. In my soaring flights I have not had to sideslip on the approach for decades, either into airfields or fields. In instructing (K-13 mainly, but also glass two-seaters) I have often had P2s who were attempting ill-flown sideslips, unnecessary S turns, or (even worse) a 360, in the circuit.

I have then shown them how to burn off energy quickly and safely by a combination of full airbrake and a slightly higher speed than normal for a short time, before returning to the normal approach angle before landing. You can lose energy by utilising an increase in V^2 as well as by putting up C_D.

Of course sideslipping should be taught, like stalling, spinning and launch failures but, like these other exercises, not carried to excess in normal flying when it is not needed. I also seem to remember that it is sideslip which turns a slow speed situation into a spin, and how do you know your airspeed when sideslip causes the ASI to go bananas?

I am not saying that a properly flown sideslip is necessarily dangerous, but it is an unnatural mode of flight, tricky for inexperienced pilots to get right, and has caused problems and accidents by unnecessary use near the ground.

Finally, I note Bill Scull's very sensible safety advice on p352. "Spin avoidance means ➡

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IAN STRACHAN, *Lasham*

MOTOR GLIDERS IN COMPETITIONS

Dear Editor,

I would like to reopen the debate on turbo (and motor) gliders being permitted to fly in competitions with their engines available for retrieves. I believe the situation has changed since the decision was taken some years ago to disallow self retrieving gliders from scoring in competitions.

The time has perhaps come to permit such gliders to compete normally in Regionals and Nationals. The domestic (non competitive) advantage to the pilot in reduced crewing logistics is quite considerable. The avoidance of field landings must also be desirable from the accident and insurance point of view.

It used to be said that the motor glider held a considerable advantage over the pure glider since it could go lower searching for lift before putting on the engine and climbing away. This is actually not the case since a competition pilot may well soar away from a thermal contacted at only 300 to 400ft in the circuit into a field landing. A prudent and sensible motor glider pilot would have started his engine a good 500ft higher (to allow for the possibility of failure to start). Thus he will have chosen his field considerably earlier than the pure glider who will have gone further on track than his motor equipped opponent.

The pure glider also has a small advantage over the motor glider in having a wider range of possible wing loadings and the ability to drop all water for the lightest possible wing loading in weak conditions.

With the advent of GPS recording and scoring, it would be a simple matter to score a motor glider, in the case of an "outlanding", to where his logger records the engine on.

Perhaps we could have a one season trial of turbo/motor gliders being allowed to self retrieve in competitions to see if there are in fact any problems - maybe they are only imagined

RODNEY B.WITTER, *Glyndwr Soaring Club*

ENTERPRISE v OUR WEATHER

Dear Editor,

Enterprise 1995 at Sutton Bank from June 30 to July 7 brought home to a number of people the fact that the Enterprise task setting philosophy (ETSP) produces a lot more airborne time, often in exceedingly interesting and unusual conditions, than would have been the case for a strictly rated competition. (Although one has to concede that ETSP does increase the chance of luck affecting the day's individual scores.)

The last Enterprise managed eight out of eight days, approximately 650hrs and 26 146km (32 competitors) when it is fair to say that a strictly rated Comp would have had three or at best four mediocre contest days.

Unfortunately ETSP is not compatible with the current rating rules and this is in effect an open letter to the BGA Competitions Committee suggesting some change is needed. Hopefully it will stimulate as wide as possible gliding fraternity debate on the need for a change in the rules to allow more use of our (usually) deplorable British weather. Yes, I know, some of July and most of August was unbelievably good, but when will that happen again in this, our normally green and pleasant land?

For starters, how about the idea of discounted ratings for competition task setting which is deemed to produce a degree of "unfairnes" between competitors? This would allow at least some points to be gained and at the same time use our fickle weather to the best advantage. Would such an arrangement placate the competition purists who naturally, and rightly, are continually seeking a totally level playing field on which to conduct their battles to be declared "the Champion".

Having read most National and top International reports, it does seem reasonable to suggest that in most cases there is really more than one Champion. The top five or so equally deserve the title but, dare I say it, for the little bit of luck that pushes one of them in front of the others! It is of course accepted that the more proficient you are the less *pure luck* affects the final issue, but in gliding it is hard to see lady luck being eliminated completely.

I suggest a lot of pilots would prefer a Comp which allowed a lot more flying time, even if there wasn't a strictly equal opportunity to be declared "the winner". There is little doubt that even a relatively experienced competition pilot can learn quite a lot from the sort of flying undertaken during Enterprise competitions. I guess many who give up their hard earned annual holiday only to sit on the airfield contemplating their navels would consider a devalued rating an acceptable compromise.

Well, how about it Competition Committee? Any chance of giving serious consideration to partial rating for Competition Enterprise, given acceptable verification of tasks achieved?

Before I get shot down by all and sundry I should perhaps declare my interest. I have to admit to being rather ancient (I started gliding in 1947), a devotee of Enterprise from the very first North Hill event and having always had in the back of my mind that the *majority* actually enjoy flying without having to compete against anyone except themselves.

This raises the even more fundamental question "Does the current National and International competition structure serve the majority to best effect." I am certain no one would suggest that competitions are a bad thing - they obviously advance most aspects of the sport in many different ways and give a relatively small number of people a great deal of pleasure and excitement - but have we reached the point where the effects of undirected progress in the name of competition excellence should be reassessed in terms of its value to activities other than competitions, which is by far the largest section of the gliding world.

I wonder if I am one of the many who feel that we have?

JOHN CADMAN, *Birmingham*

A MEMBER OF PLAT'S JONAH CLUB

Dear Editor,

Platypus had better look out. He has a serious contender. Not in wordsmithery - I couldn't hope to equal his talent - but in Jonahship.

Who was it who took a week of such poor weather to the Scottish Regionals that not one contest day was achieved? Who had to drive home the next day looking at a sky of classic wave until Edinburgh, followed by classic cumulus as far as Scotch Corner - and then % clag?

Who spent the whole of July, the middle of what should be the wet season, working in Guinea where it rained so little that famine loomed? Who had opened his big mouth about wave offering the only realistic possibility of 1000km in Britain - and missed the Yorkshire GC's July 6 wave day when 700km was flown in an SHK? Not to mention all the rest of that July weather.

I too have offered to go away in return for cash. At Aboyne all I asked for was the price of a day's salmon fishing. Those Scots aren't so canny after all; none of them would subscribe. They could have been on a winner - salmon fishers *need* rain. But I think Chris P. and Chris R. owe me at least one beer apiece.

One tip for Plat though. The best competition weather I ever had was at Nympsfield a few years back. I'd been scheduled for overseas but at the last minute the trip was postponed and there was still a place in the Regionals. ➡

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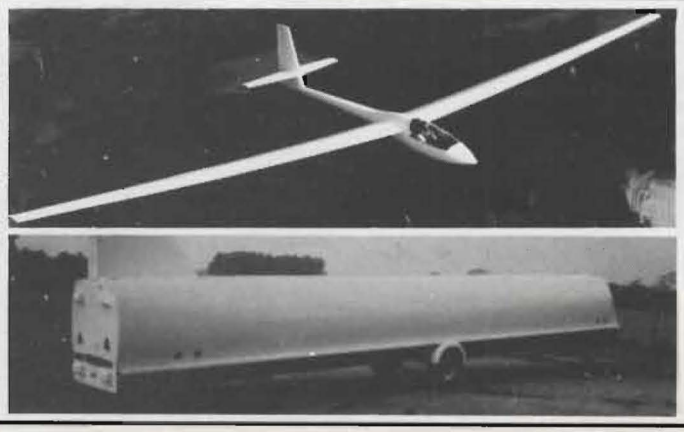
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Evidently head office "up there" were a bit overworked and hadn't updated their computer. Keep them on the hop and you might beat them too.
SAM. St PIERRE, *Bedale, North Yorks*

COBRA TRAILERS AND 8MM BOLTS

Dear Editor,

I read with interest the letter from Julian Fack in the June issue, p131, concerning collapsing lids on Cobra trailers.

I also own a Cobra trailer of 1989 vintage and perusing the Internet-Newsgroup **rec aviation soaring** read an entry by David Noyes from Ohio, USA who had read Julian's letter and found that bolts in his own 1991 Cobra were now S-shaped.

I found that my trailer is equipped with 8mm bolts (19mm heads) and one could see a slight offset. I checked an older Cobra trailer to find a clear offset and discovered a considerable offset on the club's ASW-19 trailer.

A club member phoned Spindelberger's and three sets of 10mm bolts appeared within a few days. Many thanks to Julian and *S&G* for bringing this to our attention.
HOWARD MILLS, *Pinneberg, Germany*

We welcome your letters but please keep them as concise as possible and include your full name, address and telephone number. We reserve the right to edit and select.

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BOOK REVIEW

Beginning Gliding - 2nd edition by Derek Piggott, published by A & C Black and available from the BGA at £14.99 including p&p.

I very much enjoyed reading this revised edition of what has become a standard work on flying training in gliders.

Derek has covered the subject material in a clear and straightforward writing style which belies the wealth of technical content.

This is not an impersonal text book: the whole process of learning to fly is viewed from the perspective of the students and their problems and feelings that arise during each phase of training.

The book is packed with excellent drawings and diagrams and has been extensively revised to include the latest thinking on landing and circuit flying.

A completely new chapter has been added on winch launching containing, not only how to get into the air using a piece of wire and hundreds of horse-power but the all important awareness of the implication of launch failure and the state of mind to be cultivated to ensure personal safety.

I was pleased to find a complete absence of mathematical formulae even in areas which traditionally can be littered with symbols - stalling and spinning, centre of pressure movement and the like. The nearest the book gets to mathematics is in the short section on dynamic soaring, *ie* how birds use the wind gradient to extract energy, which contains two equals signs! I have to confess that until reading this section I never really understood the maths in the original Lighthill paper on the subject.

If there is anything missing it must be the limited information on soaring and cross-country flight but, as Derek points out in the foreword, this is the subject of another book.
Conclusion : An excellent book for the beginner plus something for the instructor and pundit.
STEVE FOSTER

CANOPY COVERS

Please take time to ensure that canopy covers are put on the right way round, with the stitches (and the clean side) on the inside. If you put them on inside out the dust gets trapped next to the canopy and scratches it.

We have lifted this useful tip from Shalbourne Soaring Society's splendid newsletter and thank them for including us on their mailing list. We do get a few other club newsletters but would welcome far more as they give an interesting insight into the character and progress of the sport at grass roots level.

Also members are generous enough to allow us to reprint articles which often deserve a far wider readership. Now that desk top publishing is more in use, the presentation of newsletters in general has improved tremendously with some very professional results.

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TAIL FEATHERS

If you want to know the price, you'd better be sitting down first

When in the last century a millionaire acquaintance of Commodore Vanderbilt, amateur sailor and professional robber baron, inquired what it cost to run a yacht, he got the characteristically arrogant reply "If you have to ask, you can't afford it". A similar sounding but more endearing response was made by Fats Waller to a woman who asked him exactly what he meant by rhythm. "Lady, if you gotta ask, you ain't got it!" When I decide that I can't afford the effort and expense of gliding I might well take up jazz piano



Take up jazz piano.

instead. (Alistair Cooke still plays jazz at 88 years, so it is obviously good for the constitution; the BGA and Lloyds will be glad to know that by that age I shall have hung up my John Willy and will be emulating Fats, except for the bottle of gin on top of the joannah; that stuff is death to French polish.) You don't have to rig the bloody instrument every time you want to sit down at the keyboard, and with what it costs to fly big wings each year I could buy a new Yamaha or an old Bechstein.

The dismal science

There is more drivel spoken, and believed, about the costs of gliding than about any other aspect of the sport. Someone who talks great sense about thermal centring, or is an acknowledged authority on incipient spins, or is always heeded respectfully on the topic of contest winning will, the moment the price of gliding is raised, start uttering the most mind numbingly cretinous fantasies. For instance, Fred will say cheerfully that he has "made a profit" on his Discus because he hears that a second-hand specimen has just changed hands for more than he originally paid for his in 1984. It may be so: certainly the Discus has been the best buy of the 1980s and the 1990s, having defied every effort by other designers to render it obsolete. (Nothing debases the value of a glider faster than suddenly ceasing to be competitive in serious championships, and the Discus is still a contender.)

But the owner will ignore the fact that the pound sterling has halved in purchasing power in the past 12 years[1], or be unaware that the chap who got such a good price spent £10 000 not long ago on refinishing the gel coat and rebuilding the trailer. What our smug friend does not do is ask what it will cost to replace his old ship and all the accompanying kit with a brand new outfit.

Either he is lying to us (which is perfectly OK) or he is lying to himself (which is unforgivable) but most likely he is too economically immature to be allowed out of the house with any sum of money greater than the bus fare.

Haemorrhaging dosh, moolah and spondulicks

The fact is gliding is a ruinously expensive pastime. (For Pete's sake I've got advertisers to keep happy! Ed.) Well, let the chips fall where they may, *ruat caelum*, is what I always say.

I have tried calculating the costs of owning a glider, and have even bounced these sums off professional accountants. Since these accountants are also keen glider pilots, you would think they would be able to analyse what I propound and quickly confirm my thesis or put me straight if I am in error. However that is not what happens. My sums come winging back to me with muttered remarks like "Well, you *could* look at it that way" making me aware yet again that accounting is an art rather than a science. Obviously I have just ruined their whole weekend by compelling them to apply their professional skills to matters which they did not want to think about. It's like doctors not wishing to confront the possibility of having themselves contracted a socially disastrous disease.

The other thing that terrifies the male, seriously-married-accountant-glider-pilots is that my sums might by chance fall into the hands of their wives, whereupon the roof will rise as if in the grip of an August 1995 thermal. "You said it was equivalent to a cheap holiday in Spain once a year - it's more like a moon landing every month, according to this fellow member friend of yours!"

"That'll teach you to open my mail: you were perfectly happy until breakfast time. Anyway he's no friend of mine. And his sums are rubbish."

"Are they now? Explain precisely in what way they are rubbish."

"It's too technical and complicated to explain" (desperately).

"Come on, humour me, you forget I read maths at Cambridge."

In the worst case, accountants (gliding) who have married accountants (earthbound) have no escape at all, except an elaborate web of forgery, which could prove costly if used as grounds for divorce.

"I grant Mrs Pinchpenny a *decree nisi* on grounds of severe mental cruelty and gross deception. Instead of carrying on discreet affairs

[1]And has he seen what has happened to the Deutsche Mark in those 12 years?



Just ruined their whole weekend.

with other women like any normal man, her husband flaunted extravagant new sailplanes in public while she languished at home, humiliated by his inept falsehoods relating to their true costs, which he strove to minimise with a tissue of fabricated syndicate expenses. In addition to stiff alimony, I award her, to dispose of as she wishes, Mr Pinchpenny's new motorised ASH-25. I see he has this rather neat piece of kit in the books at only £8000, so he should not feel the loss too severely, heh heh." (Judge, lawyers and public gallery collapse in merriment, not shared by Mr P.)

Sleepless at Schempp and Schleicher

Soaring magazine, our American cousin[2], is required reading for several reasons, but the most compelling one must be Dick Johnson's enormously influential flight tests. All around Europe, when a new issue of *Soaring* is about to hit the streets with Dick's findings on the latest competition sailplane, glider manufacturers take to their beds, draw the curtains, ply themselves with ulcer and heart remedies and lie quivering in the dark, bracing themselves for a horrible shock or even for two or three shocks. Then if the news is not too dreadful they can heave a sigh of relief and bless themselves for having got off lightly - this time. "Please, God, make him stick it to one of my rivals and I'll go to church every Sunday, I promise." You know, the sort of prayers you make in deep sink at 400ft which you forget as soon as you hit solid lift.

They're very well spoken of in the advertisements

Keeping the glider-builders honest is a worthy crusade. When calculating a final glide I always



Keeping the glider-builders honest.

say you should take off one point for bugs, two points for bad air and three points for advertis-

[2]I believe that is the title of the play that Mr Lincoln was watching when he was assassinated, but I hope *S&G* readers in the USA won't mind.

ing. Manufacturers' brochures promise the most amazing performances such as 48:1 for a 15 metre glider. (I'm staggered that nobody has yet rounded up these figures and promised 50:1 for 15 metres, but no doubt it will indeed soon happen. No, not the performance, just the promise.) So an objective and much respected pilot with vast experience and no commercial axe to grind must be welcomed as a sort of white knight. By contrast, the selfless pursuit of the truth, the whole truth and nowt but the truth is not what one ought to expect from people who make their living making and selling aircraft. Finding the unvarnished facts and printing them fearlessly is somebody else's job. Dick Johnson's job.

NB. We have just had a letter from Gerhard Waibel at Schleicher, and he says the starting point of the ASW-27 polar (for which 48:1 is claimed - Plat) is that of the ASW-24 which was tested L/D=44.

Potty about the holes

You are all waiting for a "but", aren't you? Or even a "BUT". Well, so far it is a small "but", no bigger than a man's hand, as they say about incipient cu-nims on the horizon. The chief "but" is my incredulity at what I call Dick's "black holes". A typical Johnson polar does not look like the smooth geometric curve you will see in any manufacturer's brochure but has a nasty dent in it close to where the max glide point ought to be.

Now so far as the European glider manufacturers are concerned these holes in the polar simply don't exist. A cynic might say "They would say that wouldn't they?"

However my own feeling about Johnson's holes - speaking as one whose reputation as an aerodynamicist is celebrated in the pubs of Totternhoe, even if it has not reached the *bierkellers* of Poppenhausen - is that they are about as counter-intuitive as expecting a cannonball to do a loop in the middle of its trajectory. ("Counter-intuitive", incidentally, is a smart contemporary expression meaning "My insides don't believe it but don't ask them to explain why".)

At one time I thought these holes were simply an effect of flaps which introduced a discontinuity in the configuration of the glider, and therefore not wholly counter-intuitive (that word has had three goes and I promise not to use it again in this issue) but Dick has produced polars for unflapped gliders that display the same revolting pothole. So it seem to be an inherent characteristic of polar curves, escaped only by camber-changing aerial machines such as vultures.

If you can find a better 'ole, go to it!

An engineer friend years ago told me the tale of another engineer who did a test from which he obtained a solitary point. He then drew a beautiful curve - which did not go through the point. This story is told with approval, quite rightly. The engineer is using a mass of prior knowledge gained from thousands of case studies, so that he knows the general shape of the curves, and how much to aim off for errors in measurement etc. That is why, given one point, he can predict where the whole curve should lie, like a paleontologist reconstructing a dinosaur from one knuckle.

Of course Dick is using not one but dozens of points in establishing the polar of any one sailplane, but the general principle of applying generalised prior knowledge to fill in the gaps in particular cases is similar. Thus although the distribution of points on some of Dick's curves does not, to my eye at any rate, suggest a hole, it might be that the patterns obtained from an accumulation of hundreds of other flight tests have convinced Dick that the holes are probably there, even when they are hard for the rest of us to discern. No I'm not being ironic. It's a serious proposition.

This is where computers might come in, to dissolve away the unavoidable scatter and "noise" from dozens of flight tests on different gliders, and after allowing for obvious differences in overall performance, to leave us the typical classic polar, rather like when computers superimpose hundreds of faces to find the typical human visage. Would that analysis show a natural tendency for polars to show a kink just a few knots above the best glide - or would it show a smooth curve, and the holes, kinks or whatever you call them about as substantial as phlogiston?[3]

I don't buy it but...

You know how a small boy, who jeers when an older boy tells him that if he steps on the cracks between paving stones the Devil will rise up out of the ground and grab him, will nevertheless pick his way very carefully between the cracks



Between the cracks.

from then on. In the same way, though I say firmly that I do not believe in Dick's holes, not for one minute, I find myself lurching from 60kt to 80kt pretty abruptly to avoid spending any time in Dick's imaginary doldrums around 70kt. My passengers have also commented in a variety of noises and colours. It seems their inside do believe something quite strongly, but maybe it is to do with my flying rather than my polar curves.

[3]Look that up yourselves, you failed GSCE science crowd.

NEW RECORD

Terrence Delore of New Zealand has had his world free distance record homologated. He flew an ASW-20 2049.44km from Wigram Airfield, New Zealand and departed from Kowhai river bridge, turning at Seddon Hotel, Five Rivers' Garage and Medway river bridge, landing at Queenstown Airfield.

The flight was on November 5, 1994. The previous record was held by Karl Striedieck (ASW-20B) of USA with 1434.99km on May 12, 1994.

FUENTEMILANOS

John Le Coyte has good news for the fans of Fuentemilanos, a site he describes as "the Mecca of cross-country flying in Spain." Foreigners can now fly with the Spanish GC in their gliders (LS-7, Astir or Acro) or bring their own, paying Spanish rather than German prices. John says his bill for last year was a third of the previous years, and he has flown there for the last seven years when costs were high because of the affiliation with the Oerlinghausen Gliding School of Germany.

He says that nearly every day during the summer 300 and 500kms are possible with 1000kms flown on the better days. July 29 was a particular special day, see below.

The organisation, he adds, is still run by Oerlinghausen with morning briefings etc and flawless launching facilities. Ingo Renner gives advice on the ground and in a two-seater Nimbus.

For further details contact the Aeronautica Del Guadarrama, Aerodrome de Fuentemilanos, Segovia, Spain. John says he would be happy to talk to anyone considering a visit. His tel/fax is 01793 790954

And just to whet your appetite and back up John's claims, we have been sent the following:-

On Saturday, July 29, 15 gliders from a Ventus to Nimbus 4 flew 1000kms from Fuentemilanos. For seven pilots it was their first 1000km. Part of the flights were flown at 13 000ft amsl and the Ventus averaged about 130km/h.

This is already number one on the list of sites where 1000kms have been flown. (Translated by Alan Harris from *Aerokurier*.)

VINTAGE DATES

The 1996 Rendez Vous International VGC Rally is to be held at the historic gliding site of Rana u Loun, 60km NW of Prague, from July 29 to August 4. Rana is known as the Czech Wasserkuppe because of its hill and it's where the German Erwin Primavesi flew for more than 2hrs in 1932 in a Zögling Primary. The contact is Josef Mevera, Nalepky 2233, CZ 44001 Louny, Czech Republic.

The 24th International VGC Rally is from August 6-16 at Farkashegy, near Budapest.

The contact is Laszlo Meszaros, Erkel u40, H-1092 Budapest, Hungary, who speaks perfect English and German.

CLUB COURSES

As well as the success of the BGA courses a lot of pilots write to compliment various clubs on the quality and enjoyment of their flying weeks.

There seems to be a trend for those unable to fit regular gliding into their life style to book holiday courses once a year just to keep in touch with the sport. Also the BGA coaching programme is again comprehensive for the coming season (see the BGA News in the last issue, p351) and these carefully constructed courses offer a way of taking a step forward in your gliding expertise and confidence.

The new coaching secretary at the BGA office is Ruth Sands who has full details. 'Phone her on 0116 2531051 or fax 0116 2515939.

LOOK WHERE YOU'RE GOING!

This article is not in fact about collision avoidance but about avoiding unexpected spins

New ideas in spin training being researched at The Gliding Centre by Bruno Brown and Mike Cuming, backed up by Dave's "simple" school maths, suggest that it really does matter where you look while turning at low level. Here's why.

Wingtip moves backwards

Oh yes the wingtip moves backwards while you're turning doesn't it. So what? Everyone has known for years that the wingtip appears to move backwards while you're turning. It can be pretty to watch while you're thermalling. Instructors know and hate this phenomenon because they want the pupil to see the horizon ahead and control the attitude/speed or slip/skid a bit better. Not everyone knows, however, that the effect reverses at low level and then the wingtip appears to move forwards over the ground while you're turning.

Reversed effect traps the unwary

The trap occurs when a pilot is making a low-level turn which will often be on to a defined track (*eg* towards a runway or other chosen landing area). If the pilot makes the mistake of concentrating exclusively on looking towards his "target" track, perhaps 45° to one side of the nose (or worse, gazing directly down the wing in horror as the treetops appear almost to touch it!) then the wingtip will be in view and below a certain height may give the impression that the glider is not turning. Application of more rudder will swing the wingtip rearwards and this will make the picture appear more normal - so of course this is what most pilots will subconsciously do. The trap is now ready to spring.

Here's where the spin comes in

At some stage following the application of extra rudder the pilot will look over the nose again (quite possibly in response to a perceived change in noise or attitude or feel). Since the application of extra rudder while banked will have caused the nose to go down, it follows that the view over the nose will include an unexpectedly large amount of ground, particularly in view of the low height. Notice that the erroneous control input to get into this situation is rudder (*ie* unbalanced flight), however the instant response of most pilots seeing nose-low and lots of ground will be to pull back on the stick to alter the attitude.

Cool dudes will of course spot the out-of-balance (slip ball, yaw string or feel) and solve the nose-low attitude with rudder - as they should. But then cool dudes don't get into this mess! At airspeeds of 50kt or less the stick force required to pull the stick back to the stalling position is quite low and the ensuing spin entry is accompanied by little *g*, buffet or other warning , most symptoms being masked by the sideslip which is of course present.

Wind makes it worse

The height at which the apparent motion of the wingtip reverses goes up as we fly faster (*ie* on approach the speed goes up on windier days) - so it makes sense to make your final turn higher when its blowing hard. Crosswind matters too, since an excess drift over the ground while turning on to the runway can also present a strong temptation to pull back on the stick.

200ft plus 100kt/10kt of wind

Here's the bottom line. At 200ft (or 300ft with 10kt of wind, or 400ft with 20kt of wind) the apparent motion of the wingtip reverses. If, by some misfortune, you are obliged to conduct turns below that height, then beware - for the wingtip motion will tempt you to over-rudder (even if some other bad motive doesn't) and at that height you can't afford to spin. Ignore the wingtip, keep the aircraft balanced and whatever you do, don't pull the stick back through the stalling "gate".

Summary

This may explain why instructors have for years been trying to get final turns complete by 300ft - perhaps without knowing why. It may also explain several recent spinning accidents in which gliders made successful launch failure recoveries and turned back at lowish level only then to spin in during the final turn at significantly less than the "reversal" height.

The remainder of this article provides an explanation in terms of simple school maths of why the effect happens, calculates heights at which it happens and shows that the heights at which we are briefed to make our final turns in various windspeeds are safe in theory as well as by tried and tested experience.

Zero wind

If you look down the wing in a turn, the wing defines a line of sight approximately at right angles to the direction of flight. Not quite at right angles because the wing will be a little behind you but the approximation will serve to explain what happens. As the line of sight is at right angles to the direction of flight and as the glider is turning, the line of sight passes approximately through the axis about which the glider turns. Point C in Fig 1 is where the line of sight intersects the axis.

At normal flying heights point C is above the ground and you cannot therefore see it. If the glider flew at a height *h* so that point C coincided with the ground, the point C would be visible as the point on the ground aligned with the end of the wing and would appear stationary in relation to the wing.

At normal flying heights, above height *h*, the line of sight defined by the wing passes through the invisible point C and meets the ground at a point G_1. Since the line of sight continues to pass through point C as the glider flies along an arc in the turn round point C, the point G_1 at which the line of sight intersects the ground is beyond the axis of the turn and appears to move backwards as the glider turns.

If the glider is below height *h*, the line of sight defined by the wing still passes through point C, but the point at which the line of sight intersects the ground is inside the axis of the turn and appears to move forwards as the glider turns.

We will now show that the height *h* is around the same height as we make our final turns.

Let centripetal acceleration due to the turn be a
Let the mass of the glider be m
Let the angle of bank in the turn be α
Let acceleration due to gravity be *g*
Let lift resolved in the plane of the paper be l
(*ie* ignoring drag)

The lift vector is equal in magnitude and opposite in direction to the resultant f of the forces caused by the centripetal acceleration and the acceleration due to gravity acting on the mass m of the glider.

From the triangle of forces

$$\tan\alpha = \frac{ma}{mg} = \frac{a}{g}$$

But from the radius of the turn and height

$$\tan\alpha = \frac{h}{R}$$

Therefore

$$\frac{a}{g} = \frac{h}{R} \qquad \text{eq 1}$$

But the magnitude of centripetal acceleration $a = \frac{v^2}{R}$ where v is the airspeed

substituting for a and cancelling like terms in equation 1:

$$h = \frac{v^2}{g}$$

So the critical height at which the wing begins to reverse its apparent direction over the ground in a turn depends on the square of the height but is independent of the angle of bank.

Effect of wind

Referring to Fig 2 and 3, the effect of wind will be worse when the glider is downwind at point A, *eg* at the low key point. This is because the point C is moving downwind at the windspeed so counteracting the apparent backward movement of the wing even if the glider is above the critical height *h*.

When the glider is crosswind at point B the windspeed has no effect on the apparent backward motion of the wing.
Let the wind velocity be w.
Let the excess height at which the windspeed

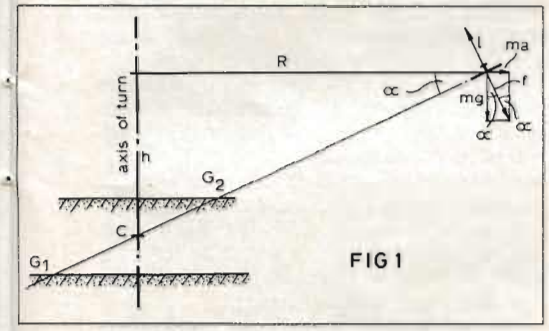


FIG 1

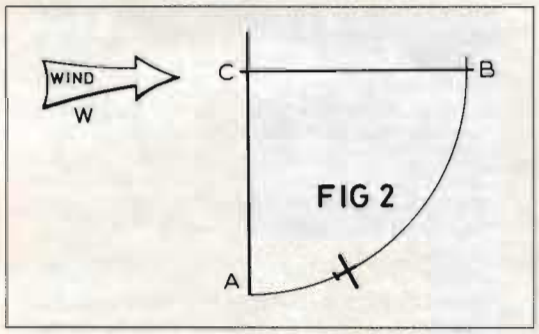


FIG 2

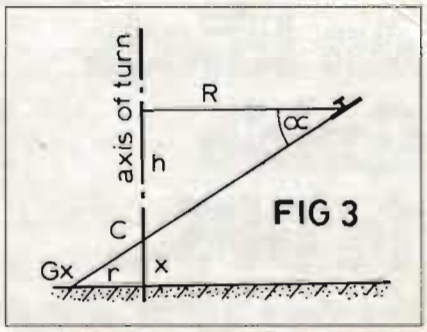


FIG 3

cancels the apparent backward motion of the wing be x.

Let the distance along the ground from the axis of the turn to the point Gx where the line of sight down the wing intersects the ground be r.

The point Gx is pivoting about the axis of the turn with a velocity equal to the windspeed w, but since the axis is going downwind at speed w the point appears stationary.

By inspection $\frac{w}{v} = \frac{r}{R}$

(Think of the line of sight as a lever with the fulcrum at point C.)

By similar triangles $\frac{r}{R} = \frac{x}{h}$

Therefore $\frac{w}{v} = \frac{x}{h}$

And $x = \frac{wh}{v}$

At the low key point, select approach speed which we have a rule of thumb to derive, *eg* approach speed equals 50kt plus half the windspeed. We thus know the airspeed v during the turn on to base leg and final turn.

Putting some real numbers in :
Windspeed = 0kt, reversal height = 217ft.
Windspeed = 10kt, reversal height = 312ft.
Windspeed = 20kt, reversal height = 417ft.
Windspeed = 40kt, reversal height = 671ft.

Or to put it another way:
Approach speed = 50kt, reversal height = 217ft.
Approach speed = 55kt, reversal height = 312ft.

So it is sensible to make your final turn higher in windy weather when your approach speed is higher, not just to avoid the wind gradient but also in case you inadvertently look down the wing. And you want a final turn at well over 200ft even on calm days.

More to the point, look ahead, fly balanced and learn to disgregard the apparent change in the wingtip movement.

GUILD OF AVIATION ARTISTS

The annual exhibition of The Guild of Aviation Artists will be at the Carisbrooke Gallery, 63 Seymour Street, London W1 from July 9-19. The major award will again be £1000. This is an open competition and entries are invited. For more details contact the secretary at 71 Bondway, London SW8 1SQ, tel 0171 7350634.

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An Idiots Guide To GPS...

And where "yachty" products may prove useful

As we glider pilots know, there are a number of excellent suppliers of GPS systems but some new to the sport who find this latest technophobic wizardy beyond them, might find this explanation useful. And they may save some money in the process.

Aids to navigation. It is only about 45 years since the first radio direction finding (RDF) receivers became available for use in small craft (mainly boats) at costs that were affordable to the private owner rather than fleet operators. Since then the silicon chip and widespread use of microprocessors have revolutionised both electronic equipment and navigational techniques. From the early 1980s, when the Tansit satellite navigation system and Decca became widely available, there have been considerable developments with various types of navigational aids.

But it should be emphasised that the growing number and bewildering variety of navigational aids and position fixing systems should always be considered as aids, not as replacements for more traditional or fundamental methods of navigation, such as using your eyes and maps.

Global Positioning System. As most readers will know, the Global Positioning System (GPS) provides highly accurate world-wide, three-dimensional position fixing coverage together with velocity and time information in all weather conditions. Within GPS is the Standard Positioning System (SPS) which is available to all users at no cost and will provide horizontal positioning within 100m on a 95% probability basis. Accurate time plays a vital role in GPS, so each satellite is fitted with two caesium and two rubidium atomic clocks. Timing accuracy is vital because being 1/1000th of a second out can produce an error of 161nm. Four satellites will always be visible at elevations greater than 5° and most modern systems will tell you how many satellites can be "seen" by the receiver and the signal strengths available.

GPS gives the accurate measurement of distance from a receiver to the number of satellites whose precise positions in space are known - each satellite transmits a message saying "this is my position and this is the time". The accuracy of a GPS fix varies with the capability of the user's receiver, however, there is a built in inaccuracy for non-military GPS equipment users which for obvious reasons I can't go into here.

There are a wide range of suitable receivers, including portable handheld ones. Typically these display latitude/longitude, course made good and speed made good, altitude, range and bearing to a waypoint (TP) and an estimate of the error in the position, information on the satellite status and the best satellites for fixes.

Other GPS systems. Differential GPS (DGPS) is a technique used to improve the accuracy of the basic GPS SPS system. Suitably located DGPS monitoring stations determine the range of errors by observing real time GPS signals and comparing them with predicted signals expected at the specified reference point. It then sends corrections to users in the area over selected radio beam frequencies without detriment to the DF or homing signals.

A radio receiver capable of receiving radiobeams, equipped with suitable demodulators for DGPS messages, is interfaced with the GPS receiver and will automatically apply the transmitted corrections to the navigation data. DGPS is expected to give navigational accuracy of better than 10m (and even better than that if you are a Tornado pilot!).

Initially, DGPS will appeal to a limited number of competitive yachtsmen and glider pilots but may well gain more widespread popularity later.

Where "yachty" products may prove useful... As a part-time sailor as well as glider pilot/owner, I have discovered that these GPS instruments, and many more types in various guises and specifications, are available from the sailing fraternity. If you don't average or exceed say 90kt groundspeed then some could be useful for the less competitive, less ambitious gliding fraternity with smaller budgets. Or it may be worth having a second cheap £150 one strapped to the car dashboard for your retrieve crew to determine which cornfield you are hiding in, and some handheld systems have OS co-ordinates as well for those who like that sort of thing.

For example, in most yacht chandlers there are some attractively priced semi-portable and handheld GPS systems starting at £160 including VAT (a new Philips model just announced), going to mid range "moving maps" handhelds at £255 including VAT (baby Garmin 45) and upwards to more sophisticated portable and bulkhead mounted Philips, Magellan, Eagle, AccuNSAV Sport (a rather attractive handheld), Lowrance Global, Garmin and other systems.

They may have certain nautical terminology or features like waypoints and man over board (MOB), but this could also be useful if you got yourself lost, and MOB could be programmed as your home airfield or last TP, then it will auto reverse the course heading for you to fly. But remember the nautical GPS systems generally update their positioning data less frequently than the aeronautical equivalents and cannot guarantee accuracy if you are a high speed (90kt) pilot. No comments please from you glass ship owners!

I invested in the latest Garmin GPS 45 hand portable. At 15cmx5cmx3cm, weighing just 9oz and giving 20hrs use on four AA batteries (or powered by 4v-40v supply with suitable lead), it is small and light enough to be strapped above the knee or fixed in the cockpit with velcro.

Chandlers also stock some very useful items that may be utilised by glider and trailer owners who need robust switches, a wide and weird variety of stainless steel catches, hooks, lights etc, handheld and fixed wind direction indicators for the clubhouse or launch point caravan, glassfibre repair kits for wing dollys or trailer repairs, mildew stain removers, a wealth of different ropes for tie-downs, weather-proof clothing, wind generators, solar panels etc.

I suggest a visit to these Aladdin caves of alternative goodies that may be cheap but where safety is concerned, stick to tried, tested and approved aircraft certified products.

The lower cost (circa £250) handheld nautical GPS products include:- alpha numeric keypads, ten reversible routes with 20 waypoints each, 100 user entered waypoints for single routes, satellite status, LCD backlit screens, rolling road display, numeric heading or compass display, lat/long OS co-ordinates + altitude, range rings with zoom and pan, one-held operation, fuel and trip planning, moving map graphics, active course-to-steer displays, man overboard button, GOTO commands, detachable antenna for remote mounting, various NMEA inputs/outputs, "arrived at" graphic and audio TP messages, dry nitrogen filled cases, built-in simulator, user prompt help menus, sunrise/sunset times, real-time world clock, 15-20hr battery life, ETA information and real-time graphic course/track plot.

My thanks to Russell Simpson Marine at Brighton for the latest information on GPS systems and the Garmin GPS 45.

Editorial comment: The 1995 amendment to the **Sporting Code** makes provision for GPS for badge and record flights. However, this amendment points out that only the types of GPS and logger equipment specifically approved by IGC will be able to be used for FAI evidence, and such equipment will have to have a certain amount of security protection built in. Pilots buying off the shelf equipment should bear in mind that it may not meet the IGC specification and so not be able to be used for IGC flight verification purposes. BGA competitions are a separate matter and GPS and logger equipment is subject to the approval of the BGA Competitions Committee and not IGC.

LIMITED EDITION GLIDING PRINT

An award winning oil painting of a Skylark 3 under a magnificent soaring sky, by Margaret Kahn of the Guild of Aviation Artists, has been produced as a limited edition full colour print measuring 475x347mm.

It is priced at £10 and Margaret is giving all the profit, to be shared equally, to the BGA Philip Wills Memorial Fund for gliding site acquisition and the Lasham Trust.

You can order copies from the BGA office, your club secretary or direct from Wally Kahn c/o Lasham Gliding Centre, Alton, Hants GU34 5SS. Please make cheques payable to W. A. H. Kahn, adding £3 for p&p in the UK.

YOU CAN BE LUCKY TWICE!

1995 was quite a season for Chris, BGA senior national coach, and here he describes his second memorable, record breaking flight

Regular readers of *S&G* will recall reading in the October issue, p280, Chris Pullen's story and my commentary on our 1000km flight in July. As I drove north to Aboyne on September 30 I was daydreaming of how nice it would be to achieve a 10 000m height gain whilst there and so be the first in the UK to double all three Diamond requirements (and all in two-seaters at that).

The first week's course produced six out of seven flyable days with wave up to around 20 000ft on three. The last day, Saturday, October 7, produced only weak thermals and gave me the chance to keep the first half of the promise to fly Aboyne's two tuggies in the DG-500. Alex Hartland had a short flight as well as Richie Toon, who was helping me run the course.

The forecast for Sunday was a fairly strong SSW wind with a warm front going through overnight leaving us in a warm sector. Ideal conditions for wave but perhaps too cloudy and probably too windy. Saturday night was a fairly late one for Richie and me, so when I looked out at 8/8 stratocu and a strong wind on Sunday morning I didn't knock on Richie's door, but left him to sleep in and went to the airfield alone arriving at about 7.45am.

(I should explain that there was only one person booked on the course starting on Sunday, and he had been told to join the visitors' briefing at 9am.)

I was greeted at 7.45 by Alex and the other tug pilot, Bryony Hicks, eager to get the DG-500 and fly. Two gaps had opened in the stratocu - a very small one immediately to the south (over Glen Tanar) and a larger one four miles to the north-west in the lee of Morven (the standard spot for contacting wave locally and one of the best, if not the best, hot spots in Scotland). It was obviously Bryony's turn and we quickly towed out to the launch point, dressed for altitude and prepared to launch.

At this point we could not see up through the gaps in the stratocu from the airfield and had no idea what upper clouds there were. Bryony flew the take-off and the first part of the tow to get back in gliding practice after a lot of Pawnee and Cub flying.

As we flew out under the gap in the lower sheet of cloud the biggest, highest and most impressive upper level lenticular I have ever seen came into view. It was immediately obvious that the diluter-demand oxygen system fitted by RD Aviation for us two weeks previously was about to start earning its keep. The high level lenticular looked to be about 30 000ft and I was confident enough whilst still on tow to say to Bryony that I thought we would reach that height.

Release from tow was at about 3000ft above Aboyne (3470ft amsl) and we started to climb almost immediately in the broken lift on the edge of the stratocu. It took me about a minute to realise that even at that height the wind was about 60kt and there was a brief interruption as I pushed forward at 80kt to establish in the best lift. After that (to the disappointment of everyone who hears the story) there were no problems.

I had feared that a 60kt wind at 3000ft would mean an impossibly strong wind at high altitude, but in fact the wind hardly changed at all. As our true airspeed increased above our indicated speed as we gained height, it became possible



This photograph of Chris and Bryony, with Lionel Sole, (Deeside GC's chairman) on the left, and Dave White, CFI, was taken shortly after landing,

first to maintain station at 45kt and then above 20 000ft to track up and down the wave at that speed.

Rates of climb as I recall were 8kt at 5000ft, 10kt at 10 000ft, 9kt at 15 000ft, 8kt at 20 000ft, 7kt at 25 000, 5kt at 30 000, 3-4kt at 35 000 and 1½kt at 38 000ft. The biggest surprise of all, it wasn't at all cold in the cockpit, even at the top of the climb. I never bothered to put my gloves on.

We reached the base of the big lenticular cloud at 28 000ft and we were still several thousand feet from the top at 38 000ft. When we were getting near the base of the lenticular we tried exploring a few miles further to the west along the cloud, but found the rate of climb less there and returned to our original position where the climb picked up again.

The stratocu below us had been reducing throughout the climb and by the time we reached the top was down to about ⅜ giving a magnificent view of all of Scotland barring the west coast.

With plenty of oxygen left and cloud amounts below us reducing, the decision to descend was taken with a much reduced rate of climb, meaning that considerably more time would be needed either to find better lift (I'm sure there was some to be found) or to climb significantly higher in what we had.

My view was that with the two-seater and single-seater maximum height records comfortably exceeded there was little point in greatly extending the period at what I regarded as higher risk altitudes for just a little more height. (I regret that to some extent now. I think we probably came down too soon, but too late is much too late and just right is hard to find.)

The descent with full brake at about 70-75kt was uneventful. An initial rate of descent of 3800ft/min was reduced to 1000-2000ft/min once we were below 20 000ft and I switched to 100% oxygen and stayed on that down to 8000ft to try to make up for any deficit higher up and speed up restoration of full cognitive facilities.

Over Glen Tanar at 2000ft we proved to ourselves that we could have climbed away again if we wished. Then a bumpy but uneventful circuit and a straightforward landing 2hrs and 12min after take-off. Then champagne and forms.

Footnote. As we landed Richie Toon and a course member were climbing towards 31 500ft in the BGA Puchacz. Later in the day Lemmy Tanner reached 36 000ft still climbing in his Vega and broke off the climb because his (repaired) canopy was making ominous cracking sounds. Richie reported a 14kt rate of climb at 20 000ft, the best I heard of that day.

The strong crosswind and turbulence restricted launching to the more experienced pilots so the day of days produced a record but unfortunately not a vast crop of badge claims.

Finally - do I want to go back up there again?. YES. I can't wait for the chance.

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British Gliding Association

THE 1000 CLUB MONTHLY LOTTERY

A great chance to win substantial cash prizes and at the same time enable the Philip Wills Memorial Fund to make loans to clubs for site purchase and development.

1000 is the target number of members to participate in this monthly lottery which started in July 1992. When 1000 members subscribe £1.00 a month each then the monthly first cash prize will be £250.00.

HALF of the proceeds go to the Philip Wills Memorial Fund to help with its work in developing BGA clubs and the other HALF is distributed each month in the form of 6 CASH PRIZES. The more participants we have, the greater the prize money pool.

1st PRIZE – 50% of the prize money pool.
5 Runner Up Prizes of 10% each of the prize money pool.

Chances/numbers can only be bought from the BGA at £1.00 each. Those whose money has been received at the BGA by the end of each month will then participate in the draw on the first Wednesday of each following month. Tickets will not be issued in order to keep the administrative costs low but each member will purchase a "number" which will go into the draw. It is hoped that members will purchase 12 months' worth of tickets at a time. Winners will receive their prizes direct from the BGA and a list of their names will be published in S&G.

Please complete the form below and return it to the BGA with your payment. Please note that only BGA members and their families may participate and that the BGA is registered under the Lotteries And Amusements Act 1976 with Leicester City Council.

Barry Rolfe
Promoter

To: Barry Rolfe, British Gliding Association, Kimberley House, Vaughan Way, Leicester LE1 4SE

Please include me in the "1000 club" and I enclose £12.00 (payable to BGA) for twelve months of entries, or multiples thereof.

Name ..... Signed .....

Address .....

.....

.....

BAFO REMEMBERED

The yellow golden wings are small, just under two inches, but of intricate design. The letters B and G stand out right away, the intertwined C appears later. Closer examination reveals an A above the O which encircles the first three letters. These wings are the emblem of the Association of BAFO Gliding Clubs, wherein BAFO stands for British Air Forces of Occupation.

These clubs were part of a very special era in the history of British gliding. It was a time when the very best of aircraft and some of the best sites in northern Germany were made available to the rank and file of the RAF and to a fortunate few others. I was one of the latter in 1949.

As the allied forces overran Germany at the end of the war, they came across a multitude of gliders. Some were shipped to Great Britain and the United States for analysis. Most of those in the American zone were destroyed as representing "war potential". The majority were burned. At least one, the fabulous Darmstadt Akaflieg's D-30 Cirrus, was dynamited. A large number of aircraft from the French zone were shipped back to France for eventual use by their gliding clubs.

In the British zone, someone in a position of authority thought gliding and soaring could become a rather useful recreational activity which might help to improve morale among the occupying forces (and might keep them from indulging in some other officially less desirable activities). A very few clubs were formed by the Army, at least one by the Navy, but the majority were under the aegis of BAFO. After all, who was most likely to be interested in flying?

Some of these clubs were based at RAF airfields in northern Germany: Fassberg, Gütersloh, Lubeck, Luneberg, Oldenburg and Wahn come to mind. A few were at traditional pre-war soaring sites like Oerlinghausen, Salzgitter and Sylt. However, the crown jewel was the AHQ club at *"der Ith"* or, as we called it, Scharfoldendorf.

"Scharf" was one of the premier sites in Germany. Certainly it was the best in the British zone of northern Germany. Only the Wasserkuppe was clearly more famous. The site at Scharf is somewhat similar in configuration to the Long Mynd or Sutton Bank but on a much larger scale. They fly from the top of the ridge and it was, without doubt, the most beautiful site from which I have ever flown.



Bert and the SG-38 at Scharf. He gained his Silver badge in the Minimoa while with BAFO. A member of the Arizona Soaring Association, he is a regular visitor to Europe and has flown at many UK sites.

As J.S.R.Salmond described it in the February 1956 issue of *Gliding*, p27: "...no more perfect setting for gliding can be imagined. A huge meadow thickly carpeted with cowslips and purple ladysmock, it is set on top of the 12 mile limestone ridge clothed in beech forest, with similar foothills of the Harz mountains rolling away on all sides."

Flying took place every possible day, all year long. The lift off that 800ft ridge was best in a west wind; east winds were usable though the lift was never as strong. That limestone ridge could generate wonderful thermals. I even flew in wave there once - it was weak but smooth. We didn't know what it was back then.

We all learned to fly by the traditional *einsitzer* method, solo from the start, using a primary glider (SG-38) and progressing to the Grunau Baby, which introduced you to soaring flight,

The BAFO wings above were drawn by Bert's granddaughter, Liz Nieboer.

You didn't know it then, but flying the old SG was probably the most pure fun you would ever have in any kind of aircraft. There was something very special about the feel of the wind in your face and the humming produced in flight by all those wires. When there was snow on the ground, you could even make a few snowballs to take aloft to throw at the winch driver or at other unwary spectators (a benefit denied pilots of modern sailplanes).

More importantly, of course, by learning the basic principles of solo flight you developed a degree of self-confidence that would never leave you. The aircraft we had in 1949 would gladden the heart of any vintage enthusiast. In addition to the SG-38 and Grunau Baby, I had the privilege of flying the Kranich, Mü-13, Minimoa and Weihe at Scharf and the Govier, Rhönbussard and Mü-17 at other clubs. A Rhönsperber was in our shop for repairs but I never got to see it fly. Several other clubs had the Meise.

There was even a Horton 4B (later identified as LA-AD) at *der Ith*. I saw that fantastically beautiful sailplane fly and, unfortunately, cartwheel while landing along a steep slope. It never flew again and is now being restored to become a museum piece in Germany.

The privilege of flying these classic ships, as well as participating in club activities (to include instructing *ab-initios*) and competing in the 1949 BAFO gliding competitions were wonderful, never to be forgotten experiences.

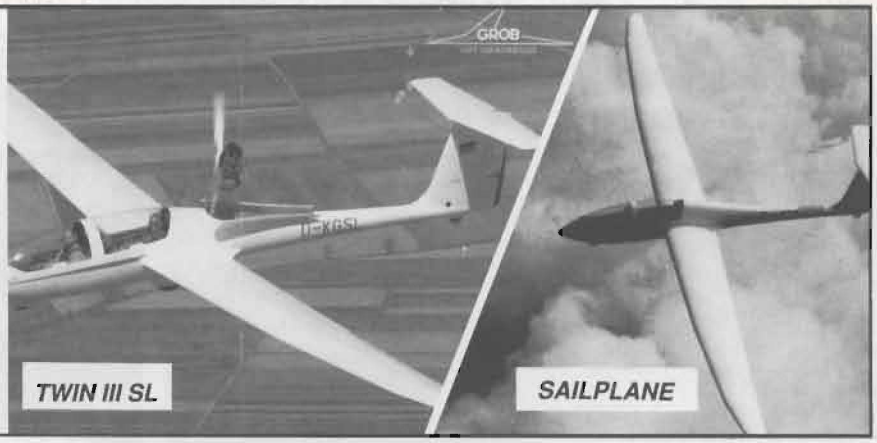
The BAFO clubs produced hundreds of enthusiastic pilots and some soaring superstars. Robert Forbes gained Gold badge (No.3) and flew in the World Championships of 1948, 1950 and 1952. Peter G. Mallett, with Gold badge No. 7, flew in the 1948 and 1950 Worlds. Other familiar names include Wally Kahn (Gold badge No.10) and Andy Gough. People to remember indeed.

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TOM BRADBURY

LAYER CLOUDS

Those who only have a vague idea of the influence of various clouds will look at the sky with new interest and authority after reading Tom's article

Cumulus clouds appear all the year round in tropical regions but over the UK they become increasingly rare in winter. Quite fierce cu-nims do occur even in midwinter but they are nearly always concealed in the ubiquitous layer clouds. Here are some notes on layer clouds, starting from the top and working down.

Noctilucent clouds

These are extremely high cloud layers which can only be seen at night during the summer months from places north of latitude 50. They occur at heights around 80-85km and are visible because they are still illuminated by the midnight sun. These clouds show signs of wave activity and elements appear to move at speeds of 100 to 300kt.

Cirrus (Ci)

The name comes from the Latin "cirrus" meaning lock or tuft of hair. Cirrus is the highest cloud layer normally visible. It is formed of ice crystals which may refract sunlight to produce a halo round the sun.

The commonest effect is a ring of 22° radius round the sun but there are several other phenomena such as arcs and "mock suns" which appear from time to time.

Cirrus hooks and fibres

The ice crystals in cirrus fall much faster than the droplets of water in lower clouds but they are slow to evaporate and so form long trails. Cirrus trails often form in unstable air below the tropopause; individual puffs rise like small cu with a lift of a couple of knots. These initial clouds may even contain supercooled droplets of water for a short time but they rapidly become ice crystals. These ice particles then curl over in the wind shear and start to descend.

Fig 1 illustrates three stages in the formation of cirrus hooks and fibrous trails. The trail of sinking crystals is carried away by the strong winds aloft to form hooked fibres which are aligned along the wind shear. These clouds are also called "mares' tails". (Photo A.)

If the shear is due to speed change alone the cirrus trails give a useful guide to the upper wind direction. However, when both windspeed and direction alter with height the cirrus streaks become confusing and may seem to cross.



Photo A. Strands of fine cirrus

Cirrostratus (Cs)

The word stratus comes from the Latin. It is the past participle of the verb to flatten out or cover with a layer. Cirrostratus sheets are the first sign of the widespread uplift of air, usually ahead of an active frontal system. These sheets grow to cover thousands of square miles.

Anvil cirrus

The most powerful uplift occurs in cu-nim clouds. The updraft inside a massive cu-nim may reach 100kt or more and when this reaches the tropopause its momentum carries it on to produce a dome which penetrates the stratosphere. Here the cloud top is very much colder than the surrounding stratospheric air. The lift ceases but the momentum is deflected horizontally to form the typical cu-nim anvil. In still air the anvil spreads out all round the summit of the cu-nim but when there is a strong upper wind the anvil cirrus is carried downwind, often for scores of miles and

Photo B. Thickening cirrostratus spreading from the right and killing the shallow cu below.



Photo C. A band of jet stream cloud spreading from the NW (right to left) ahead of a distant front.





Photo D. Thin altostratus degenerating into altocu at the leading edge.



Photo E. Cells of altocu.

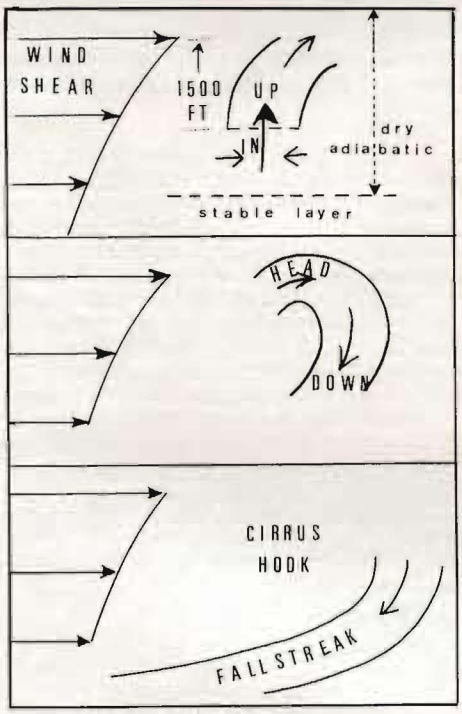


Fig 1. Growth of cirrus hooks.

sometimes (in a tropical jet) for as much as a thousand miles. The size of the cu-nim anvil gives an indication how long the updraft has lasted.

Effect of cirrus on thermals

Thin strands of cirrus seldom reduce the solar energy enough to stop thermals overland but a continuous sheet of cirrostratus progressively reduces thermal activity and eventually practically all convection ceases. Photo B shows Cs thickening from the right. The flat cu beneath turned grey and faded out in the distance as thermals ceased.

When the cloud first spreads over it seems to make thermals feel softer and cuts out the strong surges. It gives the impression that the thermals have changed gear. Although the lift is weaker the areas of heavy inter-thermal sink are much reduced too.

Jet stream cloud

Photo C was taken looking westwards towards a distant front. A long streak of high cloud extended ahead of it lying approx NW to SE (right to left) along the line of the upper jet. Some of the shallow cu below marked weak wave activity. Jet streams often help lee waves because the strong upper winds deflect wave energy back towards the ground.

Altostratus (As)

The prefix comes from the Latin "altum" (height). This is usually a dismal grey layer of cloud which forms below the level of cirrostratus. Ahead of advancing fronts the altostratus merges with the cirrostratus to form a gently sloping sheet of cloud. Since altostratus consists of water droplets there are none of the halo phenomena which the ice crystals of cirrus produce.

Apart from an absence of haloes a thin sheet of altostratus looks very like thick cirrostratus. The leading edge of altostratus is often thin enough to reveal the sun as a diffuse blob. As the front approaches most altostratus sheets become several thousand feet thick, turn grey and obscure the sun. Photo D shows an advancing sheet of thin altostratus which had degenerated to form altocu at the leading edge.

The base of As usually looks totally featureless but a low angle of illumination (at sunset or sunrise) often shows striations and billow like undulations. There may also be tendrils of precipitation (usually snowflakes) falling from the sheet and evaporating in the drier air below. When precipitation reaches the ground the cloud is called nimbostratus from the Latin: nimbus=rainy cloud. ➡



Photo F. A distrail cut in thin altocu by an aircraft.



Photo G. Thin stratocu.



Photo H. Top of a stratocu layer showing billows formed by wind shear.

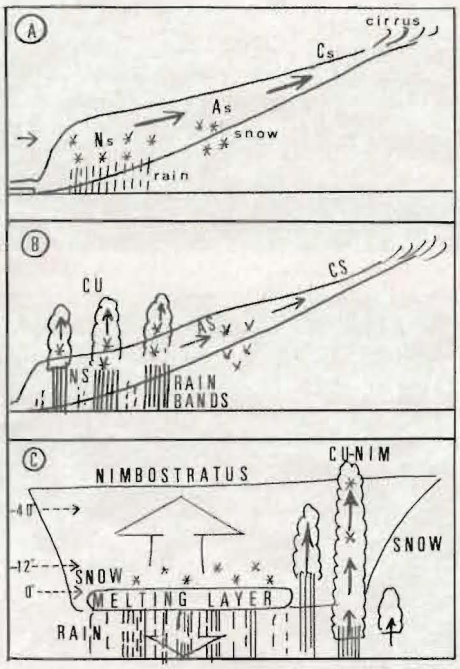


Fig 2. (A) sequence of frontal cloud types. (B) cu building above Ns. (C) Ns formed near cu-nim in a mesoscale convective system.

An altostratus sheet almost always reduces the sun's heat so much that any thermals die out quickly. Just occasionally, when thermals have been very strong earlier in the day, one may still find smooth rather weak lift right up to the start of the rain. Thereafter lack of lift and wet wings soon ends any soaring

Nimbostratus (Ns)

Fig 2 shows three cross-sections of a front showing where the Ns occurs. (A) is the text-book warm front with the cloud layer starting as cirrus and gradually thickening and lowering to form altostratus and finally nimbostratus. (B) shows cumulus towers building up through and extending above the nimbostratus. This occurs when the upper winds bring dry air above the front. Dry air aloft produces potential instability and precedes cu-nim development. The high level cu drop ice crystals into the layer and stimulate outbreaks of heavier rain. (C) shows a very different situation caused by a Mesoscale Convective System (MCS). The MCS starts as a collection of cu-nim and grows a vast area of nimbostratus.

Altocumulus (Ac)

Although this can refer to high based cumulus the word more often refers to a layer of high cloud which has a cellular pattern, sometimes with rolls and billows. It can develop from a sheet of altostratus which has lost its uplift and is beginning to break up or it may spread out from the tops of cumuli. Photo E shows altocu.

Radiation from an altocu layer cools the cloud top and begins to destabilise the cloud layer. A slow cellular circulation can then develop forming islets of cloud with narrow gaps in between formed by descending air. The effect is modified when there is a vertical wind shear. This alters the pattern into rows and ripples. The process is not simple and one can find the ripples aligned in different directions in the same cloud. This makes it difficult to guess the direction of the upper wind from the appearance of the cloud. Thermals may still occur below thin altocu but they are likely to be weak and tend to die out early in the afternoon as the sun angle decreases.

Photo F shows a "distrail" in a thin layer of very high altocu. It occurs when a heavy aircraft flies through the layer. The wingtip vortices combine to produce a strong down wash. This blows the cloud down below its condensation level thus evaporating the droplets and leaving a clear channel. Distrails are effectively the reverse of contrails but are much less common.

Medium level instability and virga

Large scale effects, such as the approach of an upper trough or cold front, occasionally destabilise the air enough for the shallow layer of altocu to grow turrets of high level cumulus (castellanus). These are often forerunners of a thundery outbreak.

At other times the turrets of cu which start off composed of water droplets become glaciated and release trails of ice crystals called "virga" or "fallstreaks". Ice crystals usually descend very much faster than the droplets of water which form the clouds. If the ice crystals fall into a layer of cloud below they stimulate the supercooled droplets to grow into precipitation elements. (See Fig 3.) This process, known as seeding, can produce rain from a previously inert cloud layer (Fig.3).

Artificial seeding

Some years ago it was popular to fly over a cloud layer and seed it by dropping "dry ice" into it. The experimenters were not always successful in rainmaking.

Sometimes they merely made a hole in the cloud sheet. At other times they made a shower but were then sued for pinching the rain from a farmer downwind, or for raining off a baseball match.

Stratus (St)

Any featureless layer of cloud can be called stratus but in the absence of a prefix such as "alto" it is taken to mean low cloud. If the base is dangerously low the term "low stratus" is used, often combined with some warning of hill or coastal fog.

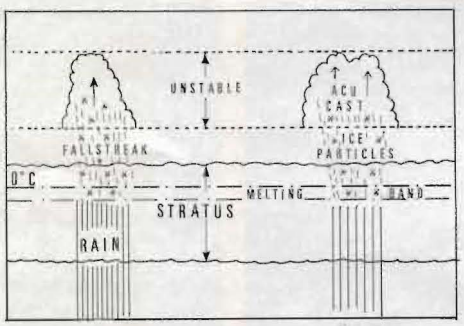


Fig 3. Ice crystals from high cu seeding a stratus layer to make rain.

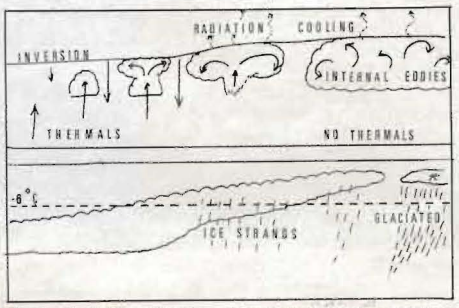


Fig 4. Small cu thickening below an inversion to make a stratocu layer and (lower half) dispersal of stratocu due to seeding with ice crystals.

Just as altostratus can change into altocu so can stratus become stratocu (Sc). Photo G shows a layer of Sc with breaks making it resemble Ac. Satellite pictures often show that a field of featureless stratus can merge into a field of stratocu when an increase of wind makes the air turbulent or a change of stability produces weak vertical currents in the layer. Stratus and stratocu are very common clouds and often extend for 1000km over the oceans. In some Arctic regions stratus can last for weeks.

The UK often suffers from stratus or stratocu blowing in from the North Sea. In winter the cloud sheet can last for days. There is nearly always a strong inversion capping the cloud layer and the air above is often very dry. Inversions often have a wind shear above them. The shear produces billows in the top of the stratocu. This is illustrated in photo H.

The level of the inversion is important. If it is low the cloud sheet breaks up as it passes across the high ground leaving sheltered regions clear.

The vertical motion in most stratus clouds is very small, often much less than 0.1kt. This is barely sufficient to produce enough condensation to maintain the cloud. Any lifting, such as upslope flow, helps to form a thicker cloud. Slope lift also results in a lowering of the cloudbase too. In the absence of a hill most of the cooling is due to passage over a cold surface and mixing caused by turbulent eddies.

Effect of a cold surface

Surface cooling strengthens the inversion which often exists before any cloud forms. Strong surface cooling generally produces fog first. As the fog thickens radiation from the top cools the air there making the layer deeper and the inversion even sharper. It also produces slight instability in the cloud layer. This helps the growth of weak convective eddies within the cloud.

An increase of wind is apt to upset the delicate balance within the fog and often results in it lifting off the surface to form stratus. However sea fog has been observed to persist with winds of 25kt.

Effect of a warmer sea

When the air flows over a warmer sea convective currents carry moisture from the sea up to the base of any inversion. The inversion usually forms in the centre of anticyclones and ex-

tends several hundred miles out; the base often rises as one travels further from the centre. When cold air is drawn into this anticyclonic circulation the first effect is to set off small cumulus, often in streets.

The region beneath the inversion presently becomes saturated with the moisture evaporated from the warm sea and carried aloft by thermals. The scattered cu then merge to form a continuous layer of stratocu.

See Fig 4 (top half). Stratocu commonly develops in the north-westerly flow on the eastern flank of large slow moving anticyclones. It is sad that some of the best soaring days are also found in these north-westerlies.

Importance of cloud top radiation

Once the stratocu sheet has formed, radiation from the top cools the air beneath the inversion. This helps to keep the cloudy air unstable, so much so that even when there are no thermals convective stirring keeps the air well mixed up aloft and maintains the stratocu layer. The cloud sheet may not break until it reaches a range of mountains.

Glaciation may dissolve the cloud

However, if the inversion gets higher so that the cloud top rises above the -6°C level glaciation may begin (Fig 4, lower half). This changes the water droplets into ice crystals. As the strands of ice fall out they seed the supercooled droplets below.

Then the whole layer falls out as ice trails and starts to fade away. The process of glaciation can get rid of quite deep clouds. Even an anvil cu-nim can dissolve into wispy trails in fifteen minutes.

REVIEW - Data Logger Analysis

Only two GPS data logger analysis programs currently have BGA approval for competition use, Ken Sparkes' **TaskFinder** and Specialist Systems' **Flight Check**. Max Kirschner has done a great deal of testing for the BGA verifying both programs actually work properly and give identical results. This review examines ease of use and how they function. Both programs require EW View to produce a DAT file and their next updates will also read the new GPS files.

TaskFinder Data Logger Analysis is a Windows program. Analysis is started by the drag and drop method or highlighting a file and clicking one of three hot spots for barograph analysis, map and TP analysis, or detailed flight analysis of timings.

There are two barograph analysis levels, Quick View (autoscaled to fill the screen) to verify no early outlandings, and Detailed Analysis where the trace can be interrogated for useful information, such as height gained, rate of climb, time spent climbing, distance drifted and wind strength, time, lat and long. The cursor keys step the marker along the trace with continuous readouts of time, lat and long, height, vario and speed. Beneath the barograph are a pair of graphs showing speed and vario reading for the entire flight, from 0900 to 2000hrs. Clicking on the near button, (also present in the task view), gives the nearest BGA TP within 3km. Max height displayed is 100 000ft.

Task Viewer displays the selected country's map with the task, track and airspace superimposed, and is zoomable. Clicking the right mouse button expands areas of interest. Map details can be removed for faster operation. Up to five TPs can be verified as properly rounded or not with the appropriate penalty, and distances between data points or to the sector boundary can be measured. The F-keys take you to each individual TP. Progress through the task can also be viewed with an "instrument" readout of speed, height, vario and position. Three-D view shows vertical lines representing the height around the task map.

Flight Analysis provides a detailed list of timings such as logger on and off, launch, start and finishes, time at each TP, total time on task and speed around the task. Speed Analysis brings up the speed for each separate leg. Warnings on and lists of missed GPS fixes and apparent speeds in excess of 180kt are given. On completion of the analysis, all these results are saved to a file for each glider.

Being intended for competition use, details of the finish line's length and direction, start sector, startline open time and so on are required. But for individual personal use, TaskFinder also offers non competition use where only start, finish and TPs are needed. The finish is a couple of circles centred on the airfield and on entering either circle the most realistic finish time is chosen, with a normal sector drawn around the start point. Thus any flight can conveniently be analysed in detail, complete with all timings as above.

British and Polish maps and databases are included, selectable at the start of the program, and Ken is extending this to other countries.

Intuitive and easy to use, this software really needs a powerful computer to run satisfactory, long tasks being very slow to process on my 386sx. It's much more acceptable on my 486sx, and really flies along on a 486dx2 100, processing 10hr flights in 8-10sec. The beta pre-release version I examined (October) of the next update already included French, German and Dutch databases (cross border flights are allowed) with Spanish and Swedish data in preparation. Zoom control now selects screen widths from 38 to 1600km, Flight Index lists all tasks, with their TPs, and every TP can be included on the map for better visualisation of your flight.

Flight Check has many of the basic features listed above in a DOS package, making it a faster than TaskFinder Logger Analysis, which is important on older computers. But it lacks several of the extras in TaskFinder. The interface is a bit plainer, often just a black background.

On selecting analysis of a flight, *via* the mouse or cursor keys, the numerical data screen is displayed first, in the same format as TaskFinder, followed by the TP analysis screen with TP times and leg speeds displayed. Six TPs plus start and finish can be examined initially, with several more screens showing extra TPs, six at a time, available *via* PageDown. Clicking on these small images or pressing the F-keys expands them to full screen. Small icons take you to barogragh, map or back to the numerical screen. The barograph trace indicates the start, TPs, finish or landout, a feature missing from the TaskFinder program. The trace is autoscaled to the flight time, with a max height of 9000ft, and displays ROC and speed graphs beneath the trace. While you can step through the trace interrogating points for height, climb rate, speed, time and position, there is no facility under barograph to calculate average rate of climb for a thermal. This option is available under the map view, where thermal drift, and height gain are also calculated.

The map function has no coastline or airspace, but can be zoomed in to almost any magification. Drawing a box with the mouse around any area of the map expands it for detailed examination. Clicking on a data point with the right button brings up a small box listing time, height, lat and long and grid reference. Any combination of time, position, height, climb rate, OS reference, or speed can be displayed next to every data point. While this can vastly overcrowd the screen at normal views, it's handy for a quick check near thermals, TPs, finishes etc, where the map can be scrolled about and zoomed. If several rapid key presses are made, height, time etc are not redrawn until the last keystroke for rapid zooming or scrolling. Flight Check gives a continuous distance readout as the mouse is dragged away from a marker, enabling many distances to be checked quickly. The forthcoming update will now include airspace and the ability to jump from a marked climb on the barograph to the appropriate section of the map.

Flight Check is more suitable on older slow computers than TaskFinder. On a fast modern machine, of course, there would be little speed difference between the programs, but I prefer TaskFinders' Windows interface and useful extras including Non Competition use, Near button and reliving the flight data point by point.

Both cost £50. TaskFinder 01296 651469, Specialist Systems 01276 33706.

JOHN WRIGHT

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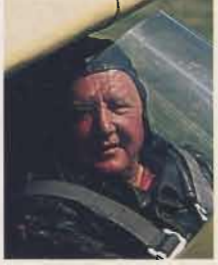
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Cliff Robinson


Chris Wills


Mike Young


Ron King


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WHAT HAVE THEY ALL IN COMMON?

Yes, they are all glider pilots but one of the fascinating things about the sport is how it appeals to so many different kinds of people for various reasons. We have featured a cross-section and would love to hear from anyone who has found yet another bonus in gliding

THE LONG DISTANCE PILOT
John Bridge

The following flight took place from Gransden Lodge on August Bank Holiday 1995 and might give some idea of what drives me to fly cross-countries. I was to fly our syndicate Nimbus 3DT and so I arrived at the field early in the morning to find a strong northerly wind blowing under a clear blue sky. After a quick chat with our weather man, I wheeled the Nimbus from its T-hangar and suggested to my chum Martin Aldridge that we should attempt a 500km O/R to North Yorkshire. With the forecast conditions the task looked barely possible and would rely on the wind dropping with strong thermals developing further north. (**Lesson 1**: always set tasks which challenge one's known abilities.)

An itinerant Pawnee got us airborne and we hunted around for a decent thermal, eventually settling for a scrappy climb to 2800ft and a start over the clubhouse at 1139hrs. Pushing into a strong headwind we worked our way down to 1500ft before finding a thermal weak enough to drift us right back over the airfield again. Clearly, the flight had not started well but we still had the whole day ahead of us. (**Lesson 2**: have faith, have patience, don't give up.) Our second start came at 1205 after a more solid climb to 3300ft.

One hour and 50km later we had reached Sibson where we saw cumulus ahead building up to 7 octas and 3500ft and I decided to try those rather than the virtually blue patches to the east. Unable to make the built-up cu work I changed my mind and headed for the widely separated clouds instead. (**Lesson 3**: know when to alter tactics). Conditions were unreliable and cycling every 30min, so that decision making was more risk-laden than I'd have preferred. Past Grantham we were spurred on by what appeared to be better weather ahead and at Finningley our persistence was rewarded with solid climbs to 4000ft. (**Lesson 4**: if conditions are bad where you are, they will be better somewhere else - we won't dwell on the converse.)

We made a fast run to Burn where we noticed large gaps between York and the Pennines and after unsuccessfully searching for usable wave (**Lesson 5**: keep an open mind about the soaring possibilities available) we diverted further west towards better looking clouds nearer the hills. We contacted a good thermal below a hang glider pilot who waved at us vigorously, presumably in traditional northern greeting. We found further climbs over Harrogate and Ripon, diverting back towards Dishforth for an excellent thermal to 5000ft. The run to the TP was in the blue, dead air stretching ahead all the way to the horizon, the GPS taking an eternity to tick away the final few miles. (**Lesson 6**: sometimes you have to take a chance.) We reached Northallerton at 1635hrs having achieved only 54km/h for the leg and at that point neither of us thought that there would be enough day left to complete the task. We needed over 100km/h to stand a chance but we did have a 15kt tailwind and some clouds ahead so giving up was not an option.

Our first climb after the TP was at Ripon (nearly 50km from our pre-TP climb at Dishforth) after which we followed clouds along the edge of the Pennines - to the east there appeared to be very little thermic activity due to cirrus thickening from the north-west and I guessed that the clouds we were using only existed due to some wave activity helping things along. (**Lesson 7** you can either rely on chance or you can make your own luck.) Sticking to the hills we found surprisingly strong thermals under grey skies with long glides in between and despite the disconcerting flatness of the cloudstreets to the west of track we chose to use these rather than risk the more transient isolated ones on track. We were now accepting 2kt climbs rather than 5kt but the tailwind pushed us relentlessly homewards (isn't the R part of an O/R wonderful with a tailwind?). Near Saltby I played with the computer and to my huge surprise began to realise that one more climb might get us home.

Our final climb was near Cottesmore, still 73km from home, where we took a painfully slow 1.3kt to 4700ft to give us a 400ft advantage over the glide and with nothing but dead air to aim for we headed for Gransden. Over the next half hour I was able to share with Martin the agony I regularly experience on final glide. The day's thermals were effectively dead but I still suffered the despair of having to push through excessive sink, only rarely able to pull back to best glide in better air to get back some of the height advantage. The margin came down to 200ft, went negative and positive again until, with only 5min to go, we knew for certain we would make it and at 1856hrs we arrived with enough height for an effective, fast finish in front of the clubhouse at a now inactive Gransden Lodge.

After we had landed and the adrenalin had stopped pumping we post-flighted the glider and returned it to the T-hangar, the bar beckoning. Both Martin and I agreed that it had been a super, memorable flight and one which had taught us both something new. There are countless lessons in soaring but **Lesson 8** is, for me, the most important one of all and the reason I keep flying cross-countries - no two days are the same and there is always something more to learn.

THE AEROBATIC PILOT
Chris Pollard

How did it begin? Sitting in the clubhouse on a wet afternoon, watching the rain beat against the perspex window, my attention was caught by a notice on the board between the inevitable small ads of an advanced aerobatics course. Curiosity aroused, I read further, but the advertisement was not very forthcoming. It contained various pieces of marginally comprehensible jargon, a date, a location, a name and a number. It seemed intriguing, though, and worth a second look, so I tore the corner off the *Daily Express* and jotted down the number.

The next day I called the number and spoke to Gee Dale, the manager at Nympsfield, whom I assumed to be the course instructor. We discussed the details of the course, but I was still somewhat in the dark as to exactly what I was letting myself in for.

Despite this, the package sounded interesting and not excessively pricey, so I sent the deposit and booked some holiday.

Eventually the waiting was over and I arrived at Nympsfield with the car hot and shedding oil. Briefing had already started, so I marched in and introduce myself to Gee. This was greeted with blank looks, and after a moment it transpired that Pete Mallinson, not Gee, was running the course. Not a very good start.

It was a sunny, clear morning, so briefing soon gave way to the first training session. The syllabus was already sounding more complicated than I thought. We all trooped out to the field, heading toward the Puchacz, with Pete describing the first warming-up manoeuvre - the competition spin. This involved one complete turn with vertical down line on exit and the exit on entry heading. I looked at Gary. Gary looked at Guy. Guy looked at me. We all looked at Pete. "Barking", says Guy. Right on.

So the training started. Good grief, you could stop a spin on a chosen heading, and no, the wings don't come off if you hold a vertical exit.

The general level of nervousness began to diminish, so the heavens promptly opened. We retired under a handy K-7 wing to continue the briefing, with rain dripping down my neck from the aileron hinge.

As we progressed, things started coming together. The spin was becoming less daunting and it even started to look respectable from the judging standpoint. We moved on to loops; no problem here, I knew all about loops - I'd done them before. This turned out to be a shock to the ego - a competition loop is a lot less straightforward than the Sunday afternoon version. The exit and entry have to be from level flight and on the same heading, the wings must be level at the top and it must be round as viewed from the ground, even if the wind is trying to distort it. Back to school...

We progressed to the humpty bump (a vertically extended loop), quarter cloverleaf, chandelle - another manoeuvre I thought I knew about - and stall turn. This was all exhilarating, but not very relaxing and very sweaty; the workload was continuous, monitoring speeds, attitudes, *g* forces, ground lines and reference points. Even though each flight only lasted 20min it was quite enough.

The rain became more persistent, so it was back to the classroom. We started to study some of the aspects of competition aerobatics - staying within the 1000m box, and writing and understanding the Aresti notation. This was only superficially complicated; it is, in fact, an elegant and easily understood shorthand, and quite essential in the heat of battle.

We also looked at flight limitations in far more detail than I had ever studied them before. This was **a good thing**. After all we were flying rather closer to the edges of the envelope than usual.

Pete came out with an intriguing morsel of philosophy, which only now am I beginning to appreciate fully, that "You start to do it well when you can visualise what it looks like from the outside".

The weather had cleared by the next day, so we embarked on the most challenging manoeuvres yet - rolling and inverted. Here we were, hanging in the straps, which never seemed tight enough, and with this awful feeling that there was only a couple of millimetres of perspex between me and oblivion. My hair filled with dust and there was a fine patina of debris on the inside surface of the upturned canopy despite strenuous attempts to vacuum-clean the cockpit beforehand. Now I could see why Pete kept his hair so short.

There was a surprising amount of effort in keeping the vital forward pressure on the stick and the horizon seemed in an insane position. Still, there was a curious beauty in watching the ground slide past over my head.

The last day dawned beautiful, bright and clear. Pete handed me a sequence. How light the Puchacz seemed one-up. The manoeuvres were still rather rough, but at least now I was flying the aeroplane, not it me, and I was far enough ahead of the manoeuvres to watch the beautiful English countryside whirling by. Kites meandered gently past, riding the breeze, indifferent to the crazy people tearing the air apart. I managed a scruffy circuit and a wobbly landing. I wondered why and later realised that it was often like this as the adrenalin drained away.

My soliloquy was broken by the approaching chatter of Guy, Gary and Pete. I heard them talking about a line off here, a heading wrong there, a loop not round, a vertical not straight. Everyone was a critic, but I didn't care.

I've been flying competition aerobatics since then. It has taken over all my flying and although some of the initial exhilaration borne of unfamiliarity has passed, it has been replaced by a determination to polish, refine and improve. The aerobatic box is a stage with nowhere to hide and every mistake is evident. I like to think my flying has improved as a result; maybe, maybe not, but it has bred a greater awareness of what is and is not possible and also, perhaps surprisingly, a degree of caution which was not there before.

THE LATE COMER

Cliff Robinson

My working life was spent in the road transport industry until I retired in January 1991. It was in June 1942 when travelling to London that I had my first sighting of a glider, in fact many. Countless aeroplanes were towing large gliders but as a youth of 15 I didn't realise the true importance of it at the time.

After the war I became fascinated by the gliding at Dishforth and spent many a meal break on a lay-by close enough to watch the take-offs and landings. But I couldn't really understand what they were trying to achieve and never imagined wanting to do it myself or being able to afford it.

However, just before retiring I was watching a girl having an air experience flight on television. A camera panned the countryside on this beautiful sunny day and as the glider was flying so peacefully and quietly I knew that I wanted to make that happen for me.

I saw Burn GC's advertisement for an air experience flight and after my third I had been bitten by the bug and became a member. It was then the challenge of gliding really came home to me and the need for intense concentration.

I had been a natural in learning to drive motor vehicles but this was a whole new ball game for a man getting on towards 65. Unashamedly it took me 222 flights to go solo over the next two years. One could probably call it a record in reverse. But with the great patience of the instructors and my own determination I made it.

That first solo flight gave me the greatest feeling of exhilaration I have ever experienced. I am pleased that since then I have gone on to get a Bronze badge.

The great bonus of this is being able to enjoy mutual flights with the more experienced pilots and to sit back and soak in the peace and tranquillity with just the noise of the wind. And then there are the beautiful views of the Yorkshire ➡

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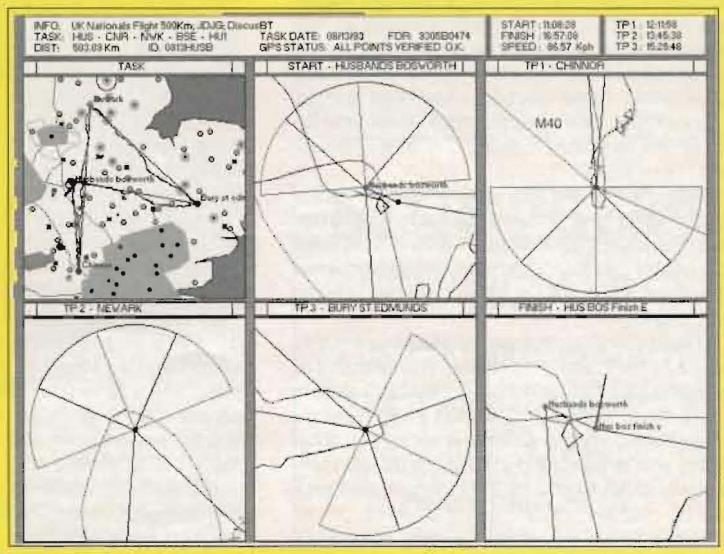
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countryside, not forgetting having a couple of drinks in the clubhouse at the end of a most enjoyable time, the happy banter and some laughs from events of the day.

Also, at a stage in life when you finish a long career it is wonderful to have more goals to achieve - and who knows it might be a Silver badge one day - and to discover the camaraderie and friendship of the gliding community.

It has given me a whole new outlook on life and a great feeling of achievement. It just shows that life can begin at 65!

THE VINTAGE ENTHUSIAST
Chris Wills

One could say that this is part of the sport on which one can get hooked. The more you get into it, the more one wants to go further. However, perhaps it is important not to fly a modern glass-fibre sailplane in case one realises what one may be missing.

Every year our lives are filled with great excitement as more vintage gliders are restored or built again in different countries, and we dream that one day we will fly them under ideal conditions where every field is a landing field and the cumuli will go on for ever.

We are, it can be said, giving these sailplanes a second chance in a much enlightened era compared with the one in which they were built. Each "new" vintage glider will, we hope, lead us into its secrets and share them with us as they did with the pilots of old.

Some question whether very old gliders still have their original qualities, but we can assure them that most do, and every new flight in them makes us wish to fly them again and again to learn more of their delights.

Some of the really old sailplanes are the most incredible and delightful to fly. The Falcon 1, which was designed by Alexander Lippisch for the Wasserkuppe school in 1927, and was built by Fred Slingsby as his first type in 1931, is perhaps one of the most unbelievable, being a pleasure to fly with a superb climbing ability as well as having a relatively good performance. I am convinced it would out perform a Grunau Baby, but would be three times as expensive to build. In this aircraft, one experiences real old time flying, as on any good soaring day one is frozen from the waist up.

The Hütter H-17A had a really bad reputation as there had been four fatal accidents in them before and just after the war in Britain. This 9.4m span glider can have an empty weight between 170 and 230lbs, and thus can often be lighter than its pilot.

It flies perfectly between these empty weights and does not have a bad habit. The aircraft can be built with a longer nose and shorter span, or longer span, slotted or unslotted ailerons, and it still performs well, outclimbing almost all other gliders with an airspeed of 32kt. There is no tendency to stall or spin. Its 32kt flying speed cannot be varied much beyond 35kt or its performance will deteriorate quickly. Its one failing is it may not go very far between thermals or get you out of a bad patch of sink, but it can sometimes surprise its pilots by going a long way. It must be one of the most remarkable of all sailplanes. It can be carried by two men and easily lifted into a space in a hangar! What fun it is to fly.

A Rhönbussard does not handle as well as the H-17A but what a performance! Not only will it penetrate with speed but it will climb rapidly as well as any sailplanes. With an open cockpit, you feel part of the air and nature, sharing the elements with the birds. You can feel the thermals giving the aircraft lift and speed and the countryside dropping away, or rushing past, as you ascend. It is so good that we need more of these aircraft to experience the real essence and joy of flying. The "Bussard" can also float on forever and reveals an incredible performance for such a small sailplane.

The further joy of a vintage glider is, as Ann Welch said at one of our annual dinners, "we are a bridge between the old and the new", so that old pilots and designers have felt at home in our midst, and have shared with us their great experiences. It is easy to fall in love with the past and sometimes difficult for us to fit in with pilots of modern gliders, although many now in Britain tolerate us.

Another excitement is the constant revelation of gliding history which often "only now can be told" and this is sometimes put in our Vintage Glider Club magazine. Also, vintage gliding has taken us to different countries and to the most beautiful and exciting places.

Last year I went to the Wasserkuppe for the sixth time and have never experienced such perfect soaring weather and such beauty of the countryside, which can now all be flown over as the Iron Curtain has suddenly disappeared. (See the colour spread of vintage gliders on p37.)

We have also been to Hungary and Bohemia to experience the sparkle of life in those countries and are glad our movement has really taken on in the Czech Republic.

Our spectrum is quite different from that of modern gliding. At our meetings there are sailplanes of so many forms, colours and sizes from gull wings, flying wings to ultralights.

Twenty years ago some of our vintage gliders dating back to before 1940 had sufficient performance to successfully compete in handicapped contests. This may have changed now - when an ASH-25 is flown on a 750km O/R we may have just been around the Chilterns. But why worry about this. We also had a good time and our gliders did not cost as much to buy. It is also not advisable to risk a unique vintage glider under contest conditions.

We are now a circle of friends in different countries, dedicated to bringing back what we think are the finest aeronautical creations there have ever been in wood and fabric. We all help each other as much as possible with building plans and information. Some of us are working on our own in primitive and often cold workshops, restoring or sometimes even building "new" old sailplanes to fly.

We all feel immediately at home in each others' company, inspiring each other to continue our struggles. We have held 23 International Rallies in 22 years and our future is still brilliant.

THE COMPETITION PILOT
Mike Young

My main passion in gliding is flying competitions. For a number of reasons it is the type of flying from which I get most pleasure - I enjoy matching my flying against others over a set task, the satisfaction when performance is improved and the challenge of reading the weather. However, a recent trip to St Auban in the French Alps was inspirational and certainly played a part in any success I may have had last season.

(Mike, who is an airline pilot, has 1700hrs gliding and 4000hrs power plus all three Diamonds. He was a reserve for the last World Championships, the Junior Nationals Champion in 1988 and 1990 and is the current Standard Class Champion.)

For some time I had considered flying in the mountains but didn't fancy learning the hard way. So when Brian Spreckley mentioned he would be running a mountain flying course at St Auban for the British team squad and potential members (for which there is little or no training at the moment) I was keen to give it a go. I fly at Gransden Lodge, home of the Cambridge University GC, which isn't renowned for its hilly terrain, and my only experience of anything remotely mountainous was as a tug pilot at Talgarth and on the occasional trip to Aboyne.

I hired an ASW-20 from Brian and out of nine days, only the first was unflyable and we used the time to drive round and look at the landing fields - they had been photographed and made into a landing field booklet.

One of the rules of flying in the mountains is that you stay local to a suitable landing area, whether it is a field or an airfield. Fundamentally it is the same as in the UK, only there are fewer options and therefore less decisions to be made (and this must be a good thing!). Certainly seeing the fields on foot and imagining all the problems associated (wind, slope and obstacles etc) gave me far more confidence. Apparently it is very rare for the French to land in these fields, although you're not a real mountain pilot until you have done so!

Each morning we debriefed on the previous day's flying and briefed on the day. We were split into two groups, one lead and follow with Brian and the rest flying together, usually on another task. There was also the opportunity of flying in an ASH-25 with a St Auban instructor - and most are either in or have been in the French team.

My first real experience of flying in the mountains was on a lead and follow. It has to be one of the most thrilling and exciting flights I can remember. Brian would pass on useful information such as "We're local to La Motte" or "We need to climb here before we set off for the next mountain etc." By the end of the course we were at the stage of racing each other around tasks. This was when it really became fun.

However my impatience got the better of me on one of the days. Basically you don't leave one mountain until you have sufficient height to go to the next at a reasonable height. Arriving at one

mountain at the same height as Brian I was frustrated watching him climb away from me in a bubble which I had missed. Rather than do the sensible thing and wait for more lift, I pushed on to the next rock, arriving some way below the top. I finally managed to claw my way out of the hole I had dug for myself and complete the task.

Brian used a few well chosen words. They must have sunk in as on the second day of last year's Standard Class Nationals I could hear myself repeating them. Patience, patience, you fool!

THE ENGINEER
Ron King

Well it was way back in 1942 it all started for me. Being in the Air Defence Cadet Corps (later the ATC) I was sent to Hassocks. There we were taught to fly the old Dagling, ground slides, high hops, S turns etc. Our hangar was a tunnel underneath the London to Brighton railway line and always dripping with water. There was no clubhouse to shelter in when the weather was bad with mud up to the eyebrows most of the time.

We were taught to drive an old Bullnosed Morris with a scaffold pole sticking out at right angles for aircraft and cable retrieve. For us 14 year-olds we were on top of the world, repairing cables, rigging gliders, sorting out the old balloon barrage winch. Whatever was wrong we had to sort it out or nobody flew. Then if we were good lads some of us were allowed to drive the big camouflaged Pontiac with RAF roundels to the village for victuals and fuel (no driving licence during the war).

At 18 I went into the RAF as an aircraft electrician and afterwards, as an aircraft engineer, gained experience on most military aircraft. I later switched to the commercial side, working on post-war piston/jet transport. The job had given me great pleasure. What was going to replace it when I retired? Gliding and all the fun we had always remained at the back of my mind, so I joined the Southdown GC and started from square one. This club, by the way, originated from the old wartime Hassocks club. It was great being back, but things had changed.

After a time I naturally became involved with maintenance of the fleet. Then a strange thing happened. A chap, who asked if I was Ron King, turned out to be Bob Stringer, one of my Hassock mates from the 1940s. He wanted to join me in the maintenance and, with Ted Nicholson, an old Lancaster pilot, "Dad's Army" was formed.

We enjoyed each others company and decided to give the club K-8 a major overhaul. The K-8 was then stripped down to the bare bones and we finished it like new. We knew we hadn't retired to our zimmer frames and the same feeling we had as lads was back. Full involvement with the club had returned and we were happy.

The club bought a porta-cabin for us to work in and two club K-13s have been completely overhauled, also the club Puchacz and DG-300. Other members have joined us and we have restored a sorry looking Olympia 2, a Foka 4, which I believe is now flying in Israel, and have plans to refurbish another Olympia 2 and a Foka 5.

I think all this proves that in gliding there are many roles and engineers can get a lot of pleasure from their contribution. We have a hard core of dedicated members who look after the transport, buildings, instruction, management etc coupled with the non active barrack room lawyers. The latter miss out more than they know. What's that saying "action speaks louder than words". We love the action.

THE INSTRUCTOR
Mike Cuming

The difficulty with being asked why I instruct - rather than how to do it - is that I'm not quite sure what the answer is. Thinking about it has given me the following ideas...

Early training with the ATC and subsequent membership of half a dozen clubs including big ones, little ones and the RAFGSA have lead me to the conclusion that instructors instruct for different reasons at different times, and these can largely be defined as the seven stages of instructing - **docility, activity, hyper-activity, reflectivity, ability, humility and senility.**

For example, "docility" - a phase applicable to would-be or very newly trained instructors - in which the reason the instructor instructs is because the CFI tells him to. The next phase, reached very quickly is most cases, is "activity" in which we instruct in order to find out how to fly better ourselves. This is followed very closely by "hyper-activity" during which instructors appear to work for no sound reason at all - a behaviour pattern often associated with hamsters and wheels!

Later on, "reflective" instructors instruct in order to find out why they ever got involved in the game, and "able" instructors instruct because they can. "Humble"instructors are rare and why they instruct is a mystery! "Senile" instructors instruct, I think, to find out how long they can get away with it.

Most instructors experience a taste of these phases (if not they are at risk of finding themselves in category number eight - "liability") and a lucky few finally discover that they are able to keep on instructing indefinitely without losing their sense of "F"...

The "F" word. This, of course, is that central theme in gliding - FUN. Bearing in mind that there is no practical point whatsoever in gliding it **must** be fun or we wouldn't do it at all. This F-word concept has often helped me out of difficult situations in gliding.

The need for a plan. At an early stage in my gliding career I was fortunate to pick up (from Brian Spreckley actually) the concept of the need for a plan at all times; the point being that if you haven't got a plan, you can't change it. This fits in well with my later observation that indecision is the key to flexibility and together they form the basis of my own style of instruction which is basically full of nonsense and fun.

But there are five golden rules for instructing:-

1. Keep it safe.
2. Keep it fun.
3. Fly well.
4. Don't say things which are wrong.
5. Do say things which are right.

Safety at arms length - supervision. No discussion of why I instruct would be complete without mention of my single most onerous task, supervision - or the art of saying "no". Using my superior responsibility (if not my superior skill) I can ensure the safety of the aircraft I'm in, but how can I ensure the safety of the ones I'm not in? Bollocking the pilot after an outrage isn't much help, therefore I must be a cross between a fortune teller and an air traffic controller for this role.

This isn't always fun but it **is** a challenge. This challenge, plus the everlasting pursuit of yet more ways to spin a glider, stops me from getting too fat, dumb or happy.

Summing up. I instruct for fun, and because I can. I like to think that I help get more pilots out of scrapes by teaching them well than I get into scrapes by training them at all. Getting paid for it means I can do more of it. I'd just like to thank all the pupils in the early days who paid so that I could learn, and all of the pupils - always - whose joy at discovering the fun of flying is the best reward of all.

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INTER-CLUB LEAGUE FINAL

Cotswold GC, having beaten Bristol & Gloucestershire GC to win the Rockpolishers' League, went to Husbands Bosworth for the 1994 final and became the Champions. Their CFI Mike Pirie then invited us to Aston Down for the 1995 final, held over the three day August Bank Holiday weekend. We gratefully agreed, accepting the challenge of competing against their home advantage if they became finalists again - which indeed they did. This gave them the split responsibility of acting as host, a role they fulfilled extremely well under the leadership of director Chris Clarke, and as competitors, led by team captain Paul Gentil - who also set the tasks. Our thanks to them and Severn Valley Sailplanes who donated some of the prizes, and to T.L.Clowes (Insurance) who again kindly contributed to expenses.

Competing with the locals were Booker (South Eastern League), Vale of White Horse (South Western League), Oxford (Midland League) and London (Eastern League). We missed Trent Valley (Northern League) who were unable to join us and Cambridge University (East Anglian League) who were tied up with the Gransden Regionals.

The Met on Day 1, presented by Dave Roberts, offered the prospect of a moderate contest day. Tasks were set towards the east, returning into deteriorating weather with an approaching front. The grid disappeared into a reasonable looking sky. The Pundits were set a 209.5km triangle, Goring, Brackley; the Intermediates a 178km triangle, Goring, Enstone and the Novices a 151km triangle, Didcot, Enstone.

Conditions to the west soon deteriorated and by mid afternoon had spread inland - those of us struggling to soar locally were finding little more than zeros and dropping out of the sky. It was therefore with some surprise and delight that we heard 88 (Dave Roberts, ASW-20BL, for Cotswold) calling final glide. Calls were made to alert him that the wind had shifted, we had changed ends and were now launching and landing from the north. Eventually four Pundits finished with Stuart Thackray of Vale of White Horse (ASW-20) at 61.1km/h and Geoff Payne of Booker (demonstrating the impressive structural integrity of the Pegasus) at 64km/h. Dave Roberts' 72km/h was not enough to beat day winner Ed Johnston of London (LS-6) at 76km/h.

The day gave us one more finisher, Guy Sutherland, Booker Novice (Pegasus) at 51.5km/h. Jack Miller of Oxford (Astir CS) and Brian Birlison of Cotswold (Skylark 3) flew about 100km to take 2nd and 3rd places in the Novice Class.

In the Intermediate Class, Gerry Brown of Vale of White Horse flew his LS-7 167km to earn 3rd place with Geoff Beardsley of London (LS-4) 2nd at 166km. Mike Oliver of Cotswold, also at 167km, won the day with the handicap advantage of his SHK.

By the time our diligent scoring team, Reg Gardiner and Mike Taylor-Beasley, had finished computing, Cotswold were shown to be in overall lead, followed by London and then Booker. The weather front which had interfered with the day's flying happily did nothing to interrupt our enjoyment of the evening's barbecue.

Day 2's tasks were stepped up to:- Pundit, 251km triangle Andover, Buckingham; Intermediate 217km triangle, Newbury, Brackley and Novices a 155km quad, Wantage, Oxford Headington and Chipping Norton.



The winning London GC team, l to r, Ed Johnston, Geoff Beardsley and John Williams.

The day started well but again turned into a challenge. Four Pundits completed with Doug Gardner of Cotswold (LS-3) 4th at 64.2km/h; Phil Hawkins of Oxford (Mini Nimbus) 3rd at 69.4km/h; Paul Brice of Booker (ASW-24) 2nd at 72.3km/h with Ed Johnston again winning the day for London at 85.9km/h.

In the Intermediate Class, John Hanlon of Oxford (Std Cirrus) flew 205.6km to take 3rd place. He was beaten by two finishers: Steve Ferguson of Cotswold (Mosquito) in 2nd place at 59.4km/h and Geoff Beardsley at 61.2km/h, again winning the day for London.

Paul Gentil, the task setter.



There were four scoring Novices, though no finishers:- John Williams of London (LS-7) was 4th at 77.4km; Les Clark of Vale of White Horse (Dart 17R) 3rd at 74.5; Tim Gray of Booker (Pegasus) 2nd at 82.9km/h and Tim Barnes of Cotswold (SHK) with 98.2km won the day despite a photo penalty.

Cumulative scores after the first two days showed a change at the top. London had crept into overall lead with Cotswold close behind and Booker close behind them - there was all to play for on the final day. Meanwhile there was much celebrating to be done.

On the Sunday evening we were very well entertained - it was a great thrill to be able to share in Cotswold's celebration that the club had finally gained ownership of their site. One of the hangars was cleared to make room for a barn dance. Beer and good spirits flowed freely. Tickets were exchanged for hamburgers or hot dogs at the van parked outside the hangar door. Rumour has it that when tickets ran out, beer was exchanged for second helpings of food, which probably explains the van's erratic departure at the end of the evening.

Weather on Day 3, Monday, was more consistent with only one out landing. A 122km O/R to Didoct was set for the Novices; a 221km triangle, Shaftesbury, Bullingon Cross for Intermediates and a 261km quadrilateral, Wincanton, Bullington Cross, Didcot for the Pundits. Dave Roberts at 83.2km/h took the 3rd Pundit place for Cotswold with Ed Johnston at 83.5km/h 2nd for London. The Pundit day winner was Jonathan Kingerlee of Booker (LS-7) at 80.5km/h. All Intermediates finished with Steve Parsonage of Vale of White Horse (ASW-20) 3rd

at 60.4km/h; Howard Stone of Oxford (Astir CS) 2nd at 60.4 and Geoff Beardsley of London 1st at 69.5km/h.

In the Novice Class John Williams of London (LS-7) was 3rd at 52.5km/h; Brian Birlison of Cotswold 2nd at 46.8km/h with the day winner Simon Hogg of Oxford (Astir) at 59.1km/h/.

Frantic activity on the computers and in the darkroom enabled a prizegiving with the following overall results. Oxford, with 3rd place in both the Novice and Intermediate Classes and 4th Pundit place, were overall 3rd. Cotswold were overall 2nd, having secured the 1st Novice place, 2nd in the Intermediate and 3rd Pundit position. The League winners, with 1st place in both the Pundit and Intermediate Classes and the 2nd Novice position, were London (Eastern League.

Well done to London and to all the clubs for the clear team efforts shown. Booker, though in 4th place, probably scored a League final first by fielding a different pilot in each Class on each day. Our thanks to Chris Clarke (who gave up the role of crew for his son at the Junior Nationals to direct our Comp) and everyone else at Cotswold GC for giving us such a great weekend - for three contest days making the best use of the weather and for the privilege of joining their celebration of ownership of Aston Down.

Anyone wanting information or help is welcome to contact me at "Tanglewood", Fingrith Hall Road, Blackmore, Nr Ingatestone, Essex CM4 ORU, tel/fax 01277 823066.



A Vale of White Horse gathering around Les Clark in his Dart 17R. Photos by Ray Brown.

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Ask the office to send you more details.

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WAY OFF TRACK



The prospect in a storm

I'm pounding this keyboard on a filthy late November night. A ferocious gale is shrieking off an angry sea which foams unseen in the coal blackness beyond my spray and salt-encrusted office window. The surf line is little more than 20 yards away. The wind threatens to move Penguin's humble cottage - low and crumbling, like its owner, in textbook Irish style - bodily inland and scatter it in fragments over the disused wartime Spitfire base beyond the back garden fence.

But, oh, the joy which should have lightened Penguin's brow by the time this note is scanned by his trio of admitted readers. For by then his intrepid spirit will have taken him to the antipodes.

I"m off, you three, to John Williamson's bailiwick at Benalla in Victoria. From all accounts it seems to be an infinitely better 'ole to spend some of February than my particular storm-lashed stretch of the Ulster coast. Acknowledging receipt of a bank draft deposit for hire of a Nimbus 2c, JW faxed that a 500km was the "meanest" goal I should aspire to in my planned two week stay.

With my residual London tones I'm occasionally mistaken in Ulster's own outback for an Aussie. But my experience of that country is very limited and my experience of antipodean soaring is zilch.

It comprises an overnight stay in Perth back in the mid 1960s, when I had to fly to that west Australian city to back-track on an SAA flight - still by a DC-7c piston-engined banger then - bound for Johannesburg. It stopped to refuel in the otherwise inaccessible Cocos Islands, from where I embarked by 'chopper on *HMS Victorious*.

In the late 1960s I stayed in Perth again for two whole weeks but saw none of it. I was stricken by phlebitis and hospitalised on arrival at the start of an Australasian and South Pacific aircraft sales tour. On discharge from hospital I was driven straight to the airport for medical repatriation home.

So after these disappointments I feel Australia owes me something. If it - and John Willie - throws up a 500 or two I'll consider the debt expunged.

And I'll return not as the reticent Downshire Penguin but as the insufferably bragging Wizard of Oz.

Hot-shot marketeers

You've got to hand it to the top Australian soaring centres when it comes to marketing. One Friday in November I faxed six of those which advertise in *S&G* of my possibly visiting in February and requested their bumph. Three had replied by fax with all I needed to know, including friendly notes, within half an hour.

The fourth and fifth responses were lying on my fax the following morning which, given that it was almost nightfall in Australia's eastern states when I had faxed them, was understandable. The sixth, Lake Keepit, didn't trust the fax but had all its material, including a beguiling colour brochure, with me by post within five days. The unfailing tone of all six was friendly but very professional, informative and welcoming. I have no doubt the qualities shown in their marketing are manifested in their operations and on the field too.

And I'm confident that you, too, will be in the best of hands if you trust your soaring dreams, and make a booking, with any one of them.

John Willie and FRED

So why Benalla? Mainly because I know John Willie. I last saw him when he was still a BGA national coach and was guest of honour at our club's annual booze-up years ago.

John honoured me with one of his cherished FRED awards - standing for Fantasy, Rumour, Exaggeration and Distortion - as I'd been writing the club's notes in *S&G* for years. My efforts totalled this in column inches, John declared, suddenly producing an 80ft toilet roll and flinging it, streamer style, across the room while retaining hold of the free end. I was so touched and overcome that, unforgiveably, I failed to thank him from the heart of my bottom.

Tweetie Sweetie

It cost me thirty bucks to fix me budgie
When the little blighter only cost me five
The veterinary surgeon saw me coming
But I had to keep my feathered friend alive...

So sings Australia's other John Williamson on a most entertaining tape to play in the car while driving back late from a long retrieve.

Not quite so fortunate was the budgie of Camphill's Ian Dunkley, which was denied that attribute conferred on almost all birds but only a small minority of gliders - self-launching capability.

Because of some wing defect Ian's feathered friend couldn't take-off. But he enjoyed the occasional airborne outing when he was given a hand launch on the lawn. He would then flap his wings vigorously to add a few points to his genetic glide ratio.

Otherwise he enjoyed the run of the house but misused his freedom one day to roam the kitchen while Ian's wife Ruth was cooking. Accidentally, he ended up covered in syrup.

Frantically, Ruth rang her local vet. Forget James Heriot - they're a down-to-Earth unsentimental breed in the Pennines.

"My budgie's covered in golden syrup. What should I do?" wailed Ruth.

"Find a cat with a sweet tooth," the vet instantly replied.

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DIAMOND HEIGHT?

Don't ask, says Mary after her expedition to Aboyne

There's a magic place in Scotland by the river Dee where the salmon leap in September and the sky is stacked with dinner plates. And if you are in the right place at the right time (with the right equipment!) you may be wafted up to undreamed of heights.

When I was just a tadpole in this flying game, I went up with a raft of Booker pilots in the wave season and survived the roughest aerotow ever, up and down like a yo-yo in a K-21, two-hand white-knuckle job, the penultimate before the grizzled tuggie said "No more this day!" and locked away the Pawnee in the hangar. Dave Richardson showed me how to ridge soar a wave bar, how to press into wind and stay in the same place, how to find the airfield again (see those two **lochs**?) and how to power dive through a gap that looked like filling in. The circuit was rather grim as well, full airbrakes and 70kt on final approach got us safely down through the teeth-rattling rotor. I was ash white and trembling but managed all the same to roll to the end of the runway

A few days later they turned me loose in a single-seater and I see by my logbook that Pegasus 316 on October 16, 1986, carried me to 13 300ft. That may sound impressive, but it wasn't, believe me. The tuggie waved me off in the wave and I just sat there and went up. And when I had to fit that black rubber mask over my face and breath in, I had a terrible strangling attack of panic. The last time I had a black rubber mask over my face and breathed in I was having a baby and the consequence of taking a deep breath on that occasion was to know no more!

It was as well, too, that 13 300ft was all that was on offer that day. I had misunderstood my briefing and thought that setting the oxygen flow half-way between 2 and 4 would give me a flow of 3. Wrong. All I was getting from that black rubber mask at 13 300ft was ambient air.

My next excursion to the banks of the river Dee was on a less fortunate week - a lot of rain and not a lot of flying. I decided to put the whole business of wave soaring on the back burner. Maybe someday, if I ever got round a 500km, I'd go back to Aboyne for another spot of pole-sitting to round out the gemstone set. (Have you seen Basil Fairstone's belt buckle? He's got three diamonds set in it, and on the back of the belt it says "Pundit"!)

When my father died and left me some money, I decided the only sensible thing to do with it was to buy a new glider, Pegasus 987. How beautifully she flies! Together we have travelled many miles, leaping from cloud to cloud under a north-west street, sliding home at min sink at the end of a dying day. When she was bandbox new and still unspotted from this world, I was reluctant to take her up in wave. You do hear stories - crazy paving in the gel coat, cold-soaked gliders caught above cloud, coming down with airbrakes frozen shut (or open!), ice up the pitot and all over the canopy. And did you hear about the Nimbus that went up in wave with a dab of electricians' tape over the water vent in the wing? Came down with imploded wings, so they say.

987 is eight years old now and many a scar bears witness of our times together; a rock in the rough, a loving embrace from an electric fence, a wheels-up landing in front of a delighted Booker crowd. And coming adrift in that trailer twice, when the wingroot boltdowns failed. At last 987 and I got round the Diamond distance, at the Midland Regionals in 1994. Time to try for Diamond height!

But first a bit of practice in somebody else's glider. That October I joined the Booker mob and skedaddled round the mountains at low level in the Duo Discus with Julie Angell. And in various single-seaters. And this April, Henry Whitrow and I spent two delightful weeks at Aboyne in the Deeside gliders - splendid mountain soaring but wave was weak and variable.

The shorter days give you a better bite at the wave in the morning

Leafing through the Deeside calendar of achievement, wave climbs were indeed recorded throughout the year, but the biggest and the best and certainly the most are pegged up for late September and October. Can this be explained by the leming-like behaviour of the Midlander? Or because the shorter days give you a better bite at the wave in the morning before the midday thermals break it up?

When Henry and I rolled up at Aboyne with 987 on the evening of September 12, London GC members and eight disconsolate Danes were taking the first launches possible that week. Deeside was only just shouldering aside the run-off of a record setting ten day deluge.

"That's OK, you don't need a check ride, you flew here this April" said burly Mike Law, the CFI, and waved me off on my own. The 10kt cross-wind didn't bother the Pegasus at all. The next day I went flying with tape still stuck over the static vent (no ASI!) and made a **very** careful approach and landing. And on the third day, while the others were still dithering, I was first to launch. Bryony the tug pilot took me to a wall of cloud that had zero sink. I pushed round the end of a cigar shaped formation and found a steady 4kt in wave and had the satisfaction of relaying that information to those still waiting on the ground. That wave went up to 5000ft or so, and after half an hour the gap closed up. I came down just in time to maintain VMC but two other gliders had to descend through cloud.

Indian summer lingered over the Highlands; the disconsolate Danes went home, wondering why they had bothered to come. We met four Lasham pilots in Ballater waiting for the tackle shop to open; they had a lake, a boat and a gillie, and went fishing that day and the next, which started out with a fine wet drizzle. Some of us hung around the airfield; a clearing from the west had been predicted for midday. And when the clearing came, oh boy! Glyn Read had only just rolled up from Booker, jumped into his glider and went up to 18 000ft in his T-shirt and trainers! Somebody else went up to 21 000ft and forgot to turn on his barograph. Thirty gliders swam back and forth along that mighty wave bar, glinting in the sunshine, while the four Lasham pilots went fishing.

I was up there too, wrestling with my personal hang up, a black rubber mask and a length of rubber tube and a valve that would not turn! Wedged down behind my elbow, I just could not reach it and make the fingers grasp. I cursed and wriggled and twisted and strained and eventually undid **all** my straps as well and grasped the knob and realised I had been trying to turn it the wrong way. At last I strapped back in, the oxygen flowing, the mask shoving up my bifocals making it impossible to focus on objects further than 12ft away. That sorted, I now needed to tell somebody on the ground that 987 was passing through 12 000ft on oxygen. I worked out how to talk (shove the mike up under the mask) but nobody would answer. Finally I bleated "Can anybody hear 987? Came back the reply "**Everybody** can hear 987!"

Right. I got the message, loud and clear. You are up here on your own, lady, sort out your problems by yourself. Navigation was easy, from 14 000ft. I could see Aberdeen, the North Sea, twin lochs and all points north, east and south. Nevertheless, I turned on my Garmin 55. If I could still make sense of the GPS then the brain must still be working.

Fifteen thousand feet was tops for that day, Gold height. When I came down my ears were blocked and painful, but cleared by the next day. But I was over the moon; I had learned to use the kit and rely on it, how to use the wave and enjoy it. On Sunday, September 24, 987 and I crept up to 16 200ft around the backside of a monstrous shower, which was particularly satisfying. It wasn't an easy day, only glimpses of the ground were available and only one other glider followed me up.

On September 26 lots of people got Diamond height. It was Jane Moore's turn in 987 that morning; she did very well. I tried to wrestle my way through the midday thermals and got dumped twice. Later, launching at 4.30pm, I pressed on over Morven, slid along the wave bar at 4000ft in zero lift all the way to Loch Muick, and found a sweet spot that worked up to 17 000ft. Nobody else found that one, either, and only sunset brought me down, diving through a wreath of crimson cloud that frosted my wings with snow.

I flew again the next morning, but very badly. I spent 20min in the rotor scared to death and landed all shook up. Heaven was sending me a message; you've tasted the sweetness and beauty of high wave soaring, you're all tired out, time to quit while you're ahead. I told Mike Law that we were heading home.

"Well, you've had some good flying" he observed. "You'll have to come back next year to get your Diamond height,"

"I'll be back" I promised. And I will.



Bath, Wilts & North Dorset GC loking north.



Black Mountains GC looking north.



Burn GC looking east towards Drax power station with the hangar and club-house and Burn village on the A19 in the foreground. Photo: Paul Newmark.



Cambridge University GC's site looking north.



Above: Dartmoor GC from the north-west. Below: Herefordshire GC looking to the north-west. Photo: Robert Chappell.



Above: Glyndwr GC loking north-east. Photo: Peter Foster. Below Gliding Society looking south and right, London GC looking to the south









Borders GC 's view of the site from over the old airfield.



Bristol & Gloucestershire GC taken from the west by Bernard Smyth.

UK GLIDING CLUB SITES

We are featuring as many sites as possible in this and the next issue in the hope they will be interesting and helpful





Deeside GC looking east.



Above: Cotswold GC taken from the south looking north. The main runway orientation is 030°-210°.



low: left: Lasham
uth-east. Both photos by Jochen Ewald.





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MIDLAND REGIONALS – July 22-30

Pos	Pilot	Glider	Day 1.22.7 234.8km ▲	Day 2.23.7 309.9km ▲	Day 3.24.7 275.67km 4 legs	Day 4.25.7 202km ▲	Day 5.27.7 130.59km ▲	Day 6.28.7 149.12km ▲	Day 7.29.7 301.18km 4 legs	Day 8.30.7 173.28km ▲	Total Points
1	Smith, G. N. D.	LS-7wl.	1000	871	927	863	743	730	1000	822	6756
2	Cuming, M. F.	ASW-20	934	973	1000	1000	771	285	962	765	6710
3	Marsh, B.	ASW-24	901	1000	915	980	415	698	813	665	6296
4	Jardy, M.	LS-6c	853	983	882	825	609	737	843	532	6264
5	Pozerskis, A.	LAK-12	854	934	868	797	598	720	853	577	6112
6	Atkinson, P.	LS-4m.	874	969	890	770	333	589	814	697	6046
7	Freestone, F.	Discus	889	724	828	903	814	597	796	567	6015
8	Murphy, T. J.	LS-7wl.	855	831	914	584	746	734	988	436	5978
9	Welford, R. J.	Pegasus	799	868	802	846	449	657	903	837	5863
10	Corbett, C. G.	Ventus 17.8	868	788	813	869	568	672	753	469	5801
11	Fairston, B. A.	LS-6	822	824	997	923	681	0	794	541	5682
12	Cheetham, H.	LS-7wl.	896	747	887	707	662	342	825	592	5658
13	Slater, T.	ASH-25	895	829	758	743	666	674	758	540	5652
14	Woodhouse, C.	LS-6c	886	850	743	892	506	685	797	490	5458
15	Snell, K.	Kestrel 19	883	792	774	615	590	704	866	526	5350
16	Thomas, G.	Discus	797	828	795	478	662	485	769	517	5329
17	Healy, P.	Discus	937	800	837	679	635	713	36	571	5310
18	Browne, R.	LS-6	983	872	819	332	676	277	949	448	5256
19	Nash, S. R. Nash, J.	Ventus 16.6	877	850	721	695	792	317	830	559	5241
20	Housden, S. R.	ASW-19	710	842	830	724	391	305	840	540	5182
21	Payne, G. K.	Discus	751	767	794	738	507	388	839	557	5021
22	Costin, M.	DG-600	772	836	679	667	651	0	899	506	5010
23	Nicholls, R.	Ventus 16.6	805	836	770	188	556	658	810	505	4868
24	Gilbert, C. N.	Discus	831	246	881	58	840	683	815	709	4864
25	Foxon, A.	Discus	700	847	667	656	577	268	739	441	4775
26	Lloyd, K.	ASH-25	641	779	724	700	0	642	737	490	4711
27	Pozerskis, F.	ASH-26	738	731	673	619	581	128	810	397	4667
28	Thompson, T.	Pegasus	687	620	753	649	172	300	762	468	4411
29	Gardener, G.	Nimbus 3	481	635	681	754	358	170	780	646	4385
30	Johnson, R.	LS-7	677	593	653	708	401	0	639	541	4254
31	Guthrie, G.	ASW-20b	665	789	925	673	557	222	678		4121
32	Wight, J.	Pegasus	621	589	777	537	713	54	195	507	3992
33	Hindley, S.	Discus	709	223	712	657	94	258	732	586	3972
34	Kirshner, K.	Vega	724	656	627	223	442	7	693	567	3929
35	Westwood, D.	LS-4	63	668	868	0	0	649	778	587	3613
36	Popiko, J.	ASW-15b	694	272	703	514	112	155	713	340	3503
37	Davidson, R.	SB-5	655	787	724	304	286	0	244	473	3473
38	Parker, A.	Mosquito	514	284	527	395	354	226	871	371	3401
39	Bateman, S.	ASW-20c	451	676	572	253	314	0	910	485	3361
40	Glover, C.	Std Libelle	641	263	642	318	274	0	689	412	3239
41	Clarke, C.	Ventus 17.8	878	241	453	0	506	0	724	332	2934
42	Brown, L.	Astir CS	413	304	571	525	396	0	312	375	2896
43	Langrick, J.	LS-7	800	258	854	362	391	0	20		2590
44	Meagher, M.	Pegasus	725	253	750	0	249	0	383	424	2583
45	Asquith, D. Scragg, A.	Discus	0	90	648	0	455	234	851	557	2833
46	Giles, E.	DG-300	216	217	490	0	589	8	111	405	2016
H	Gray, R.	Std Jantar	0	52	178	275	0	0	0	272	775
47	Rackham, P.	ASW-20	242	DNF	DNF	DNF	DNF	DNF	DNF	DNF	242



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Keep Your Loved One Dry And Warm!

IAN KEYSER, photographed above right with his glider "Magroo" describes how he made economical waterproof covers so that she could stay rigged all summer (see photo top left)

Anyone reading *S&G* for the first time could easily come to the conclusion that we are a load of well-heeled boffins. However, the initiated know the the vast majority of pilots are wondering where the next launch fee is coming from!

My other hobby is amateur radio which is heavily loaded with DIY merchants hence I am a firm believer in the motto "making saves money", which leads on to this article. I had been trying to find waterproof covers for my K-7/13 as I wanted to keep it rigged during the summer. If you've ever rigged a 7/13 you know why.

During the spring I had used cheap plastic tarpaulins from builders merchants but as they weren't long enough I had to use two for each wing with plenty of lashing to keep out the rain. The four, plus another for the fuselage and one for the tail, came to a healthy bill but did keep the glider dry. A chance opening of *Exchange and Mart's* gardening pages showed pond liners at silly prices. A chunk of liner 28 x30ft for £54 sounded about right as two wing covers could be cut out, leaving adequate to cover the rest of the glider. A little work and a few eyelets and life would be a lot easier.

I spread the liner out on the grass. I had already cut up one of the old tarpaulins and checked if the overhang at leading and trailing edges would give sufficient splash protection. This showed that an extra 2ft on the wing size was fine. I marked the cutting line by carefully placing a string line over the fabric and cut out the pieces with a Stanley knife.Each edge was then folded in 1ft to form the wing size and I marked where I thought the eyelets should go, settling on 30in apart.

With the liner I also bought two rolls of 3in wide PVC jointing tape and used 4in strips, folded over the edge of the covers at the eyelet positions, to act as reinforcing. I put in the eyelets using a simple punch and anvil sold by ship merchants and good camping shops.

The second wing cover was cut the other way so that the remaining fabric was rectangular. I put short lengths of cord between the eyelets and the covers were a perfect fit. The fabric hanging over each wingtip was then folded and secured with tape to make snug sections to hold it into place. With the covers removed I fitted two eyelets to reinforce these folds.

The remainder of the fabric was then laid over the fuselage and centred. It was folded around the nose, cutting the excess material away and securing the joints with tape. Not the neatest of jobs, but a lot of fabric had to be lost and the important thing is for it to be watertight and strong. When happy with the job, eyelets can be used to reinforce the ends of the joins so making a lasting finish. Slits are then cut to accommodate the wing, allowing the skirt to fall neatly over the canopy and cover the fuselage to ground level. The excess over the wing is laid on top of the wing cover giving a 5ft overlap at this point. I have held this is place with tyres, but a neater job could be made by sewing velcro on the joint faces but that increases the cost considerably.

The excess either side of the fuselage between the wing trailing edge and the tail is carefully cut off and used to make a fin cover. This was sewn up using the wife's sewing machine when she had gone shopping! It is not that it could have damaged the machine but she does tend to be a little over protective towards it after she caught me sewing the heavy PVC sunroof cover for my car. The top edge of this cover was taped to reduce water ingress.

The excess length of fabric was cut to fit the fin and spread over the tailplane. At first I considered cutting and fitting the fabric to the tailplane but decided to lay it flat, the excess being held in place on the ground with small tyres. Perhaps not the neatest, but it was definitely the easiest and most waterproof method.

As can be seen from the photographs it isn't perfect, but it is functional and easy. The total cost, including eyelets, was less than £75 and at that price if it lasts for two years I will be happy. However, the most important feature is that it keeps Magroo warm and dry - what more can a loved glider wish.

NB. A lighter coloured fabric would be even better as it would cut down on heat retention and make the covers usable for glass-fibre gliders.

SOUTH WALES GC'S NEW FUEL TANK



Harold Armitage, who had experience of installing fuel tanks, designed one to take AVGAS for the South Wales GC's site at Usk. Then with a team of helpers he built the underground tank to hold 10 000 litres of fuel at half the cost of having the work done professionally. But there are all sorts of complications - you have to have planning permission, the tank must be steel and epoxy lined and the correct fuel filters and water separators must be fitted. It is quite a minefield of complications and Harold has written a paper giving advice, his experiences, telling how to go about the project and listing suppliers. He has also drawn a detailed diagram. If your club is planning to store fuel on site for the tugs, you might like Harold's very helpful paper. If so send a sae to *S&G* and we will forward you a copy.

Harold's photos show, left, the fuel tank in the hole, secured down, filled with water, and shuttering for the hydrant and access points fitted. Right: the finished installation.





A ↑ C ↓



B ↑

E ↓



D ↓



F ↓

SOME OF THE CLASSICS

These photographs were taken last summer by Vintage Glider Club member Jochen Ewald during the Rendez Vous Rally at the Wasserkuppe and the 23rd International Rally at Oberschleissheim Airfield near Munich, home of the German Museum's aviation collection

A. The newly restored Harbinger. B. The EoN primary. C. Harald Kämoer's restored Schleicher Condor 4. D. Graham Saw flying his Fafnir-like T-13 "Petrel". E. The Swiss Spyr 5 coming in to land over a T-21. F. Ted Hull's beautiful Scud 3. G. Ian Dunkley's AV-22 "The Elephant" meets a modern flying wing at the Wasserkuppe.



G ↓





DEVELOPMENT NEWS

New site for Nene Valley GC

Club News for Nene Valley in the last issue, p360, was somewhat depressing. The club had received notice to quit RAF Upwood and were having to shift and store their equipment with no immediate home to go to. At that stage, however, all could not be told.

I can now report that planning permission has been granted for the use of about 30 acres, immediately adjoining RAF Upwood and incorporating part of the original airfield's main runway.

The land was kindly offered by neighbouring farmer and Cambridge University GC member, Marshall Papworth, who is a practising glider pilot and the real hero of this story. The club decided to take the risk of levelling and re-seeding the land in early September before the result of the planning application could be known. Fortunately the gamble paid off and the grass is already green!

The consents include limited aerotowing and motor glider operations and approval for a glider store (hangar) and clubhouse which are now being organised

Until the grass is properly established the new airfield will only be available for restricted use, but the MoD's land agents have now agreed to an extension of the lease at RAF Upwood for a further 12 months, so that will not be a problem.

Our congratulations and best wishes go to the Nene Valley GC's committee who have had some difficult decisions to make. They should now be fully operational on their new site by spring 1997.

Lottery Sports Fund Applications

A number of clubs have now applied for lottery sports fund grants, with notable successes, as reported in the last issue, p354. However, since our seminar at Dunstable last May there have been further developments and some points now require clarification.

Generally, although the Sports Council's lottery team in London will process an application within three months, it is taking five months or more before applicants know whether they have been successful. This is giving rise to some problems, particularly with purchasing, where a club needs to make a firm commitment in order to secure the purchase but dare not do so for fear of breaching the lottery sports fund conditions and losing the right to grant aid.

In those circumstances, the Sports Council will issue a "without prejudice" letter of permission to proceed. In a recent case this has enabled contracts to be exchanged and a completion date agreed and, if necessary, for the club to complete the purchase of its site before any offer of grant aid is received.

"Without prejudice", in that context, means that the Sports Council gives permission on the clear understanding that their decision on whether or not to offer grant aid is not influenced in any way and that the club accepts full responsibility for meeting its cash commitments, at completion, with or without grant aid.

That is helpful when the vendor is pressing the club to finalise a deal, but of course it only applies if the club has a "Plan B" organised to finance the purchase, if necessary, without grant support. Where grant aid is an essential part of the purchasing plan, then the club must be careful to ensure that its offer to buy is not only "subject to contract" but also subject to a successful application for funding.

Another popular misconception that arose from our May seminar was that applications below £150 000 would be processed more speedily and that all apllications should, if possible, be kept below that figure. That is not true. Only if an application exceeds £5.5 million does the procedure change. All other applications go before a panel which meets monthly and there is therefore no advantage in seeking to arrange finances in order to stay below the £150 000 threshold. Applications for grant aid should always be based on the full project cost.

By far the major cause of delay is when the application form is not properly completed. The message from the recent lottery sports fund roadshow is that more than half the applications are either returned or rejected for that reason. The form requires great care. You cannot afford not to get it right first time or you might have to wait 12 months for have another go!

The Sports Council's officers have provided me with a great deal of help and advice in dealing with applications and problems encountered by individual clubs. If you do have a problem, either contact the case officer at the Sports Council's lottery team who signed your letters of acknowledgement, giving your application's reference number, or get in touch with me and I will gladly take up the matter with the Sports Council on your behalf.

Roger Coote, *BGA development officer*

FOR GROB ACRO OWNERS

On August 6 two Air Cadet Viking gliders, Grob 103s, from Sealand collided at approximately 2000ft agl, killing the pilots in one aircraft. The other crew were unable to bale out.

In a letter to Dick Stratton, BGA chief technical officer, Sqd Ldr Robin Miller from the Air Cadets Central Gliding School, says it would seem that the front canopy was opened fully, using the left handle, breaking the restraining cord. The canopy then hit the outside of the fuselage and twisted the canopy hinges. It began to open and close in the airflow but the pilot in the front seat found he could not withdraw the hinge pins using the right hand handle. Events in the rear seat followed a similar pattern and the crew eventually landed back at Sealand in the damaged glider.

Robin writes that the findings of the Board of Inquiry haven't been published but they have given advice to their Viking aircrew which we print below for the benefit of Grob Acro owners:-

"Initial reserch reveals that if the left handle is pulled back before the right and the canopy starts to open, it will then be difficult, and perhaps impossible, to operate the right lever and separate the canopy from the aircraft, For a successful canopy jettison it appears essential that both levers are pulled back simultaneously. The right lever has then to be maintained in its rearward position, against spring pressure, by the right hand whilst the canopy is pushed up and away with the left hand."

NATIONAL LADDER

I rather embarrassingly find myself at the top of the Open Ladder followed by Steve Crabb and Tim Macfadyen, all with over 10 000pts. Steve saved me from further distress by finishing top of the Weekend Ladder with Booker putting in an appearance in the form of Dave Caunt in 3rd place. As many pilots in the upper reaches of the ladders declined to supply photographs, myself and Tim Macfadyen qualify for BGA trophies in the Open Ladder while Richard Palmer and Geoff Glazebrooke will claim those in the Weekend Ladder, hence the reason we are giving 7th and 9th places.

Well done to everyone on their superb performances.

Open Ladder

Pilot	*Club*	*Pts*	*Flts*
1. J.L.Bridge	Cambridge Univ	12 435	4
2. S.J.Crabb	Soaring Centre	11 323	4
3. T.Macfadyen	Bristol & Glos	10 903	4
4. P.Baker	Cambridge Univ	9533	4
5. D.Caunt	Booker	9496	4

Weekend Ladder

Pilot	*Club*	*Pts*	*Flts*
1. S.J.Crabb	Soaring Centre	9382	4
2. J.L.Bridge	Cambridge Univ	9371	4
3. D. Caunt	Booker	8528	4
7. R.Palmer	Bidford	7363	4
9. G.Glazebrooke	Cambridge Univ	5944	4

John Bridge, *national ladder steward*

GLIDER PARACHUTE RECOVERY SYSTEMS

At the meeting of the OSTIV Sailplane Development Panel held in Zlin, Czech Republic, last September, the final draft of a document on the above subject was approved. This matter had already been considered at the meeting in Omarama and this was the last opportunity to make alterations.

After a few small amendments, the text was agreed and will now be published as part of OSTIV Airworthiness Standards. It will appear as a self-contained booklet, as opposed to an addition to the existing document.

OSTIV Airworthiness Standards are, of course, not obligatory but in the absence of other Requirements they form an excellent working basis. It is hoped that JAR 22 will eventually publish their own Requirements, incorporating much of the sense of OSTIV.

Frank Irving

BGA 1000 CLUB LOTTERY

The **November** draw results are: First prize - M.Pleasance (£54.75) with the runners up - J.Allen, J.Kinley, Y.A.Watts, K.J.Cadman and P. Gresham - each winning £10.95. **December.** First prize - Dr R.P.Saundby (£55.50) with the runners up - J.Tait, D.Oddy, M.Wilshere, J.Limb and I Breingan - each winning £11.10.

COMPETITION DIARY

The Club Class Championships will be held concurrently with the Western Regionals at Nympsfield, home of Bristol & Gloucestershire GC, from June 22-30.

It has also be decided by the BGA Competitions and Awards Committee that the Junior Nationals, which are at the Lasham Gliding Society from August 15-23, should now be known as the Junior Championships.

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1995
473	Jelden, A.	Booker	26.9
474	Smith, I.C.	East Sussex	28.9
475	Newland-Smith, M.E.	London	13.8
476	Greenhill, D.J.	Expat (in USA)	9.4
477	Freestone, I.P.	The Soaring Centre	11.10
478	Read, G.F.	Booker	26.9

DIAMOND DISTANCE

No.	Name	Club	1995
1/712	Hatwell, R.S.	Essex & Suffolk	14.8
1/713	Freestone, I.P.	The Soaring Centre	14.8
1/714	Foster, S.A.	Cambridge Univ.	22.7
1/715	Newland-Smith, M.E.	London	13.8
1/716	Oliver, M.	Cotswold	22.7

DIAMOND GOAL

No.	Name	Club	1995
2/2396	Mackenzie, B	Wrekin	18.8
2/2397	Janzso, J.	Kent	22.7
2/2398	Bainbridge, M.	Essex & Suffolk	20.8
2/2399	Brooks, M.P.	Lasham	22.7
2/2400	Ayres, S.J.	Bannerdown	11.8
2/2401	Cooper, A.	Lasham (in France)	14.8
2/2402	Cooper, T.W.	Norfolk	22.7
2/2403	Tipple, K.B.	Lasham	10.8
2/2404	Nicolson, K.	ESC (in France)	30.7
2/2405	Vincent, K.G.	Kent	22.7
2/2406	Rogers, J.B.	West Wales (in France)	15.8
2/2407	Smyth, B.F.R.	Bristol & Glos (in France)	6.7
2/2408	Page, R.R.	ESC (in France)	14.8
2/2409	Purslow, B.	Bowland Forest	17.8
2/2410	Foster, S.D.	Bannerdown	22.7
2/2411	Barratt, G.M.	Dukeries	29.7
2/2412	Hornsey, L.	Chilterns	20.8
2/2413	Buzzard, C.	The Soaring Centre	22.7
2/2414	Walker, S.R.	Four Counties	5.8
2/2415	Briggs, D.W.	Cotswold (in France)	29.7
2/2416	Walton-Smith, P.J.D.	631 VGS (in Australia)	2.2

DIAMOND HEIGHT

No.	Name	Club	1995
3/1251	Horsfield, S.G.	Yorkshire	23.7
3/1252	Glennie, P.F.	SGU	4.10
3/1253	Luxton, J.R.W.	Booker	28.9
3/1254	Jelden, A.	Booker	26.9
3/1255	Coote, R.B.	Southdown	28.9
3/1256	Jessett, A.P.	Lasham	28.9
3/1257	Smith, I.G.	East Sussex	28.9
3/1258	Goodall, J.T.	Yorkshire	23.7
3/1259	Brand, A.K.	East Sussex	27.9
3/1260	McKenzie, C.S.	Cornish	28.9
3/1261	Greenhill, D.J.	Expat (in USA)	9.4
3/1262	Eastburn, M.P.	Aquila	26.9
3/1263	Lewicka, A.	Booker	26.9
3/1264	Freestone, I.P.	The Soaring Centre	11.10
3/1265	Read, G.F.	Booker	26.9
3/1266	Porter, K.M.	Shalbourne	18.10
3/1267	Russell, M.C.	Cambridge Univ.	28.9
3/1268	Morrison, G.M.	Deeside	16.10
3/1269	Johnston, J.A.	Sackville	2.10

GOLD BADGE

No.	Name	Club	1995
1849	Brooks, M.P.	Lasham	22.7
1850	Smith, D.A.	Bath & Wilts	27.8
1851	Hackett, P.L.	Clevelands	23.9
1852	Wakem, M.P.	Midland	22.9
1853	Lincoln, B.N.	Portsmouth Naval	22.7
1854	Meagher, M.	Booker	22.9
1855	Nicolson, K.	ESC (in France)	30.7
1856	Vincent, K.G.	Kent	22.7
1857	Moore, J.	Booker	26.9
1858	Smyth, B.F.R.	Bristol & Glos (in France)	6.7
1858	Page, R.R.	ESC (in France)	14.8
1859	Purslow, B.	Bowland Forest	17.8
1860	Elgsas, S.	Booker	26.9
1861	Hornsey, L.	Chilterns	20.8
1862	Staff, D.T.	Booker	26.9
1863	Lee, G.G.	Surrey & Hants	26.9
1864	McKillen, A.	Ulster	22.8
1865	Freestone, I.P.	The Soaring Centre	11.10
1866	Underhill, R.M.	Oxford	5.10
1867	Russell, M.C.	Cambridge Univ.	28.9
1868	Alison, G.C.	Booker	5.10

GOLD HEIGHT

Name	Club	1995
Fielder R.A.	East Sussex	30.8
Hey, J.L.	Talgarth	27.8
Smith, D.A.	Bath & Wilts	27.8
Hackett, P.L.	Clevelands	23.9
Horsfield, S.G.	Yorkshire	23.7
Wakem, M.P.	Midland	22.9
Meagher, M.	Booker	22.9
Nicolson, K.	ESC (in France)	24.10
Flower, B.S.	London	22.9
Jessett, A.P.	Lasham	28.9
Moore, J.	Booker	26.9
Liechti, P.	Lasham	26.9
Twiss, L.P.	Lasham	28.9
Harrison, J.T.	Avro (in USA)	23.3
Burgess, M.J.	East Sussex	28.9
Brand, A.K.	East Sussex	27.9
Elgsas, S.	Booker	26.9
Bridgewater, G.J.	Stratford on Avon	26.9
Short, R.H.	Welland	5.10
Birkbeck, A.J.	Booker	1.10
Staff, D.T.	Booker	26.9
McKenzie, C.S.	Cornish	28.9
Lee, G.G.	Surrey & Hants	26.9
Freestone, I.P.	The Soaring Centre	11.10
Blackhurst, J.L.	Midland	26.9
Clayton, P.	Burn	9.10
Underhill, R.M.	Oxford	5.10
Mackay, D.N.	Deeside	11.10
Russell, M.C.	Cambridge Univ.	28.9
Alison, G.C.	Booker	5.10
Hoare, N.J.	Booker	11.10
Kochanowski, S.J.	Burn	5.10
Clifton, R.	Kent	27.9
Colbeck, R.A.	London	22.9

GOLD DISTANCE

Name	Club	1995
Mackenzie, B.	Wrekin	18.8
Topping, P.M.	The Soaring Centre	14.8
Bainbridge, M.	Essex & Suffolk	20.8
Brooks, M.P.	Lasham	22.7
Staley, J.M.	Bicester	9.8
Smith, D.A.	Bath & Wilts	14.8
Ayres, S.J.	Bannerdown	11.8
Cooper, A.	Lasham (in France)	14.8
Cooper, T.W.	Norfolk	22.7
Hackett, P.L.	Clevelands	18.8
Tipple, K.B.	Lasham	10.8
Nicolson, K.	ESC (in France)	30.7
Vincent, K.G.	Kent	22.7
Rogers, J.B.	West Wales (in France)	15.8
Moore, J.	Booker	10.8
Smyth, B.F.R.	Bristol & Glos (in France)	6.7
Page, R.R.	ESC (in France)	14.8
Purslow, B.	Bowland Forest	17.8
Hornsey, L.	Chilterns	20.8
Staff, D.T.	Booker	22.6
Buzzard, C.	The Soaring Centre	22.7
McKillen, A.	Ulster	22.8
Walker, S.R.	Four Counties	5.8
Briggs, D.W.	Cotswold (in France)	29.7
Walton-Smith, P.J.D.	631 VGS (in Australia)	2.2
Underhill, R.M.	Oxford	10.8
Alison, G.C.	Booker	22.7

SILVER BADGE

No.	Name	Club	1995
9905	Hogan, P.M.	Vale of White Horse	26.8
9906	McDougall, W.	Marchington	30.7
9907	Askey, L.	Midland	22.7
9908	Copley, R.C.R.	Midland	10.8
9909	McInnes, C.	Fenland	13.8
9910	Mann, P.	Chilterns	9.9
9911	Basterfield, K.	Dartmoor	10.8
9912	Farr, P.	Surrey Hills	22.8
9913	Barr-Smith, T.M.	Surrey Hills	30.8
9914	Sanville, S.C.	Cambridge Univ	9.8
9915	Williams, P.	Lasham	28.8
9916	Hirst, P.	Oxford Univ.	9.9
9917	Duke, N.J.H.	Marchington	11.8
9918	Stilgoe, G.	Southdown	20.8
9919	Vincent, C.	Bidford	30.7
9920	Stevens, A.	RAFGSA	22.7
9921	Heselwood, M.D.	Cranwell	29.7
9922	Nuttall, C.	Midland	19.8
9923	Peap, J.	Chilterns	9.8
9924	Brittain, W.J.	Borders	12.8
9925	Organ, M.D.	Upward Bound	14.8
9926	Williams, D.E.	Surrey Hills	28.8
9927	Mansfield, D.M.	Nene Valley	6.8
9928	Edmonds, M.A.	Shalbourne	11.8
9929	Page, A.	Rattlesden	10.8
9930	Gurney, I.P.S.	The Gliding Centre	22.9
9931	Carter, D.S.	Enstone	23.9
9932	Martin, P.G.	RAF Bedford	9.9
9933	Miller, T.	Southdown	13.8
9934	Knowes, M.	Bowland Forest	18.8
9935	Newnham, L.M.	Ouse	6.8
9936	Bailey, C.J.	Essex & Suffolk	3.9
9937	Spedding, N.K.	Stratford on Avon	8.7
9938	Cooper, A.	Lasham	14.8
9939	Garner, R.P.J.	Booker	26.8
9940	Green, K.S.	Lasham	1.10
9941	Nicholson, K.	ESC	30.7
9942	Broome, R.D.	The Soaring Centre	28.8
9943	Baldock, E.	Wolds	23.9
9944	Fowler, A.D.	Imperial College	20.7
9945	Phelps, M.H.	Shenington	19.8
9946	Wray, L.J.	Aquila	28.8
9947	Glassett, S.J.	Shalbourne	5.8
9948	Parikh, P.	Bristol & Glos	21.8
9949	Sturley, P.O.	Bicester	29.9
9950	Skeaping, A.J.	London	30.8
9951	Lingafelter, D.G.	London	22.7
9952	Lodge, M.	Surrey Hills	1.6
9953	Craig, P.J.	Thruxton	20.7
9954	Hope, D.M.	ESC	29.7
9955	de Tourtoulon, A.C.E.	Essex & Suffolk	8.10
9956	Mackay, D.N.	Deeside	11.10

UK CROSS-COUNTRY DIPLOMA

Complete

Name	Club	1995
Sinclair, S.	Kent	27.8
Newnham, L.M.	Ouse	16.8
Bainbridge, M.	Essex & Suffolk	20.8
Lincoln, B.N.	Portsmouth Naval	15.5

Part 1

Name	Club	1995
Newnham, L.M.	Ouse	16.8
May, J.H.	Staffordshire	22.8
Bainbridge, M.	Essex & Suffolk	20.8
O'Neill, B.N.	Oxford	19.8
Guttery, G.E.	Bowland Forest	16.8
Lincoln, B.N.	Portsmouth Naval	15.5
Hunt, J.	Lasham	11.8
Sanville, S.C.	Cambridge Univ.	18.8
Toft, D.K .	Kent	17.8
Burgess, M.J.	East Sussex	22.7

Part 2

Sinclair, S.	Kent	27.8
Newnham, L.M.	Ouse	16.8
Bainbridge, M.	Essex & Suffolk	20.8
Lincoln, B.N.	Portsmouth Naval	15.5
Haigh, J.	Southdown	8.6

Euroglide '96: The Eindhovense Aero Club are again organising what they describe as "a Europoean monster race" starting from Eindhoven Airport on July 18, finishing back at base no later than July 28. For more details contact Joeri Bierings, Rietbeek 28, NL-5501 CB, Veldhoven, Holland.

Spanish gliding: After the article in the October issue, p307, about the Spanish club their address has changed and the contact is now Joaquin Zuazo, Escuela Enaire, C Olite-45, Madrid 28039, Spain, tel/fax 0034 1 311 2047. ➡

SAFETY ADVICE

FIELD LANDING

- **Don't** choose a field too soon or too late.
- **Don't** fly over unlandable terrain. Make every attempt to assess the wind from available clues (including drift). Fly an adequate size of circuit pattern. Don't change your mind at a late stage.
- **Size** is relative - get to know and avoid, if possible, areas with small fields.
- **Slopes** need to be seen from different directions if you are to spot them. If landing uphill have extra speed and roundout sooner.
- **Surface** - be aware of the seasonal changes of colour and texture. Read *S&G* articles on the subject ("Get Off My Land" series in the 1992 April-August issues).
- **Stock** - avoid fields with animals, especially cattle and horses. A solitary "cow" in a field is probably a **bull**.
- **Cables** - expect them on boundaries, especially near roads. They effectively reduce the field length.

BILL SCULL



Sandy Harrup, as previous photos in S&G have shown, has a great eye for the unusual shot. She took this one of Dave and Simon Minson's Mosquito at North Hill. We are always looking out for this kind of interesting photograph and can work well from good quality prints.

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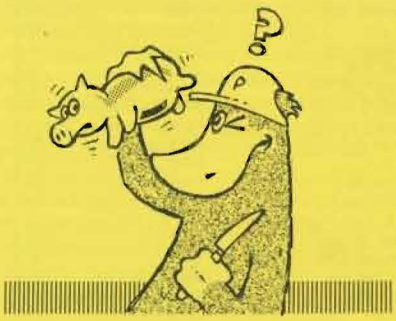
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GLEN DOUGLAS

CLUB FOCUS

Glen writes about Aboyne, the home of record breaking wave flights



A DG-500 from Aboyne was flying over Lochs Kinord and Davan.

In 1963 the original Deeside GC chose an otherwise useless, boulder strewn field of gorse and broom near Dinnet to be their permanent home.

The first job for members was to hack out a landing strip from stones and brush. A mammoth task indeed, but with the help of volunteers from Aboyne village, they were ready for the first launch on July 26 1964. This proved somewhat of a disaster when the winch stalled and the T-31 tried to turn back, rather than landing ahead. The glider hit the ground, port wing first, and was badly damaged. Fortunately the pilot escaped uninjured. It was almost a year before the glider was ready for a second attempt, thus the first successful flight was on June 27 1965.

Since quitting the rapidly expanding Dyce Airfield in 1955, the Aberdeenshire GC had wandered round the north-east of Scotland, even bungying off the Hill O'Fare 16 miles to the east of Aboyne. They ended up at Littery near Turriff, but the site was far from ideal, being too close to the sea and too far from the hills.

Nineteen sixty-seven saw the two clubs agreeing to pool their assets to form the present day Deeside Gliding Club (Aberdeenshire) Ltd. Since then the club has grown in membership, facilities and visitors and is now recognised as one of, if not **the**, prime wave soaring site in the UK and Europe. This did not happen overnight but took years of hard work, sacrifice and careful planning.

Flying was suspended for most of 1969 to build the blister hangar bought from the Forestry Commission in Banchory. Members demolished, transported and re-erected the building for the princely sum of £47, the club's entire bank balance. The following year we bought the BGA Capstan and Golf Victor, the Super Cub, and became an exclusively aerotow club.

In 1973, the first tarmac runway was laid by members on a base taken from the old railway line to Ballater which ran to the north of the site. The help of the Aberdeen Council roads' department was greatly appreciated.

The foundations of a much needed clubhouse were started in 1980 and the completion certificate applied for in 1984! On the other hand, the tug hangar was professionally built in 1987. It was completed much faster, but cost £30 000. Last year saw the final building work for the foreseeable future - a new glider hangar costing £100 000. We can now leave the entire club fleet rigged and, with the door opening to 30m and a span of 40m inside, it will hold the larger gliders.

In the meantime we continued to develop the field. A new crosswind, grass runway in 1982, meant we could land into wind in a north-westerly, and operations were considerably enhanced in 1991 when the second tarmac runway was built by 216 Field Squadron ADR from RAF Marham as part of the military aid to the civilian community programme. This coincided with the clubhouse extension and the conversion to an all glass fleet.

Our excellent soaring conditions are combined with probably the least airspace restrictions in Europe. The areas where soaring is at its best, pilots can concentrate and enjoy cross-countries and height gains without worrying about infringing airspace. Where there are restrictions, to the east and south-east, we can fly in or through in VMC.

It is a beautiful area to fly over and the air is normally crystal clear with views from horizon to horizon. It is certainly one of the most picturesque parts of Britain with Balmoral Castle only ten miles to the west. Apart from gliding, there are plenty of things to do with many tourist attractions and recreations from walking and golf to fishing.

The Scottish Sports Council have designated Aboyne Airfield as Scotland's National Gliding Centre. It hosts the Scottish Regionals and the BGA's autumn wave soaring courses. We also have courses tailored to the needs of individual pilots, whatever their standard, and Lionel Sole, the four times British Aerobatic Champion, gives aerobatic instruction.

The fleet of two Puchaczs, a Junior, Sport Vega and ASW-19 are fitted with oxygen and instruction can be given to high altitude. Launching is by two 235 HP Pawnees and a 180 HP Super Cub.

The clubhouse includes a briefing room with computerised task setting, lounge, kitchen, bar, toilets and a sun porch overlooking the site. We have a licensed aircraft engineer on site with a well equipped workshop and facilities for refilling oxygen cylinders and calibrating barographs. The site is administered by the club and is therefore a gliding only airfield.

More than any other UK club, Deeside can claim to have probably the best soaring conditions. It is recognised throughout Europe for its excellent wave soaring and although this is especially good in the spring and autumn, it is prevalent all year round and works in virtually all wind directions.

In the prevailing westerlies, wave flights can be exceptional, frequently giving Gold and Diamond heights and distance flights. We also enjoy good thermal conditions with especially strong lift from the granite outcrops in the surrounding terrain.

For those interested in meritorious flights, the current height record is 37 730ft (see p17), the fastest time to Diamond height from the ground run is 23min and the longest cross-country is 850km. All these records are there to be broken.

You too could share the Aboyne experience. For further details or to book your expeditions, contact us by 'phone or fax on 013398 85339 or write to us at Aboyne.

For details of the BGA wave soaring courses in October contact the BGA on 0116 2531051, fax 0116 2515939.

An active day at the club. Photo: Robert Henderson



ANNUAL STATISTICS OCTOBER 1, 1994 TO SEPTEMBER 30, 1995

GLIDING CLUBS	AIRCRAFT				ALL LAUNCHES	NO. OF AEROTOWS	HOURS FLOWN	KMS FLOWN	MEMBERSHIP		
	Club 2s	Club 1s	PO	Tugs					Full Flying	Estimated No. of Temporary Members	No. of Female Members
ANGUS	2	1	4	0	1 091		136	235	30	277	2
AQUILA	3	4	27	2	2 298	1 813	1 506	36 174	58	165	1
BATH WILTS & NORTH DORSET	3	3	22	1	3 356	853	1 257	12 000	117	290	7
BIDFORD GLIDING CENTRE	3	4	30	2	3 339	3 339	3 167	95 300	140	602	3
BLACK MOUNTAINS	3	1	26	1	2 241	2 241	2 897	18 300	64	156	9
BOOKER	7	7	78	5	10 048	10 048		350 000	280	1 450	30
BORDERS	3	1	21	2	1 522	1 522	1 065	8 120	76	210	2
BOWLAND FOREST	2	3	23	0	5 111	0	2 193	4 000	99	197	7
BRISTOL & GLOS	4	4	62	2	8 351	2 565	6 044	85 000	309	476	25
BUCKMINSTER	3	2	21	2	2 880	1 875	1 485	5 500	69	317	9
BURN	4	4	24	1	5 970	1 522	1 628	4 200	133	354	5
CAIRNGORM	1	0	10	0	1 000	250			34	85	2
CAMBRIDGE UNIVERSITY	2	5	63	2	10 111	1 971	7 999	217 263	223	1 373	21
CARLTON MOOR	1	1	2	0	696	0	155		18	22	1
CHANNEL	3	1	7	0	4 849	0	604		46	480	4
CONNEL	3	1	4	1	705	100	408	5 415	30	81	1
CORNISH	2	2	8	1	2 032	1 782	781	1 600	29	448	1
COTSWOLD	4	4	42	1	8 516	584	4 617	44 200	172	1 017	12
DARTMOOR GLIDING SOCIETY	3	2	7	0	4 224	0	939		90	350	
DEESIDE	2	3	21	3	5 314	5 290	5 275	121	619	16	
DERBY & LANCS	6	3	43	0	8 032	0	3 872	5 000	193	1 282	19
DEVON & SOMERSET	4	3	35	1	8 751	434	3 189	10 280	191	1 023	19
DORSET	2	3	5	1	3 185	590	458	118	374	2	
DRA FARNBOROUGH	2	2	7	1	982	317	375	1 000	39	44	3
DUMFRIES & DISTRICT	1	1	3	0	345	0	84	400	17	15	0
EAST SUSSEX	4	4	16	0	4 762	40	1 073	2 500	115	637	3
ENSTONE EAGLES	2	1	8	0	2 153	24	822	3 000	41	419	3
ESSEX & SUFFOLK	3	2	21	0	4 644	0	1 511	15 000	98	215	4
ESSEX	3	2	22	1	3 127	998			100	391	
GLYNDWR SOARING CLUB	3		20	1					60	180	
HIGHLAND	2	2	8	0	2 136	338	942	3 073	61	170	15
IMPERIAL COLLEGE	1	2	0	0	2 500	500	600	1 200	15	60	2
ISLANDERS LIMITED	0	0	2	1	373	29	36	37	21	21	2
KENT	3	2	28	1	5 466	1 974			149	767	10
LAKES	3	3	7	1	1 356	1 326	554	5 960	44	164	1
LASHAM GLIDING SOCIETY	11		148	5	31 529	11 092	14 100	359 990	452	2 723	178
LINCOLNSHIRE	2	1	8	0	4 309	0	605	107	60	135	8
LONDON	7	4	87	4	21 230	7 996	11 000	162 000	437	2 500	20
MIDLAND	3	4	39	1	12 304	706	5 303	43 808	195	1 082	20
MARCHINGTON	4	1	13	1	2 079	2 079	1 195		87	191	4
MENDIP	2	2	10	0	2 949	20	698	4 800	66	441	6
NENE VALLEY	2	2	7	0	3 003	0	634	3 733	40	190	4
NEWARK & NOTTS	2	3	16	0	3 956		720	2 880	60	420	5
NORFOLK	4	2	33	2	5 223	2 892	2 005		201	753	19
NORTH DEVON	2	6	0	1	363	363	250	750	10	30	
NORTH WALES	2	3	51	0	2 900	0	520		52	250	0
NORTHUMBRIA	3	2	19	1	2 572	796	698	1 500	89	534	5
YORK GLIDING CENTRE	3	4	19	1	5 567	2 095	1 354	1 500	114	550	5
OXFORD	4	3	16	0	2 897	0	853	19 500	90	235	8
OXFORDSHIRE SPORTSFLYING CLUB	0	0	2	0	0	0	1 250	14 000	35	22	1
PETERBOROUGH & SPALDING	3	1	14	2	2 059	2 059	1 252	7 000	75	260	5
RAE BEDFORD FLYING CLUB	1	0	9	0	1 003	0			18	20	0
RATTLESDEN	2	2	18	1	3 235	331	997	8 200	72	520	12
R.S.R.E. FLYING CLUB	2	1	0	0	137	2	25	0	10	23	1
SACKVILLE	3	2	10	1	1 100	500	1 000	6 000	37	75	5
SCOTTISH GLIDING UNION	3	3	42	1	8 122	711	5 670		234	723	11
SHALBOURNE SOARING SOCIETY	3	2	26	0	3 690	0	1 313	10 000	102	615	18
SHENINGTON	3	3	10	1	4 686	341	963	12 643	56	128	8

GLIDING CLUBS	AIRCRAFT				ALL LAUNCHES	NO. OF AEROTOWS	HOURS FLOWN	KMS FLOWN	MEMBERSHIP		
	Club 2s	Club 1s	PO	Tugs					Full Flying	Estimated No. of Temporary Members	No. of Female Members
HEREFORDSHIRE	1	1	8	1	663	663			70	195	10
SHROPSHIRE SOARING GROUP	0	0	12	1	263	263	552		29	0	1
SOUTH WALES	2	2	21	1	2 776	942	1 281	6 658	85	441	5
SOUTHDOWN	3	3	40	3	6 347	5 252	3 119	34 900	242	1 050	30
STAFFORDSHIRE	4	4	7	0	5 740	20	1 283	4 200	125	340	8
STRATFORD ON AVON	4	3	22	0	7 210	0	2 704	10 783	126	954	12
STRATHCLYDE	1	2	6	1	477	126	83	0	26	112	1
SURREY & HANTS	0	11			2 120	478	1 196		192		14
SURREY HILLS	4	4	3	0	4 806		633		58	344	4
THE DUKERIES	2	1	10	0	3 172	0	788	1 900	35	219	3
THE GLIDING CENTRE	8	9	0	1	15 802	790	2 765		25	870	6
THE MOTOR GLIDER CENTRE	0	0		0			764	3 000	29	55	3
THE SOARING CENTRE	5	6	82	4	16 592	10 321	9 462	92 420	367	1 560	22
THRUXTON	3	1	7	1	752	752	350	2 050	34	101	2
TRENT VALLEY	3	1	17	1	3 984	664	1 352	8 132	58	178	7
ULSTER	2	1	11	1	1 225	1 202	686	1 450	38	114	1
UPWARD BOUND TRUST	2	1	3	0	2 543	0	469	1 975	25	250	2
VALE OF NEATH	1	1	4	1	459	268	190		25	21	1
VALE OF WHITE HORSE	2	2	12	1	2 679	70	899	15 340	49	241	3
VECTIS	1	1	5	1	942	942	415	500	35	124	3
WELLAND	3	2	13	1	4 434	127	1 214	4 800	71	319	7
WEST WALES GLIDING ASSOCIATION	2	1	1	0	326	0	47		9	23	0
WOLDS	4	3	29	1	9 960	1 150	3 275	16 900	181	1 669	9
YORK GLIDING CENTRE	3	3	21	1	4 530	2 457	1 774	3 000	135	760	10
YORKSHIRE	3	5	41	3	7 896	4 535	2 973	33 736	276	1 005	9
CIVILIAN CLUB TOTAL	231	202	1 699	80	362 077	105 330	146 351	1 834 912	8 337	38 096	757
SERVICE											
ANGLIA	3	3	1	0	2 334	29	649	4 177	41		
ARMY GLIDING ASSOCIATION											
BANNERDOWN	3	3	5	1	4 465	363	1 858	31 257	82	254	7
EAGLE											
CHILTERNS	3	4	10	0	7 847	45	2 428	14 292	110	140	14
CLEVELANDS	2	4	11	2	4 882	2 059	2 028	24 241	80	330	9
CRANWELL	2	3	8	1	6 101	817	2 127	30 706	90	50	17
CRUSADERS	2	2	0	0	3 089	21	406	0	20	600	3
CULDROSE	3	3	1	3	2 074	1 664	426		48	200	6
ROYAL AIRCRAFT ESTABLISHMENT	2	3	7	1	1 207	449	540	1 056	48	0	5
FENLAND	2	3	6	0	4 003	67	1 187	14 296	95	130	18
FOUR COUNTIES	3	4	16	1	7 567	611	2 929	42 430	92	150	6
FULMAR	2	3	0	1	1 224	395	539	4 825	44	80	5
HERON	3	1	5	0	1 249	13	374		79	8	11
KESTREL	2	2	3	0	3 060	96	948	2 950	39	175	5
LOMOND	0	1	0	0	976	138	546	4 557	15	0	1
PHOENIX	3	4	2	0	2 317	64	651	1 350	40	200	6
PORTSMOUTH NAVAL	5	5	6	3	8 145	2 636	2 380	2 000	154	649	6
RAF GSA CENTRE BICESTER	5	7	13	3	17 000	5 869	0	83 000	173	350	8
TWO RIVERS	2	4	3	0	2 917	92	922	13 148	30	155	6
WREKIN	2	4	4	1	5 980	346	1 565	14 000	52	120	3
WYVERN	2	4	7	1	4 794	25	1 169	12 000	88	0	8
SERVICE CLUB TOTAL	51	67	108	18	91 231	15 799	23 672	300 285	1 420	3 591	14
CIVILIAN CLUB TOTAL	231	202	1699	80	362 077	105 330	146 351	1 834 912	8337	38 096	757
GRAND TOTAL	282	269	1 807	98	453 308	121 129	170 023	2 135 197	9757	41 687	901



A promising sky at Fulmar GC photographed by Jacky Pratt.



Above: A Devon & Somerset GC trio after gaining Diamond heights at Aboyne. L to r, Roger Matthews, John Bugbee and Malcolm Chant.
Below: Colin McKenzie (Libelle) of Cornish GC who also gained Diamond height at Aboyne.



CLUB NEWS

Copy and photographs for the April-May 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 February 13 (not January 9 as mistakenly given in the last issue). The deadline for the June-July issue is April 9.

GILLIAN BRYCE-SMITH *November 30*

AQUILA (Hinton in the Hedges)
Our Aboyne expedition resulted in Diamond heights for Mel Eastburn, John Cooper, David Latimer and Tony Limb, Tony achieving all three Diamonds. Steve Blackmore flew Gold height to complete his Gold badge.

Terry Tuite has gone solo. We have a new Skylark 4 on site and the end of season skittles evening was well attended.
S.K.

BATH, WILTS & NORTH DORSET (The Park)
We exist entirely through the enormous time and energy by various members. Dave Marsh quickly re-engined one of our winches and Graham Callaway, with many helpers, has almost finished a complete overhaul of our third winch.

Our annual dinner, organised by Sue Cutler and Joan Harford, is in December. The open ladder trophy has again been won by Alastair Macgregor with other cups going to Mark Hawkins, Bob Hitchin and Dave Smith.

Julian Reynolds has gone solo and Ken Chester and Richard Miskin have resoloed. Diana and Ian Wright and John Garland have formed an Astir syndicate.
J.L.

BICESTER (RAFGSA Centre)
Members have been upgrading the Discus and Janus instrument panels as well as helping Kev Sharp fettle the Tost and Land Rover fleet. We now winch launch on Wednesdays.

We are planning expeditions to the Long Mynd and Santiago, Chile. Chris Pilgrim and Derek Head are full Cats. Task week bookings are filtering through - don't miss out.
P.S.

BLACK MOUNTAINS (Talgarth)
Autumn was busy with a record 51 trailers on site. We had wave to 20 000ft on one day and many when climbs to 10 000ft were common. We soared on 21 days out of 31 during October and our many visitors had some great flying.

Keith Richards has worked hard on our second K-13 which is looking very smart.
D.U.

BOOKER (Wycombe Air Park)
Not only did the Aboyne expedition yield nearly a dozen badge claims, Chris Rollings beat the multi-seater UK height record held by another member, Alister Kay (see p17).

Jason Vincent-Newson, a BBC club bursary pupil, soloed in their K-21 - he's a bit tall for a K-13. The Discus is in South Africa and Gee Dale is a relief instructor while staff are away flying.

The saga of the hangar planning application drags on.
R.N.



John Young of London GC based at RAF Halton, home of Chilterns GC.



Charles Thorogood (Nene Valley GC) being congratulated by Roger Morrisroe.



Jason Vincent-Newson of the BBC GC which flies at Booker.

A CLUTCH OF FIRST SOLO FLIGHTS



Above: Terry Tuite (Aquila GC) with instructor Robin Culley. Below: Jenny Bettesley (Sackville GC). Photo: Derek Wales.



Above: Mike Garland (Chilterns) with instructor Steve Wilford (r).



Above: Vanessa Gregory (Cranwell GC) with her instructor Lyn Ferguson. Below: Kevin Charlton (Borders GC) with instructor Alistair Fish.



Below: l to r, Jim Clenell, Amy Fisher and Allen Birmingham from Staffordshire GC.



Chilterns' James Paley (l) with instructor Colin Worman (centre) and Martyn Paley (his father) after he soloed on his 16th birthday.





BURN (Burn Airfield)
At our annual dinner cups went to Alan Jenkins, Stan Kochanowski and Martin White with special awards to Steve Elsey, Tony Flannery and Nigel Pamplin.
P.N.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
Obituary - John Hulme



We have all been saddened by the recent death of John Hulme at the age of 83. He will be remembered by many as the UK PIK agent for a number of years. He started flying in 1938 at Barton, near his Bolton home, and was an ATC instructor at Cambridge from 1946. A coachbuilder, he worked throughout the war in the aircraft industry but returned to coachbuilding and glider repairing until his retirement in 1982.

He was a full Cat instructor, senior BGA inspector and CFI of the Perkins GC for some time as well as an instructor with our club where he was a honorary member. He held the UK distance record with a flight from Cambridge to Truro in 1957 in the club's Skylark 2.

His energy and enthusiasm was boundless and although down to earth and blunt, he was always ready to help those in trouble at any time.

I had the honour of taking John for his last flights earlier in 1995 (in our DG-500 and the club's Rallye) when his health was failing, but his keenness to get into the air was still there. I have lost a dear friend.

Our sympathy goes to Andrew, Sara and their families on their sad loss.
B.H.Bryce-Smith

CHILTERNS (RAF Halton)
James Paley soloed on his 16th birthday. Other notable solos include Mike Garland, the first from a school group with a combined pupil and parent block membership, and John Young, captain of University College London GC, which has recently moved to our site.

Our record 8011 launches in 1995 is due in part to the MT work by Gordon Howarth and helpers. Annual prizes went to Julie Pead (two), Angela Marriner, Gordon Howarth, Terry Lacey, Don Knight, Kerry Mulvey and Kevin Morley. O.J.Truelove was elected a life member.
I.P.

CORNISH (Perranporth)
We had another successful expedition to Aboyne and also went to the Long Mynd. Colin McKenzie gained Gold and Diamond height. Last season we had a significant increase in flights and hours, contributed to by air experience flights and gliding club visitors. We also had a record number completing badges, the latest being Alan Redington who has his Bronze.
S.S.

COTSWOLD (Aston Down)
Greg Dew and Mark Verdon have soloed; Richard Cawsey has a Bronze badge and Mike Shailes reached Gold height at Aboyne.

To encourage more interest in gliding from young people in our district and to make the sport more widely available, we are launching a cadet scheme in the new year.
M.S.

Obituary - Brian Gilmore
It is with much regret that we report the death of Brian Gilmore on November 1 aged 49 years.

Brian joined us in 1975 and was very much involved in the club over the last 20 years.

He was a very thorough and talented engineer and used his knowledge and expertise when he was our aircraft maintenance member and glider inspector. He was an active committee member with several terms of office, including airfield manager and editor of the newsletter.

In the early days Brian met his wife Pat at the club with whom he shared a passion for gliding.

He was a keen syndicate member having shares in a K-2, Pilatus and Std Cirrus and was a vintage enthusiast with interests in a Hütter and T-21. He had a PPL/D microlight licence, with a share in a Thruster, and was building his own microlight. He was a member of the Gloucester Strut of the PFA.

Brian's ashes were scattered from a T-21 over the Gloucestershire woodlands above which he so often enjoyed flying.

Much liked and respected for his friendship and knowledge, which he so willingly shared, Brian will be greatly missed by us all.
Malcolm Gay

CRANWELL (RAF Cranwell)
George MacEachern, Ken Charlton, Ron Mood and Vanessa Gregory have gone solo; Mark Heselwood and Trevor Cooke have AEI ratings and Lyn Ferguson is a full Cat.

The AGM went well with trophies going to Lyn Ferguson (three), Stephen Langford (two), Richard Browne, Mark Heselwood, Brian Hutchinson, Steve Benn, Al Jury, John Morris and Mick Ferguson.
L.F.

DEESIDE (Aboyne Airfield)
Our new hangar is complete and with its 30m door and 40m internal width can house the larger span gliders.

At the Christmas dance prizes were awarded to Chris Rollings, Bryony Hicks, John Tanner, Peter Coward, Richard Arkle and Carol and Duncan McKay. Peter Coward also won the trophy for the best cross-country from either Deeside, Angus, Highland or Cairngorm GCs.

Duncan McKay gained Gold height and completed his Silver badge with a 50km.

October saw us at 37 730ft and November at 22 000ft.
G.D.

DERBY & LANCS (Camphill)
Richard Dance has a Bronze badge and Keith Williams, who soloed in May, completed his Silver in November, which may be a club record.

Work is progressing on the vintage gliders and another winch should be ready for the season. We have had good wave flights recently.

We celebrated our 60th anniversary with a dinner-dance with Platypus as guest speaker. It was a great evening. Our Christmas party was also a great success, thanks to Sylvia.
W.T.

DEVON & SOMERSET (North Hill)
With the arrival of our new Pawnee (thanks to the efforts of Joe Acreman) we have a host of new solo aerotow pilots.

Malcolm Chant, John Bugbee and Roger Matthews gained Diamond heights at Aboyne and Dave Edwards in Arizona.

We are renovating our "control bubble" and a dedicated team keep our tractors and winches going.
S.C.L.

FOUR COUNTIES (RAF Syerston)
Our expedition to Aboyne produced Gold heights for Andy Mason, Bryan Delmar and Sue Armstrong and Diamond height for Bob Grieve.

Ivan Cartes and Pete Dixon have gone solo.

At our well attended AGM trophies were presented to Steve Walker, Chris Gildea, Trev Gorley, Sam Heys, Dave Ruttle, Richard Hood, John Rivers, Ian Cartes (University), Mark Paddock and Mike Hughes.

We are up on launches, hours and kilometres, although we still had to raise our glass single-seater soaring charges. But they remain excellent value.

Andy Mason has taken over from Kevin Mason as DCFI. Our Astir CS is being replaced in the spring.
D.M.R.

FULMAR (RAF Kinloss)
It's been a quieter autumn than most, chiefly because we are still coming to terms with the death of our CFI, Gary Moxham (see last issue, p359).

We had torrential rain in September but now there are signs of great wave.

Jane Kennedy has resoloed on aerotows and Skippy Audett on the Acro. Julie Hull, our soup dragon, and her team have been working wonders on the bus and the children joined in to paint the outside.

We welcome back Ian Keylock who is recovering well after his fall earlier in the year.
J.P.

HEREFORDSHIRE (Shobdon)
The well attended AGM, which reflected a year of steady progress, was followed by a dinner. Cups went to David Evans and Ian Baldwin and tankards to John Warbey and Roy Palmer in appreciation of their efforts in VAT recovery giving us a healthy fund. We're grateful also to Peter Greenway for the new roof on the clubhouse.

Robert Chappell has joined the committee.

A number of visitors have taken up winter membership and been enjoying moderate wave.
R.P.

KENT (Challock)
During our annual expedition to Aboyne Steve Noad and Andy Street got Diamond heights.

Last summer the clubhouse exterior was refurbished and now the internals are being dealt with. The ATC have left for the winter so our field can recover from its punishment by many Land Rovers and our hangar is less restricted.
A.R.V.

LAKES (Walney Airfield)
At our annual dinner/prizegiving awards went to Neil Braithwaite (two), Peter Redshaw (two), Gordon Furness, Graham Welch, Jim Storer, Roger Copley and John Burdett.

Roger Copley, Alan Meadows and David North flew Gold heights at Feshiebridge in October.

John Martindale and Jim Storer have Bronze badges and Julian Ronald has gone solo.
A.D.

LASHAM (Lasham Airfield)
On the recommendation of CFI Graham McAndrew, Surrey & Hants GC K-8 pilots will progress earlier to the Junior, soaring skills will be developed and there will be fast, but safe, promotion to the more advanced gliders.

Our annual expedition to Aboyne was a great success with three Diamonds and a Gold and Silver achieved. Everyone went to 14 000ft or more on several ocasions.

There has been a steady rise in membership. The new kitchen and serving area has worked well and a profit is expected this year. We have a new oil store and priority will be given to replacing the clubhouse roof. There are longer term plans for improving the seating area in the restaurant and building an extension to hold the office and reception area.
A.M.S.

MARCHINGTON (Tatenhill)
Simon Skinner, Mark Sherwood, and Phil Derbyshire have gained Bronze legs; Grant Williams a Bronze badge and 5hrs; Bob Thacker Silver height and 5hrs; John Woods Silver height and Bill Mac, Bill Ullyet, Niget Duke, Ian Robson, A. Walsh and I. Walker Silver badges.

The October visit to Portmoak saw A. Roberts (Mosquito) at 10 5000ft and Steve Higginbottom and Phil Derbyshire (K-21) at 6500ft.

At the dinner-dance in November trophies went to Mark Sherwood, Paul Shelton and Ian Robson.

With the K-7 sold we are left with a club fleet of a Blanik, K-21, DG-500 and K-23, and some 20 privately owned gliders. We fly throughout the year at weekends and Wednesdays and visitors are very welcome.
B.F.

NENE VALLEY (RAF Upwood)
As promised in the last issue, we have some good news. We now have our own site with planning permission for a seven day week operation including winch, aerotow and motor gliding (see also BGA News). Many thanks to the members, the BGA support team and especially our new landlord for all the work put into getting the planning permission and preparing the strip.

A junior member and the first recipient of the youth scholarship, Charles Thorogood, went solo three days after his 16th birthday. We believe this is the youngest solo flight at our club.
R.T.

NORFOLK (Tibenham)
With a large number of Bronze badge pilots our Falke is busy with navigation and field landing checks. Snoopy is wintering with us thanks to an end of season dash by Norman Clowes. Don Cann has gone solo.

The cross-country ladder shows many thousands of kilometres flown and the new club ladder, with points for first solo to all three Diamonds, has attracted keen competition.
B.W.

NORTHUMBRIA (Currock Hill)
October was excellent for soaring with two weekends of weak thermals and two with strong wave. In good wave we flew John Clapham, the local news weatherman, in aid of Children in Need. We hope to raise £400 for charity.

We have a large tax refund which will go a long way to buying some ground equipment.

Paul Basey has gone solo.
P.S.

PETERBOROUGH & SPALDING (Crowland Airfield)
Mark Watson and Shirley Elsden have soloed.

Sadly, Glenn Williamson, our treasurer, lost his fight against cancer on October 12. Glenn was an exemplary member, meticulous and enthusiastic in everything he did.

It was his devotion to gliding which lifted him during his struggle - he found immense joy from his flights which he continued throughout. He showed tremendous courage and will be deeply missed.
S.C.F.

SHENINGTON (Shenington Airfield)
Les Wells, Paul Mullis and Peter Carey have gone solo; Anna Wells and Chris Palmer have Bronze badges; Mary Meagher completed her Gold with multiple Gold heights at Aboyne and Steve Bradford has an assistant Cat rating.

A seven day week operation will continue during this year with weekly courses. We welcome expeditions from other clubs from the end of March. (See our advertisement on p52 for details.) Visitors are always welcome.
T.G.W.

SHROPSHIRE (Sleap)
1995 was the year of Dave Triplett. He flew 500km in Australia and then every weekend through the summer towed us with his own aircraft as our Chipmunk was absent for eight months on a C of A.

The Chipmunk is now back and we can restart weekday flying. We now have capacity to recruit more syndicates and hope that newcomers will be attracted by our easy operation on runways and lack of queueing for launches.
T.A.

SOUTHDOWN (Parham)
With northerly winds starting early in 1995 we were able to get back into hill soaring fettle. Our Portmoak visit provide wave and Bob Adam gained Gold height and Neil Irving 5hrs.

Guy Westgate acquitted himself well in the Aerobatic Championships in Fayence, France.

Dick Thirkill has become an instructor. Jim Allin deserves our special thanks for introducing so many improvements to the club facilities.
P.J.H.

SOUTH WALES (Usk)
Our underground fuel tank is finished, thanks to Harold Armitage and his team. (See p36.)

Brian Compton, Steve North, Mike Bennet, Dylan Collins and Enzo Casagrande have gone solo.

Tropies were awarded at our AGM to Dave Jobbins, Mike Dunlop, Harold Armitage, Richard Slater, Paul Ridgill and Colin Broom.

Following a period of closure because of excessive demand, the package deal for new members has reopened.
M.P.W.

STRATFORD ON AVON (Snitterfield Airfield)
Cliff Marsh has a Gold badge and Diamond goal and June Harris and Maurice Noxon Silver badges. Lee Ingram and Rob Palfreyman, who is just 17 years, have Bronze badges and Lee a Silver duration.

Peter Fanshawe has been elected vice-chairman to assist Geoff Butler with adminstration and Jo O'Brien and Peter Blair are joining the committee.

Our junior development scheme is proving very successful with a waiting list. We have a full programme of courses and trial lesson evenings this year. A number of site improvements are under discussion with plans for additional gliders. Membership is very healthy.

John Dutton has retired from instructing after many years of loyal service. We thank him for his humour and inexhaustible fund of anecdotes.
H.G.W.

STAFFORDSHIRE (Seighford)
After a long absence for repairs and re-covering, the club K-18 is back in service.

By November we exceeded the year's launch target and have well over 300 flying members.

Glyn Yates has soloed and Simon Watson has been appointed vice-chairman.
J.R.

THE SOARING CENTRE (Husbands Bosworth)
Our season ended with expeditions to Lleweni Parc, Sutton Bank and the Long Mynd. Iain Freeston gained Diamond height at Aboyne but Anne Stotter missed out by a matter of feet.

We commiserate with Steve Crabb who would have won the National Weekend Ladder if he had taken photos for all his flights.

In February we have lectures for Bronze pilots ending in the examination, as well as weekend courses covering aerobatics, winch launching and winch driving.

Roger Goodman and Paul Treadaway are in South Africa for the winter with other members going for holidays. We are leaving a Discus at ➡



Burn GC's CFI Mel Morris presenting the best progress cup to Alan Jenkins.

Sutton Bank and the Pegasus at Dishforth until the start of the season.

Our open day is on April 13-14 and we are holding a Regionals (July 20-28) and the 15 Metre Nationals (August 3-11) so get your entries in now.

We were pleased to host the official handing over of the cheque for the new BGA Puchacz from the Sports Council in November.
T.B.

TRENT VALLEY (Kirton in Lindsay)
Carol Baxter is our first female assistant instructor; Dave Bieniasz has an AEI rating and Mike Morton, Richard Jackson, Andrew Speed and Colin Metcalfe have Silver badges.

Jonathan Baldock, Paul Knock and George Morton went solo, George on his 16th birthday, and John Kelsey and Alex Bogan have Bronze badges. Sandra Williams reached 12 000ft at Portmoak.

More than 50 motor gliders from all over Europe visited our airfield *en route* to the international Fournier rally.

We have a new syndicate Marianne and a club Astir to upgrade our fleet.
M.G.P./J.A.T./C.S.W.

ULSTER (Bellarena)
Tom Snoddy (Cirrus) and John Lavery (Astir) used wave on November 4 to gain their Gold heights while Sean McGeagh gained Silver height in the club K-6.

Armed with a Sports Council grant the CFI, secretary and technical officer took only 72hrs to collect a fairly pristine K-13 from Germany to replace one of our two Capstans.

Jim Wallace has stood down after more than 20 years' service as an instructor but continues as a tug pilot.

Boosting 1995's record statistics was a gratifying number of cross-Channel visitors. We'll be aiming to attract more of you this coming season with a colour brochure being prepared.
R.R.R.

Below: Simon Jordy flying the Devon & Somerset GC's new Pawnee.





Joan Hartley is almost totally deaf and her husband designed a device so that she could be taught to glide (see the article in the December 1992 issue, p315). Since then Joan has progressed well and the photograph shows her after her first flight in Nene Valley GC's Junior. She now has a Bronze badge and Silver height.



Trent Valley GC's invasion of Fourniers

VECTIS (Isle of Wight, Bembridge)
The tug was out of action for six weeks for some essential maintenance by John Leonard, Chris Waghorn and Dave Gay. We have used the mild weather to continue training and AEI flights.

The winter lecture season started with Neil Watts, CFI, giving an interesting talk on Met.
M.J.H.

VALE OF WHITE HORSE (Sandhill Farm)
On November 18 we had a very successful dinner to celebrate ten years at Sandhill Farm.

Four members achieved Diamond height at Aboyne. The winter lectures are underway, as is winter maintenance. We hope to have a tug based here permanently for the coming season.
J.K.

WOLDS (Pocklington)
The dinner-dance went well with prizes going to Chris Price (two), Anna and Angus Sheldon, Mike Thompson, Alan Hunter (two), Bob Kirbitson and Bob Walker.

Phil Novis and John Ludrecios have soloed and Denis Major has a Bronze badge.

Autumn weather was kind giving us long flights followed by lengthy ones in winter wave.
M.F.

Tim Wilkinson, CFI of Sackville GC, sent us this photograph showing what happened at their site in a strong wind last season as a warning to others to make sure their gliders and trailers are firmly secured. Photo: J.A.Johnston.



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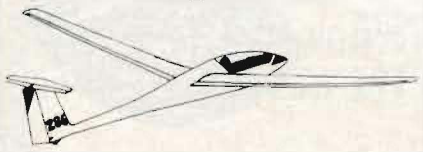
3-11 June

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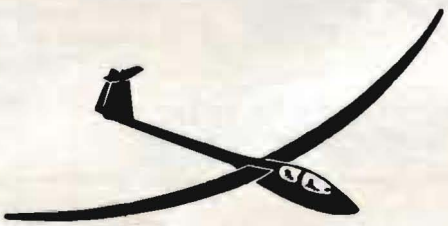
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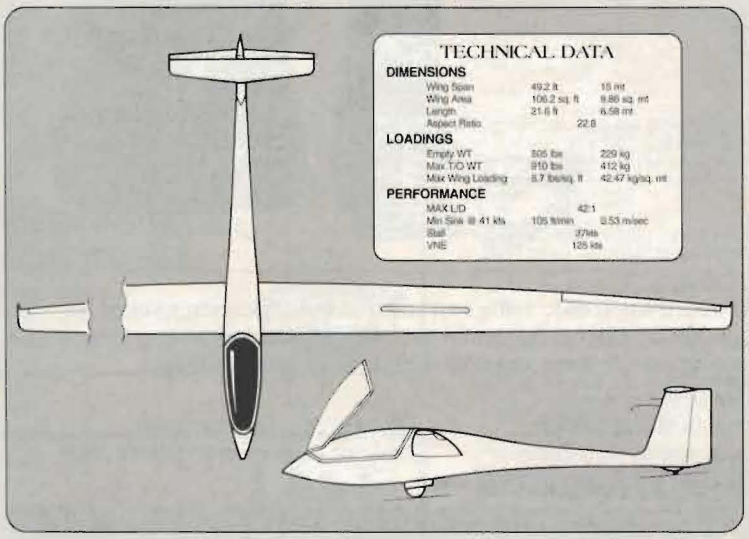
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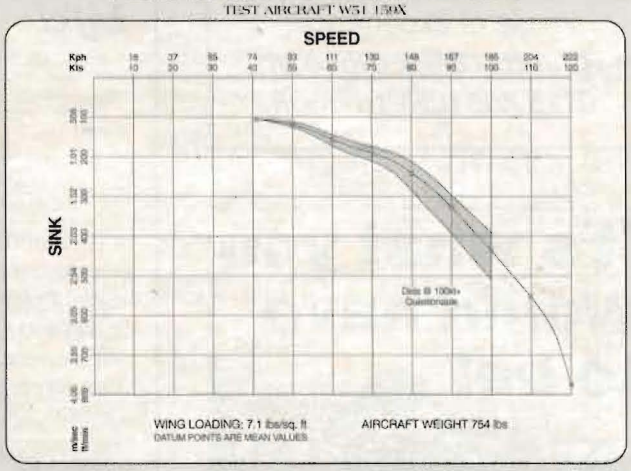
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BGA ACCIDENT SUMMARY Compiled by DAVID WRIGHT

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Injury	Hrs
26	K13	–	Subst	–.3.95 1250	Incident Report	–	None	–

A glider and tow car were about 50m from the winch and only 8m to the side of the active launch cable run with a crosswind blowing towards them. The cable 'chute did not deploy and the cable dropped on to the glider's wing, sawing through it to the spar. It then hooked under the car dragging it 8m and damaging this also.

27	ASW 20L		Minor	–.3.95 1230	Incident Report	63	N	610

The pilot made a safe landing after a failed winch launch. After checking the cables were clear and downwind of the glider these were pulled in. As the cable was wound in the 'chute and shock rope hit the glider's wing. It was later found that the inflated drogue 'chute could spin and track upwind, hence falling well away from the expected area.

28	Astir Club 3	2741	Minor	31.3.95 1730	Nympsfield	55	None	50

The pilot made a full airbrake approach at 60kt. He misjudged the roundout and landed earlier than expected with excess speed causing a bounce. He then over controlled and started a pilot induced oscillation. A second, heavy landing cracked the undercarriage support frame.

29	SZD Puchacz	–	None	–.3.95 1645	Incident Report	65	None	1112

The tractor's rope was attached to the glider ready to tow it back to the hangar. The two members then went to get someone else to help on the walk back. While they were away, other members drove the tractor to retrieve another glider. The already attached glider's wing hit a person across the back of the legs causing severe bruising.

30	ASW-15B	3618	None	9.4.95 1515	Haddenham	68	None	950

At about 900ft on the winch launch the weak link broke and the pilot heard the strop lightly hit the fuselage. Handling seemed unaffected so he soared for 1hr before landing. He found the 4m strop wrapped around the left side of the (luckily) all flying tailplane. A glider with an elevator may well have had serious control problems.

31	SZD Junior	3842	Minor	16.4.95 1040	Lasham	38	None	27

The new member had his first flight on type in a strong crosswind without first getting a briefing. On the approach he drifted with the crosswind and became rather slow. The roundout was too high and the glider stalled on to the ground from about 6ft, damaging the tailwheel mounting.

32	K-21	3673	Minor	10.4.95 1155	Lasham	70	None	22

After a slow initial launch the glider reached about 20ft before the power failed completely. The pilot lowered the nose but then had to turn slightly to avoid the 'chute. The cable looped around the left wing and the pilot used full brake and opposite rudder to land safely despite the dragging cable. The winch had a carburation fault.

33	K-7	2966	Minor	15.4.95 1640	Perranporth	47 P2 51	None None	375 12min

After a normal take-off and flight the glider was landed with just a little drift. There was a bang and the glider slewed to the left, stopping quickly. It had landed with the skid hanging free and this had moved back, puncturing the tyre. It was considered that the skid may have been split on a previous flight.

34	K-21	2612	Minor	2.4.95 1430	Dunstable	54	None	120

At about 300ft on the winch launch the rear canopy blew off, fortunately missing the tailplane. The pilot landed crosswind without further incident. It was thought that he may not have checked the canopy during a lapse of concentration while carrying out cockpit checks.

35	Phoebus	3742	Minor	8.4.95 1310	Challock	39	None	33

The pilot flew a low circuit inside the airfield boundary. His final turn was made at an estimated height of less than 100ft with the airbrakes extended, as the pilot was concerned about the poor approach control of this type. He then made a late turn to avoid a landed glider and a wingtip touched the ground before the glider landed sideways.

36	Astir CS	3753	Minor	9.4.95 1510	Seighford	50	None	42

The pilot was making his fourth flight on type. In the circuit he saw there were two other gliders blocking the normal landing area (part of a mostly landable 88 acre airfield) and extended the downwind leg to give them more time to clear. While doing this the glider became too low and undershot, possibly with brakes open, into the boundary fence.

37	Olympia 460	1150	None	19.3.95	Portmoak	36	None	62

The pilot had recently joined his first syndicate and had just started securing the Olympia's tailplane when other syndicate members advised him to rig the wings first. After doing this the pilot checked the tailplane but failed to notice missing pins. The tailplane folded on launch but the pilot just managed to make a circuit and landing.

38	ASH-25E	3496	Minor	18.4.95 1430	Aston Down	65 P2 21	None None	1950 1.5

While landing after a short flight the pilot's attention was taken up by two other landed gliders. The glider touched down and hit a bump in the landing area which he had not noticed. It bounced 4 to 6ft into the air before stalling and landing heavily, breaking the undercarriage.

39	K-13	1396	Subst	27.4.95 1020	Shenington	?	None	5min

The pilot on his first solo flight initially thought he was too high on the approach. He selected full airbrake then forgot to reduce it when he became too low. The glider's tail hit the boundary hedge, rotated around through 90° and landed on the wing of a parked Twin Astir.

41	Olympia 463	1221	W/O	15.4.95 1413	Wormhill	55	Fatal	157

This fatal accident occurred during a local soaring flight. A passing weather front with increasing cloud and a change of wind drifted the pilot away from the airfield. The glider suffered major structural failure, probably due to excessive in-flight loads after loss of control at altitude in cloud, and crashed killing the pilot.

42	T-61F Venture M/G G-BUFN	Subst		21.4.95 1444	Goodwood	58 P2 19	None None	176+188pwr 0

The motor glider was making a glider circuit and landing when at about 100ft the pilot hit wind shear. Despite closing the brakes and lowering the nose, the aircraft lost speed and landed heavily causing substantial damage.

43	DG-200/17	2559	Subst	29.4.95 1647	Easterton	39	None	631

During a crosswind aerotow take-off the glider's wing dropped and caught in 6in high grass. Before the pilot could release the glider lifted off, rotated around the wingtip and landed sideways and backwards, breaking the fuselage.

44	K-8	2935	Subst	3.5.95	Bryn-Gwyn Bach	78	None	72

The pilot was landing near the hangar when he lost directional control and drifted to the left. The wingtip struck a parked farm trailer and slewed the glider into the boundary hedge.

45	ASW-20	2565	Subst	6.5.95 1655	Saltby	35	None	116

While on an O/R competition flight to another site the pilot couldn't find any lift after photographing the airfield. He dumped the waterballast and decided to land. He could not make out the active landing run and became rather low before deciding on a cross runway. In the final turn a wingtip caught in adjacent crop, causing a severe groundloop.

46	Bocian 1E	1668	Minor	7.5.95 1326	Arbroath	40	None	2

The pilot was resoloing after a break of some 11 years. Several pre-solo check flights were well flown but on his solo flight the pilot used excessive airbrake and undershot into a field, hitting a fence.

47	K-13	-	None	15.4.95	Incident Report	42	None	200

As the pilot fitted a ballast weight he found that one wing bolt went in tight but had trouble fitting the other. It appeared secure but at the top of the winch launch he found he could not move the stick fully forward. The bolt had fallen out and jammed the stick. He was able to remove the screw only after undoing his straps but then landed OK.

48	ASW-19	-	Minor	7.4.95	Nympsfield	65	None	52

During the initial acceleration in the winch launch the pilot moved back in the straps and accidently caught and pulled the cable release. The glider was too slow to fully roundout and landed heavily, damaging the undercarriage.

49	Discus BT	S/S 4021	W/O	7.5.95 1315	Parham	66	Fatal	390

After 90min soaring the pilot was observed flying erratically, which was out of character. The glider's wings were seen to flex, possibly indicating a violent manoeuvre and a loud bang was heard, believed to be the brakes opening. The glider was flown over the airfield and then spun while turning in the circuit and the pilot was killed.

50	Open Cirrus	-	Minor	14.5.95 1512	Enstone	45	None	42

The pilot returned into the circuit after encountering heavy rain and sink. Downwind he again found sink and upon turning finals saw another glider ahead and below him. Distracted, and with wet wings, he didn't notice a developing undershoot and kept the brakes open. The glider hit an 18in boundary ridge on the edge of the landing area.

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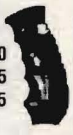
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(2) Blanik L-13, Pilatus B-4, K6E and Phoebus B

51 Swallow 1018 Subst 8.5.95 1130 Connel 63 Minor 7.5

While ridge soaring the lift became broken up by wave effects and the pilot had to make a field landing. He approached the field a little fast and high, possibly not helped by a slight tailwind, and hit a rut with the skid. This was torn off sideways, damaging the fuselage.

---

52 Astir CS 2985 Subst 18.5.95 1550 Picklescott 28 None 61

The pilot attempted to find lift over an area of poor fields but found only strong sink. He hurriedly selected a field and flew a cramped circuit, causing him to overshoot into the next field. He avoided a fence and trees before groundlooping the glider to rest in gorse bushes just before a 70ft drop into a ravine.

---

53 Pegasus 3599 Minor 7.5.95 1500 Kilsby 40 None 71

On a cross-country flight the pilot forgot to raise the undercarriage. Later, while making a field landing, he proceeded to raise the wheel. He noticed on finals that the wheel was up but decided it was safer to land with the wheel up rather than disturb his final approach path.

---

54 Pegasus - Subst 21.5.95 Incident Report ? None -

The glider and trailer were being towed by a Ford Orion. While joining a dual carriageway the car went to overtake a slower vehicle but found that had accelerated with him until, at about 55mph, he could go no faster. Descending a hill, he used the gears to slow down but the trailer jack-knifed on a bend at the bottom of the hill.

---

55 Blanik 3354 Subst 20.5.95 1418 Eaglescott 58 None 3

The early solo pilot made a normal circuit but failed to allow for the wind gradient on finals. The situation was made worse when he mistakenly opened, rather than closed, the airbrakes causing the glider to undershoot into the 5ft boundary hedge.

---

56 K-13 1652 W/O 8.5.95 1635 Lleweni Parc 50 Minor 955
P2 47 Serious 115

The solo pilot was being given an annual check flight on the winch. At about 200ft P1 released and P2 lowered the nose but then started to turn before the speed rose. P1 expected an S turn (straight ahead was the correct option) but P2 turned through 180°, entering a spin from which the instructor had no time to recover. P2 broke both legs.

---

57 Open Cirrus 2426 Minor 1.6.95 1500 Westbury 47 None 235

During a cross-country flight the pilot became low and after failing to gain height, where he had seen hang gliders ridge soaring, he had to land in a small but suitable field. After initially being too high, he started a full airbrake approach then found that even with the brakes closed he could not make the field and undershot into the hedge.

---

58 Astir CS 77 A77 Minor 8.5.95 1545 Burbage 31 None 142

Attempting a Silver duration the pilot became low and had to make a field landing. A pasture field was chosen and a normal approach and landing carried out. During the ground run along the uneven surface one wingtip caught in the long grass causing a groundloop. The grass was longer than expected as it was awaiting silage cutting.

---

59 K-6CR 2293 Minor 8.5.95 2030 Walney 31 None 16

The pilot returned to the airfield after a 5½ flight. His landing run was directly into the setting sun and into a 30kt headwind. Despite extra speed to counter the expected wind gradient, the glider was caught by a strong gust and the pilot made a very heavy landing.

---

60 Astir CS II - Minor 14.5.95 Millom-Haverigg 31 None 26

After 4hrs soaring a hill the weather deteriorated so the pilot decided to make an outlanding at a nearby disused airfield. On base leg he ran into torrential rain which reduced visibility. Turning finals he saw a "new" fence and had to turn in short to avoid this. The right wing caught on an unseen wire and the glider landed sideways.

---

61 K-13 1421 Subst 29.5.95 - Snitterfield 49 None 435?
P2 34 None 0

On base leg, during an early instructional flight, P2 let the speed fall and the glider drift away from the airfield. P1 took control too late and had to dive to penetrate into wind, then pull up over trees. Crossing the trees he found he could not land ahead because of trailers and had to turn. The wing caught a fence and the glider crashed.

---

62 Discus AGA 4 Subst 14.5.95 1540 Reading-3nm SW ? Minor 77

While on a cross-country the pilot found himself down to 1000ft before finding lift near a chosen field. In two circles he lost 200ft and had drifted away so chose another field. At 600ft he was again tempted by lift and turned and was not in a good circuit position. After S turning he lost speed and spun from about 15ft and cart-wheeled in.

---

63 Ventus A 3878 Minor 31.5.95 Keevil 32 None 130

The glider was being aerotowed in light crosswind conditions. As soon as it started moving the glider yawed left and despite full right rudder could not be stopped before it ran on to an unusable part of the runway. Seeing a gravel filled hole ahead the pilot pulled off, but could not avoid hitting the lip which damaged the undercarriage.

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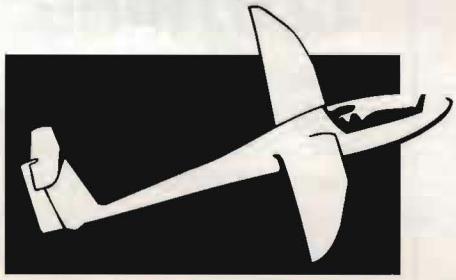
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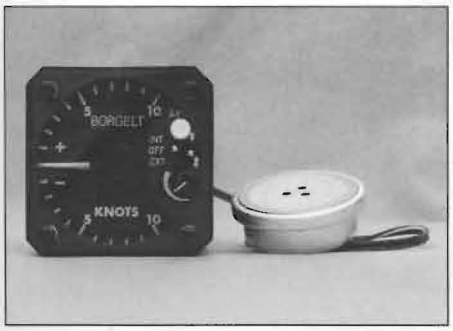
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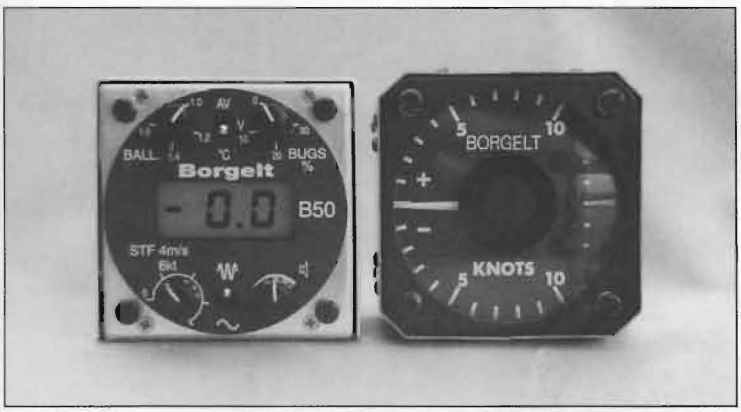


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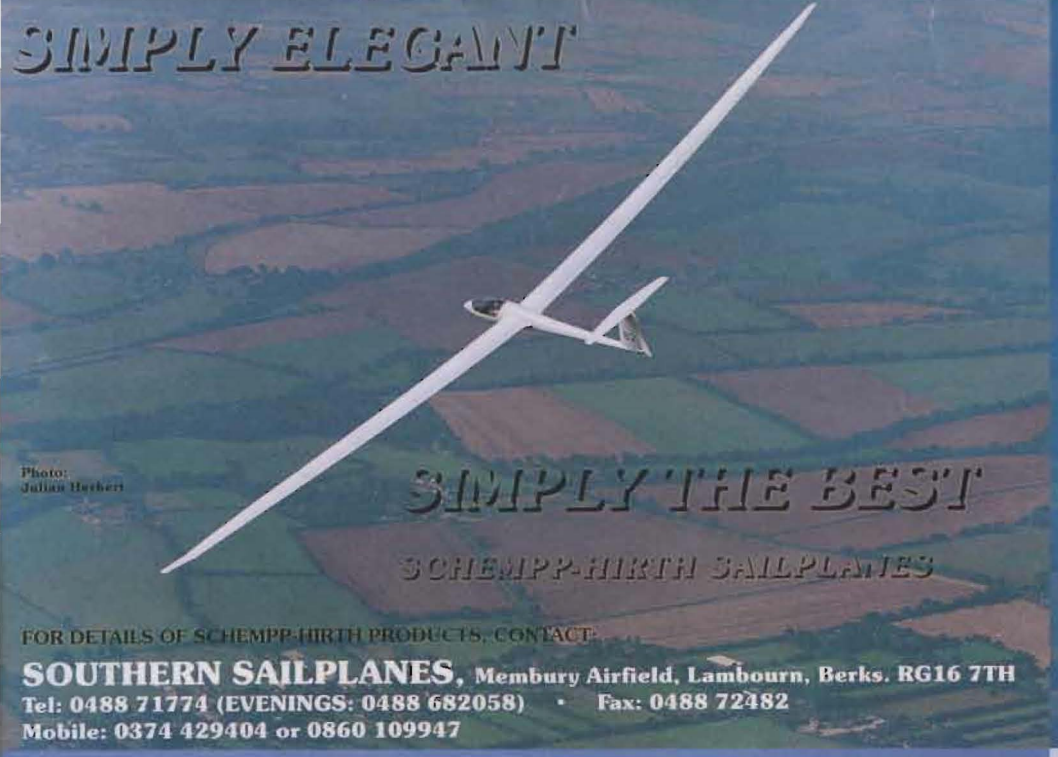


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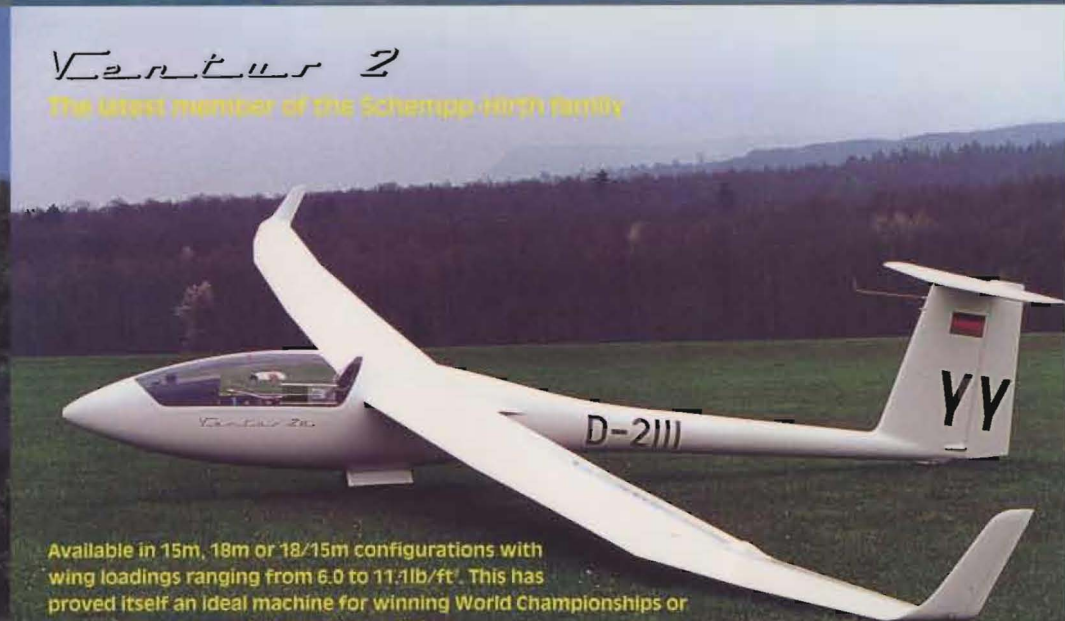
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