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Cover: Steve Longland, in the tug, photographed the K-6E flown by Terry Slipper near Duxford in its new colours designed by Penny Minnitt, the third member of their syndicate.

SAILPLANE & GLIDING

5 YOUR LETTERS
C. J. Price, S. Carr, C. A. P. Ellis, K. Nurcombe, D. Sproxton, A. Hunter, P. M. Warren

9 REVIEWS
M. Simons, J. G. Wright, B. H. Bryce-Smith

10 A 951km ACROSS SCOTLAND
A. D. Purnell

13 TWICE LUCKY
R. B. Coote

16 *S&G* CLASSIC
P. A. Wills

17 MY 500km
S. Lynn

18 TAIL FEATHERS
Platypus

19 SOMETHING SPECIAL
R. F. Warren

20 ROUTE PLANNING PROBLEMS
T. A. M. Bradbury

23 INSTRUCTING
A. D. Piggott (reply by B. Morris)

25 MARY GOES TO LASHAM
Mary Meagher

26 IT HAPPENED TO ME!
J. Bennett

27 ALF - GLIDING THROUGH FOUR DECADES
G. H. Haworth

28 THE WIDENING GAP
M. Beach

31 TASK SETTING FOR THERMAL SOARING - PART 1
I. W. Strachan

34 BGA & GENERAL NEWS

35 OBITUARIES
K. G. Wilkinson by A. Yates; Fluff Slingsby by Moyra Johnson
BGA ACCIDENT SUMMARY
J. Shipley, D. A. Wright

38 GLIDING CERTIFICATES

40 STALL WARNING SYSTEMS
R. H. Johnson

42 CLUB NEWS

52 WAY OFF TRACK
Penguin

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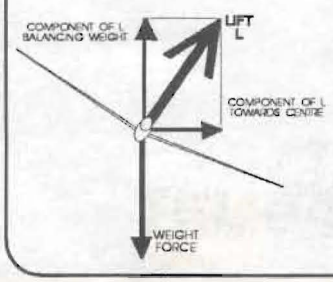


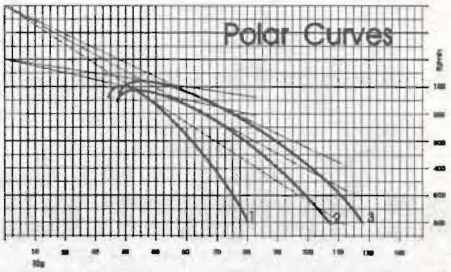
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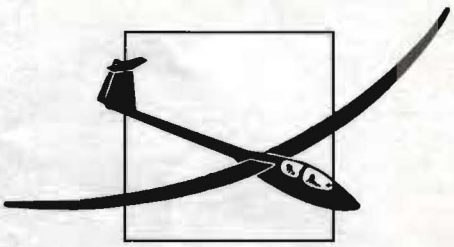
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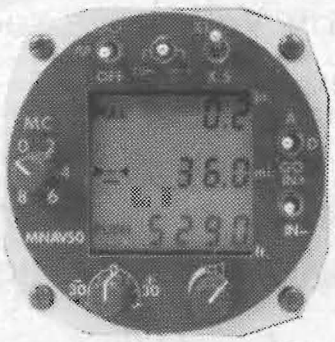
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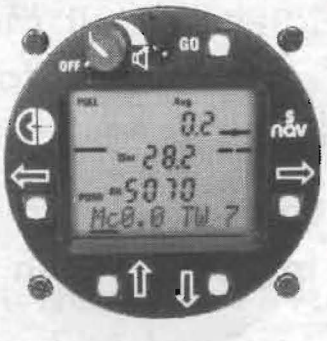
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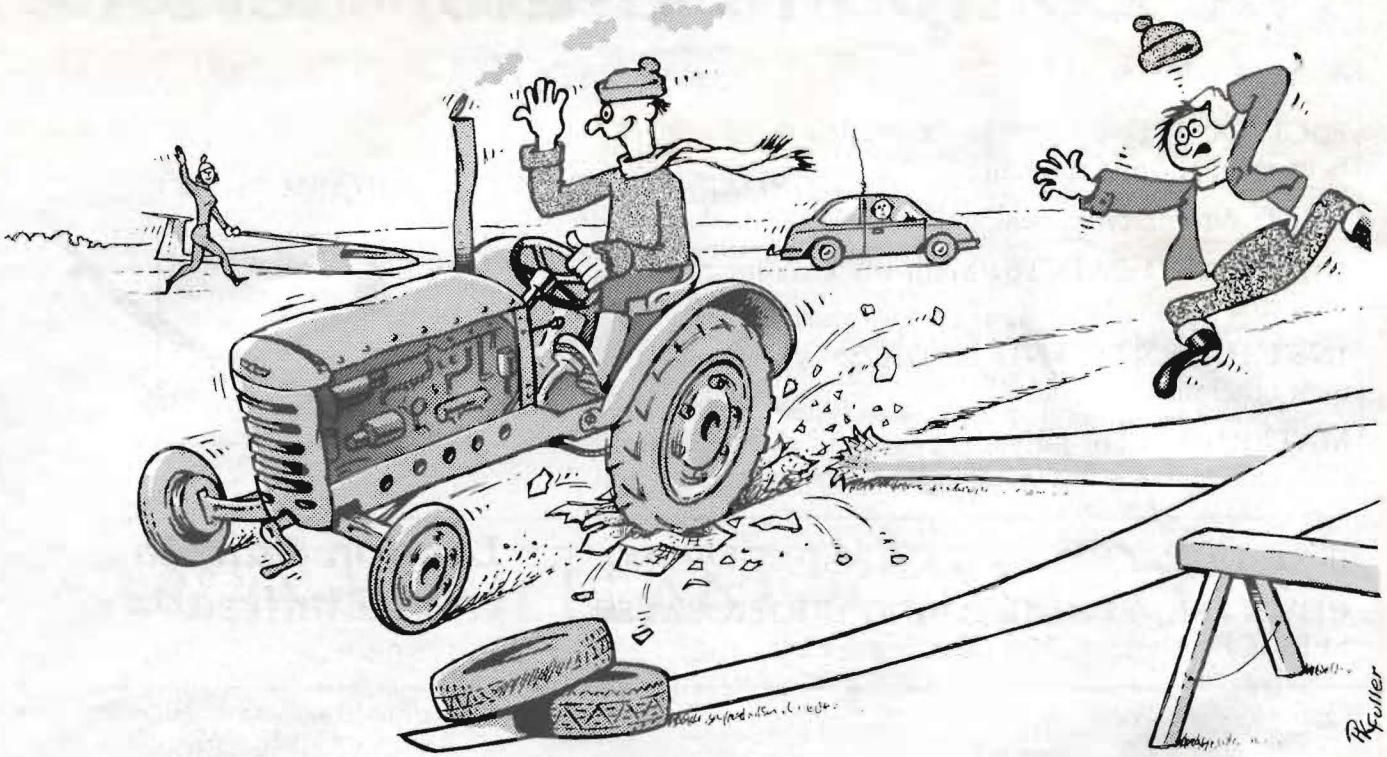
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YOUR LETTERS

A CROSS-COUNTRY INSTRUCTORS' RATING

Dear Editor,

When the BGA puts increasing emphasis on how many cross-country kilometres an instructor does (presumably as an indication of how fit he or she is to instruct) it makes me wonder what the ground plan is. Is it to winkle out precocious Diamond claimers so that they may be groomed to outgun the Germans in the World Comps, or is it to instill the myth that 300km plus flights are all that gliding is about?

The fact that an instructor chooses not to do a lot of cross-country flying has no bearing on his ability to instruct *ab-initio* pupils.

If he is a safe, competent pilot with good reflexes and above all the ability to communicate these skills combined with the personality to make the whole thing enjoyable, he'll do for me.

There are, however, a lot of pilots who very soon after going solo decide that cross-country flying is what they want to do, so may I suggest the BGA caters for them by creating a cross-country instructors' rating. They would be required to do a certain amount of cross-country kilometres, both solo and instructing, so the other instructors could get on with what they have been doing for so long and so well.

By the way, the instructor who nursed me through the syllabus and sent me solo had a Gold with two Diamonds, so don't get the idea that I think being a pundit precludes you from being a good instructor. It's just not a prerequisite.

CHRIS PRICE, *Hove, Sussex*

THE K-10 MYTH

Dear Editor,

I was delighted to see Penguin lay low the canard regarding the K-10 in the October issue, p277. However, my recollection of the details of this model does not totally tally with his.

I too was involved in a fruitless quest to buy one of these for my syndicate, also from a gliding club near Hanover and also in the seventies - April 1976 to be exact. The model which we saw, and (a very necessary exercise for me) tried for size, was 15m span with the close rib spacing of the K-6E wing, but on what was essentially a K-6CR fuselage modified with an all-flying tail. As we were really looking for a K-6E this was not a satisfactory solution and we turned down the machine, only to find that our German contact had signed an agreement to buy this on our behalf but without our knowledge! We refused to accept this and left the country wondering whether we were going to be stopped at the border.

I understood that all the models built were prototypes to determine a suitable configuration and that, at the end of this exercise, Schleichers determined that the resultant machine was not sufficiently different from previous K-6 variants to justify production as a new model. Therefore they continued the K-6 series and put the final design into production as the K-6E.

SIMON CARR, *Aylesbury, Bucks*

OLD METHODS ENDORSED

Dear Editor,

It is a long time since an article in *S&G* gave me as much pleasure as that of Ian Strachan's "Flying Technique and Wind-Gradient" in the last issue, p291. I read it with no little relief because recent instructor comments in *S&G* had haunted me with the possibility that before completing my instructing stint some 30 years ago I might have inflicted irrepairable damage upon the flying technique of numerous pupils.

Can it really be true that modern instructional methods require the pupil to glue his eyes upon the altimeter until it reads "x" feet, whereupon he is expected to unglue them and restick them upon the ASI? Superannuated instructors put out to grass a generation ago will be grateful to Ian for the revelation that the RAF Central Flying School "flies the picture" and thus endorses the methods we taught long ago.

Ian is probably aware that there are still a few pilots around who learned to fly *ab-initio* before the picture was put in a frame. Our reference then was just a pair of boots upon a rudder bar. When the background in this picture became completely blue you knew you were about to stall; when it changed to a rapidly darkening green you knew you were about to crash. Unsurprisingly this method of "suck it and see" tuition had an alarming drop-out rate.

Around 1933 (or was it 1934?) I was surprised to find how much easier it was to fly once seated in a simple nacelle that obscured any view of my feet and directed my eyes towards the horizon (it also eliminated a tendency to use the rudder bar in a similar sense to the handlebars of a bicycle!).

At that time soaring flight was being achieved without the use of instruments of any kind by an instinctive mental process that I am unable to explain, although it is probably related to the rate of change in our visual perception of the CFS picture.

I sometimes wonder whether modern instructional methods are breeding a generation of pilots unable to interpret signals from their senses with the response achieved by their grandparents.

The remarkable achievements of both engineers and pilots in the field of gliding performance have done nothing to enable us to claim the title of "birdmen". Perhaps a competition in which all instruments have been removed from the gliders might produce a new breed of pilots able to explain how the birds do it.

CHARLES ELLIS, *Ilford, Essex*

A FRIGHTENING EXPERIENCE

Dear Editor,

Oh dear! John Storry does seem to be quite unnecessarily upset about the parachute issue, important as it is. (See the October issue, p231.)

At the Coventry GC in the mid-sixties a group of us thought that as we were supposed to tell pupils how to use their 'chutes, we really ought to have a go for ourselves. After two days of intensive instruction *(by Sid, whose idea of fun was to do night jumps for the Army from 60ft with a 60lb pack on his back)* we were duly launched, two at a time, from a Piper Cub directly over Husbands Bosworth.

Two of the party (one of them an elderly chap, in his forties) were taken to hospital with back injuries, while I (a mere lad in my twenties) landed like a sack of potatoes not 50ft from the 11 000 volt power lines that bring power to the club. *(These, incidentally, are the* ➡

JSW SOARING

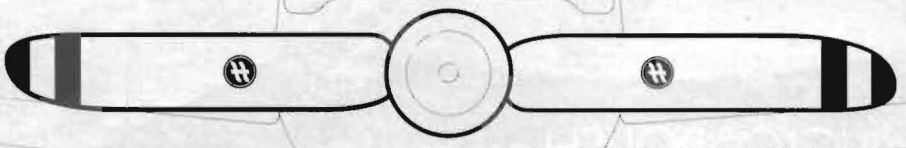
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real killers; first they fry you, then you fall off and break your neck.)

I think it likely that anyone doing their first jump past the age of forty would be likely to suffer some injury, and in these days of instant litigation, I doubt the sanity of anyone encouraging it over dry land. For myself, I found it such a frightening experience that it was quite counter-productive. I have no intention of again abandoning an aeroplane that is still in reasonable working order, although for a concise explanation of how to do it if you really want to do so you cannot beat Derek Piggott's description of his abandoning the Lasham Bocian.

Finally, next time you happen to find yourself thermalling with a Tutor or similarly antique glider, please remember that the pilot probably doesn't have a 'chute because there simply isn't room for one. I mention this not out of general concern for vintage glider pilots, but from the possibility that it just might be yours truly in it.

KEITH NURCOMBE, *Rugby, Warks*

THE WAY TO GET MORE GLIDING FILMS

Dear Editor,

I was pleased to see the letters from Chris Price (October issue, p231) and Stephen Ottner (December issue, p287) because they raised the very good point that there is a demand for different types of gliding films. "Liftin' the Blues" was one type of film. It was centred on a major competition, giving a flavour of how a competition works, what the challenge is to the pilots, as well as a basic explanation of how gliders stay airborne. Whilst trying to show the range of people that glide and explaining that you don't need to own a glider yourself to fly, it was not attempting to be a film about "grass roots" club gliding.

Fundamentally it was trying to enthuse about the sport; to encourage people to look at it more closely as an exciting activity they could participate in. A moderately high level competition has to be a good opportunity for showing "exciting" flying and for meeting a selection of good, highly motivated pilots.

At this level many will have contrived lifestyles which allow plenty of gliding time. This is the same with many other sports. The public are attracted by seeing a high level of skill exercised in a competitive way. They then wish to emulate this, but understand they will have to begin at a much lower skill level and in a rather different environment. I don't think many would be tempted into skiing if they saw programmes about beginners falling over in the snow the whole time! They want to see fast downhill racing. And of course a little glamour does help!

I don't normally make documentaries but realising the Nationals were going to be at my club, the opportunity to make a different and interesting film about gliding was too good to miss. I had been a little disappointed in the gliding films I had seen and "Liftin' the Blues" was not so much an opportunity missed as one taken. Despite its faults at least the film got made and broadcast!

I'd love to make other gliding films, maybe about gliding in Scottish wave or an epic T-21 flight, but I'm afraid the stumbling block is funding. ("Liftin' the Blues" was funded by my company.)

If people really want more gliding programmes they should write to Channel 4 and the BBC and then perhaps the programme buyers will see the light and fund a few more gliding films. Then maybe we'll get "How High a Haggis" or even "Bookerside."

DAVID SPROXTON, *director of "Liftin' the Blues"*

EXCEPTIONAL GLIDING BOOK

Dear Editor,

"Sparrow" (see the October issue, p250) might like to know that there *is* a Saint-Exupéry of soaring, and he too is from France. His name is Michel Bouet and his book **Sur Les Ailes Du Temps - L'aventure du Planeur** (Gamma, Paris 1988) is well worth a read. It covers the author's tremendous range of experience - from Primaries to the latest glass, from flying in the weak thermals of Brittany to the rip-roaring conditions of the southern Alps, and from deeply philosophical insights to a retrieve story which ends with shots from the gendarmerie. Just the stuff to recover from the men in green gowns.

As far as I know it's not available in English, more's the pity, but if "Sparrow" can hack the language he can borrow my copy any time. For my money, the best book ever written on gliding.

ALAN HUNTER, *chairman of Wolds GC*

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

LITTLE ABOUT THE KIRBY KITE 2A

Dear Editor,

As a new owner of a Kirby Kite 2A, I am puzzled why, as the first Slingsby sailplane to be built after the war (1946), it has been so ignored in the annals of gliding. The Elliott's Olympia (1947) made its mark strongly but few gliding books or magazines mention the Kite 2.

I can only find reference to it in **Gliding and Advanced Soaring** by A. C. Douglas (1945) as being a replacement for the Kirby Gull I, and **The World's Sailplanes** Vol I (1958) has a three-view drawing and technical details. Can any other Kite 2 owners or anyone with knowledge of this much ignored type throw some light on its hidden history.

PETER WARREN, *Stafford*

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BOOK REVIEWS

GLIDING IN AUSTRALIA by Allan Ash, published by Hudson Publishing, 6 Muir Street, Hawthorn 3122, Victoria, Australia and available from them at £10.00, cash with order.

This is an admirable book which has been many years in preparation but proves to have been worth waiting for.

Europe, it has been said, suffers from having too much history, and Australia has too much geography. It is a vast continent with more than two thirds of its total population located peripherally in half a dozen large cities. The rest of the people are scattered, mostly in towns, over a land mass larger than all Western Europe, comparable with the whole of the USA in area.

The story told by Allan Ash is thus not one story but many. Individuals and small groups of enthusiasts, beginning with the redoubtable Lawrence Hargrave in Sydney, strove in isolation to build aircraft and teach themselves to fly them, often without knowing that others were struggling, or had struggled, with the same problems half a continent, or indeed half a world, away. These brave pioneers, about whom, thanks to this book, we now know, relied on scanty newspaper and magazine reports and photographs or, at best, a few technical articles in aviation journals, for their information. They made many errors.

Allan Ash has collected much of his material directly from the surviving pioneers. Native ingenuity and engineering brilliance emerged on every hand; what is tragically evident is that geography and isolation had the victory more often than not. Nearly all the Australian sailplanes built during this period were irretrievably smashed. So were some of the people, though fortunately few. Little clubs were formed, but usually disintegrated. One or two here and there achieved some successes and kept going. Many of the great men survived to tell their stories. More tales, no doubt, had to be omitted for reasons of space. Descriptions of this period occupy the first half of the book.

Above the club level, there was no general organisation until the tentative formation of an Australian Gliding Association in 1939. Through the newsletters put out by the secretary, Dick Duckworth, and the lecture tours he organised and financed, something like a national exchange of information began to develop, keeping interest alive despite the Second World War. When soaring began to increase in popularity after 1945, too many avoidable accidents still occurred, not all the serious ones being mentioned in the book.

The threat of centralised governmental control compelled the scattered clubs to join themselves together to establish the Gliding Federation of Australia with its various State Associations. Had this move not been made, in haste, the day before the crucial meeting with DCA bureaucrats in June 1949, Allan Ash's narrative might have terminated, or at least taken a nasty turn, at that point. Even then, it was not until 1951 that the GFA magazine, *Australian Gliding,* was founded with, after a couple of issues, Allan himself as editor, reporter, typist, distributor and, to an extent, financier. (AG even then never relied on the GFA for monetary support.)

These developments marked a very distinct transition from innocence and, let it be admitted, ignorance, to comparative sophistication. Excellent modern sailplanes were imported (though the Gull 4 in 1949 not, as stated, after a World Championships win). Olympias and other types were built from plans. The Schneiders, originally from Grunau, set up their business near Adelaide and began design and production of sailplanes suited to Australian needs. Gliding in Australia not only grew rapidly, but grew up, in the post war decade.

In effect, the book ends about 1961, when Allan Ash handed over the editorial chair to Peter Killmier. The final chapter is a quick sketch of everything that has happened since. Allan is much less familiar with this period and almost seems to regret that it ever happened at all. Gone were the determined isolationists. Gone also was a good deal of the magic and mystery, but with it departed a good deal of ignorance too. Certainly something was lost, but the sailplane pilot in the air is still an individualist with problems to be solved and lessons to be learned. As Allan insists in his final paragraph, the mountains in the sky are still there, inviting us to climb them.
MARTIN SIMONS

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SPACIOUS SKIES by Richard Scorer and Arjen Verkaik. Published by David and Charles, 192 pages, £20.00 hardback

Most books on meteorology simply set out to educate the reader, but this one, subtitled on the blurb "The Ultimate Cloud Book" takes a different attitude. It has been written and, more importantly, illustrated to show the beauty of the skies.

It succeeds.

All glider pilots are addicted skywatchers, always looking for a good day, good clouds, wave bars and occasionally just admiring the view. The authors obviously love the view. Scorer is a meteorologist who studied air motions using gliders and helped with forecasts for competitions, so the section on thermals and waves has several references to gliding. Verkaik has been photographing skyscrapes for many years and gives illustrated talks on meteorology.

The book is packed solid with photographs of clouds. Some are time lapse sets showing clearly the various stages of development of a cloud or front or wave; there are many satellite shots; others are just beautiful pictures of individual clouds. The text explains the origin and life cycle of the various cloud types, their importance to people on the ground or in the air and what clues to watch out for in the sky or satellite shots.

This book isn't really a rival to Tom Bradbury's or Wally Wallington's excellent theory filled works (although it isn't short on basic theory), but is a useful secondary text which will help illustrate what these authors are talking about. It should improve most pilots' weather forecasting abilities. Hopefully it will open their eyes to the beauty of nature.
JOHN G. WRIGHT

MANUALS FOR BEGINNERS

In the last issue, p295, Trevor Foxen put forward some ideas for making the newcomer to gliding feel welcome. Now we have been sent two very useful publications.

Robin Pearce-Boby of Enstone Eagles GC has developed a "Members Manual" which, together with an introductory letter, a page of general information and course details, is given to all their new (and prospective?) members.

It is a 19 page document which will be of great help to members who know virtually nothing about gliding and the way clubs organise their operations. It ranges from what to do at the launch point to the requirements for various badges. The intention is to issue supplements to cover further aspects.

Robin says that the manual is quite easy to reorganise into a general document suitable for most gliding clubs if it is felt to be a good idea.

Harold Dale of the Yorkshire GC has produced a 78 page manual called "Basic Briefings for Glider Pilots" which is intended for holiday course members who have told him they would have welcomed an opportunity to prepare in advance. With these needs in mind he has divided the manual into four general sections:

1. Background topics.
2. At the launch point.
3. Initial flying lessons.
4. Later flying lessons.

If this was available in print it is likely to be in considerable demand from all clubs offering holiday courses as well as for issue to new members.
B. H. BRYCE-SMITH

(Harold says that if anyone is interested in copies they should contact him at Applegarth, Leconfield, Beverley, East Yorks, HU17 7NQ, tel 0964 550278)

A 951km zig zag zig... zig across Scotland

Alan Purnell, the Lasham pilot renowned for his long distance flying in his Nimbus 3, writes about a mammoth excursion which used nearly every ounce of Scottish daylight on October 7

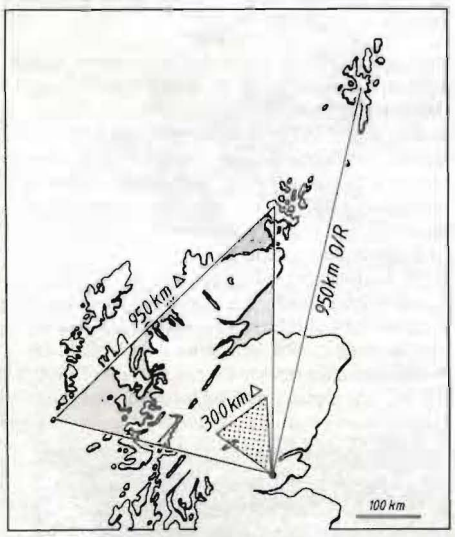
I know you are acheing to ask all sorts of questions so here are the answers.

- Because it was possible on that day.
- Because I thought I had done only about 850km.
- You cannot easily fit such a large task into Scotland.
- Each leg was different and had its own features to enjoy and problems to overcome.
- Half an hour after sunrise to 10mins after sunset.
- A banana and a lump of cheese.
- Three bags.
- Lots of layers of warm woolly clothing and Damart lined Derry boots.

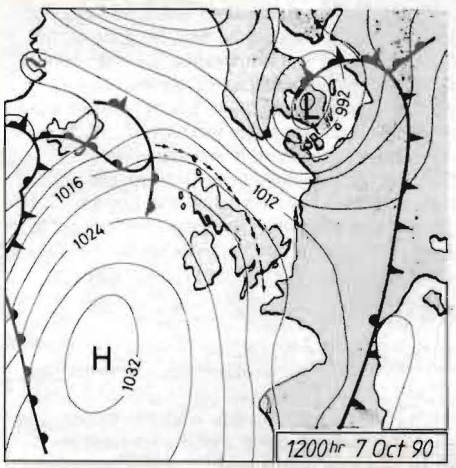
Saturday, October 6, was atrocious, dreadful, gloomy, cats and dogs, miserable. It bucketed down all day and there were reports of flooding in Glasgow. At Portmoak the puddles were nearly large and deep enough to have white horses on them. Yet the forecast looked good for Sunday. An anticyclone SW of Ireland would give anticyclonic curvature to the isobars and north-westerlies - the best direction for good waves at Portmoak. But would the cloud and rain move away sufficiently to make it on for the Golds, Diamonds and cross-country?

I guessed - yes - and managed to persuade John and Sheila Hindmarsh and some of the other members of our Lasham contingent to stay on instead of rushing back south to go to work. Keith Buchan - the weekday Portmoak resident tug pilot - enthusiastically agreed to turn up at the crack of dawn so we could get some early tows.

Sunday, October 7, did indeed dawn clear - not that you could easily tell at 6.55am when it was still dark. A quick listen to the shipping forecast confirmed that the wind direction and strength were suitable - yes I know the shipping forecast is at 5.55am but who wants to be woken up at that unearthly hour when modern technology allows it to be recorded. It was good to hear Graham Ross clumping down the corridor in the clubhouse as at least we could rig each other even if no one else staggered out to the trailers. Another quick look out at this stage revealed some clouds scudding along from the north and an indication of a gentle westerly on the windsock, but no wave clouds. Well, so what, wave clouds are not always present on a good wave day and the gentle westerly could well indicate that we were in fact underneath the up bit of the wave.



It is difficult to fit a 951km task into Scotland!



Surface synoptic chart for 1200 GMT with the jet stream at 30000ft.

We could not launch straight away because the ground moisture from the day before simply deposited itself on the canopies. I've had to pull off tow just before take-off speed when the canopy misted up on the outside and I didn't want to endure that trauma again now. Keith was ready with the tug before we were completely organised so I munched a banana and a lump of cheese in lieu of breakfast and piled in quantities of muslei bars and chopped-up Marathons (have you tried eating frozen whole chocoloate bars?) into the cockpit pockets. A litre of water was carefully stowed away where I could rest my arm on it to prevent it freezing - I didn't fancy a mouthful of ice crystals every time I took a swig.

Who was going first? There were no wave clouds, not much wind on the ground, and even that was from the wrong direction, and we could not be sure which piece of the hill was working properly. Because of the uncertainty no one objected to me offering to sample the conditions, so I elected to have a tow to near Glenfarg (a few miles north of the north face of the Bishop) - the theory being that if I did not contact the wave directly off tow I could fall back on to the north face of Bishop and if that failed then on to the westerly face. I did not really doubt that there was a good wave there because the light westerly under an upper northerly was a sure sign that we were actually under the up.

So off I went at 8.10 and as we sailed majestically over the boundary fence the clouds magically organised themselves into a classic slot north of the north ridge. Keith knew exactly where to go so I was able to pull off at 3000ft in weak lift just behind the edge. I had a few tense moments as I pushed forward to beyond the edge, but I needn't have worried as the lift improved to the classic smooth strong stationary lift we predicted. I thanked Keith and called to the others that this was the place to be and set about optimising the climb.

I switched on the oxygen good and early as I was somewhat cold since the sun was not much above the horizon, where upon at 12000ft the lift petered out rather suddenly. Bemused I cast about a bit but no go. I usually like to see how high the lift is going before setting off on a cross-country so this was a bit of a disappointment. And so was the view - cloud everywhere especially to the north (upwind) and the west - far too much for a safe cross-country.

But the east was clearer so I zipped along the edge to offshore at Leuchars (TP1) near St Andrews and came back along the same edge. By this time several others had been launched into the wave, but others who elected to go to the north face got stuck there in the turbulence of the down of the wave beating against the hill lift. Those who had a winch launch to Benarty (the other hill that faced north) were also stuck until the wave moved back to be in phase.

By now it had opened up a little to the west so I continued along to Dollar (maintaining VMC!) where good lift was to be expected in the lee of

the Ochils. Good lift prompted me to switch on the oxygen again, but disaster struck as I turned the on/off knob the wrong way and so tightened it up so securely that no way could I turn it the correct way - calamity. I then realised that I was breathing rather too easily with the face mask on and discovered that the little metal gauze disc in the mask, used to mix the incoming oxygen and the outside air, had fallen out during my desperate efforts to apply extra force to the on/off knob. Double disaster.

Well, if I couldn't go up maybe I had better go along instead, so I started reassessing the cross-country prospects. It had begun to open up towards Crieff so I blasted through the down and weak up to the lee of Ben Lawers, losing about 3000ft in the process. Yes I know the theory says that one should cross waves at the weakest point to avoid too much height loss, but I get too impatient to do that very often, especially when one's mind is focussed on a really good looking lenticular dead ahead.

Being below oxygen height gave me the opportunity to try to turn the oxygen on again, but no such luck - all I managed to do was hurt my fingers and get out of breath. Believe it or not Tony Mattin had exactly the same problem and had to descend and relaunch after rectifying the problem. He took a pair of pliers with him after that and I resolved to do the same myself next time. When Tony launched he got stuck on the north face in the down in his eagerness to get a reasonable low point and had to use his engine to get forward into the wave.

Even with all this fiddling about I was still going up at 14000ft, so deciding that discretion was



Steve Bicknell's photograph of Alan flying his Nimbus 3 at Portmoak.

the better part of being anoxic I set off west along the now clearly marked wave bar. The west began to open up nicely and two beautiful lenticulars appeared to the south of me - one towards the Lake (yes - the only lake in Scotland) of Mentieth and the other even further south towards Fintry. A dirty dive downwind at 120kt found 6kt lift over the leading edge, even at that speed. Six knots at 120 in a Nimbus 3 means off the clock at 40 with no water. I stopped only long enough to prove the point since the wind speed at this altitude appeared to be about 50kt - coincidentally confirmed by Roy Cross over the radio. Fifty knot winds are not suitable to hang about in so I zipped along at 120 (well within the flutter VNE at this height) towards the Lake of Mentieth where it all fizzled out.

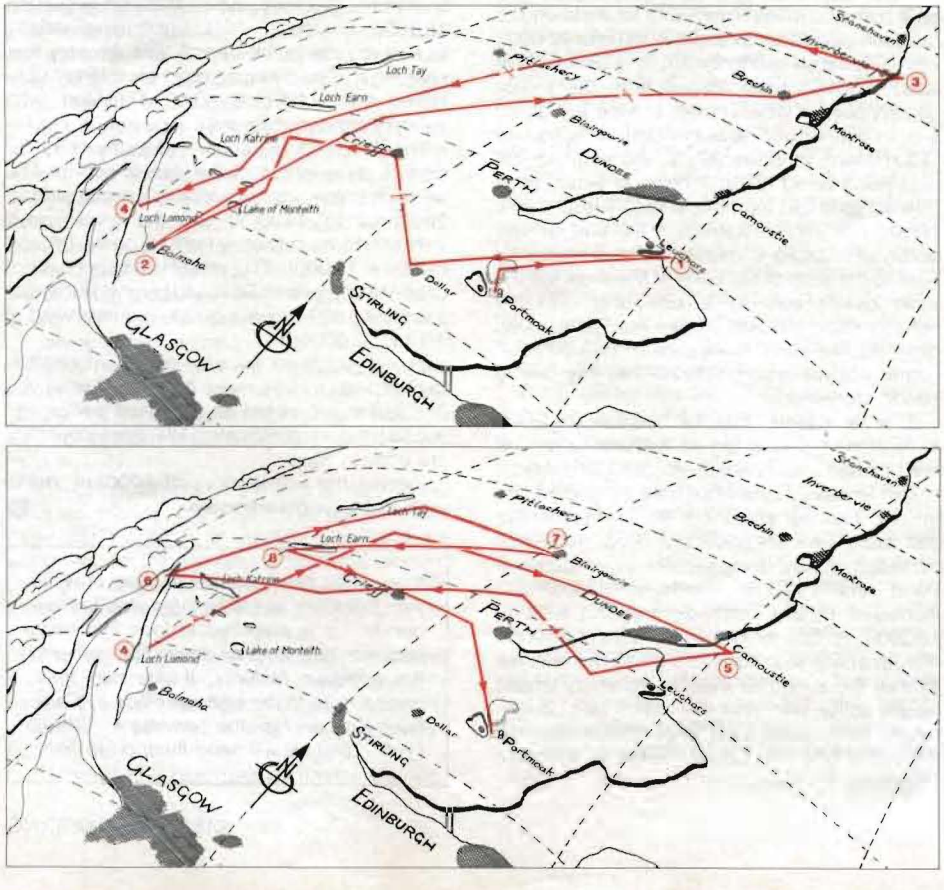
Looking west the wave clouds were so broken up that it was difficult to determine where the lift was - so different from earlier when there was too much cloud - *c'est la vie*. Loch Lomond was enticingly close so I edged along in weak patchy lift and reduced sink to Balmaha pier (TP2) on the edge of the Loch before setting off back to where I thought the best lift was at the Lake of Mentieth. Luckily the wave had not moved and I rapidly climbed up again. Meanwhile Colin Hamilton attempting a 500km in his Mosquito had been experiencing the same exceptional lift along the hills near Fintry on the more southerly track and also met the poor broken up wave to the west.

The whole sky was opening up now, except to the north, which was disappointing as I have never achieved my ambition of soaring over Ben Nevis and along Loch Ness to Inverness, so there was nowhere else to go but the east coast. This part of the trip was uneventful past Crieff, north of Perth and across to Brechin. Montrose was hidden by cloud but there was a gap to the north, so I hopped along the coast to Inverbervie (TP3) which is a bit south of Stonehaven. I had met the cloud cover again here and could not see where the next wave was. I set off back to the west but with all the cloud about I got disorientated and fell into severe down in the Edsell area. The countryside is rather samey round here but I glimpsed Edsell under a cloud and set off to Loch Earn and Loch Katrine.

Again the wave was broken to the west so I turned again in the centre of Loch Lomond (TP4) just west of Ben Lomond. At this time Colin Hamilton was having trouble with his 3rd TP at the southern end of Loch Lomond and had to make a dash for the wave near Fintry, which proceeded to disappear before his very eyes only to reappear a few miles downwind. Brian Scougal sampled the same conditions on his 300km double dogleg to the west. He landed for lunch, sold his glider to his prospective buyers and then did a 200km in the afternoon.

I followed my inbound route back *via* Loch Earn to the lee of Ben Lawers keeping a careful eye on the cloud. Showers were being seen in the Portmoak area (and nearly downed Charlie Kovac) and I could see picturesque snow scenes on the hills below the clouds, so I kept a more southerly route past Perth and Dundee. Unfortunately there was a lot more cloud at Dundee and to the north, but there were fantastic lenticulars out to sea disappearing over the horizon towards Norway. I ventured just out to sea at Carnoustie (TP5) and came scuttling back across the ➡

Below: The top map shows the first 475km and the lower one the second 475km.



Tay towards Newburgh as clouds began to build up again.

At this point Geoff Chaplin, a newcomer to Portmoak, pronounced himself lost. All he could see was a lake! with a large island in it. Since Loch Leven has five islands in it and Geoff reckoned he could see Brian Scougall who was near the Lake of Mentieth, which has only one large island in it, we all jumped to the conclusion that Geoff was there. However, we needed not have worried for before we needlessly advised him to set off 50 miles east the clouds moved and he found himself at Portmoak after all! It just shows you how wrong you can be sometimes. It also shows how a lack of concentration can get you into trouble as I ignominiously fell into severe down while poring over my map as I tried to help Geoff.

"I spied a power plane coming straight towards me at my height and a mile or so dead ahead."

A clear lenticular appeared in the Perth area but I had to "go for it" through the down. Halfway across the smooth backed cloud, while crossing the strongest sink with the vario off the clock, I spied a power plane coming straight towards me at my height and a mile or so dead ahead. It must have spotted me since it turned away to my right and dived away sinking rapidly. With all that down around I expect he thought his engine was misbehaving. I often wonder what non-gliding power pilots think when they meet such conditions.

Anyway I skimmed the feathery edge and was soon climbing at 10kt again at about 6000ft. I twice repeated the exercise to the NW of Perth and near Crieff, getting low each time, but then decided I was being a little silly getting low like that since the wave might not extend much below the cloudbase level.

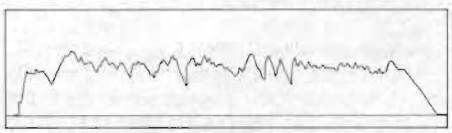
I was getting a bit fed up causing myself grief so I resolved to be more careful and stay above 10000ft if at all possible. This policy paid off as the clouds began to disperse again and the better wave clouds were getting smaller and less obvious. It was remarkable how the sky could fill up with cloud and then empty again so rapidly. I chose a more northerly route to the east *via* Loch Katrine, past the northerly end of Loch Lomond to (the other) Ben Vorlich (TP6) before turning back, carefully taking each piece of lift as it presented itself until I was back in the Loch Earn area again. The clouds were getting even smaller now (except to the north still). It was almost like flying in the blue with lift appearing from nowhere. My nerve failed me at Blairgowrie (TP7).

I was at a loss as what to do next as I tried to gauge how far I had actually been. That is not easy to measure across a folded map while trying to stay in a blue wave. I guessed I had covered about 700km so in order to exceed 800km I resolved to return *via* Lochearnhead (TP8) at the western end of Loch Earn. The lift was still strong up to 13 or 14000ft, but then died off rapidly. It was the feature of the day. The maximum altitude did gradually increase during the day but the increasing wind at altitude did not help. Tony Mattin was still trying to get a few extra hundred feet for his Diamond but got frustrated with the day and landed too early with cold feet. But unbeknown to him the upper wind was reducing gradually and Diamond was on as was demonstrated by John Hindmarsh, who just managed to climb past the magic level.

The trip to Lochernhead and back was uneventful and I wandered about near Portmoak for half an hour gradually descending with a view to keeping the gel coat in good condition before landing about 10min after sunset at 1820

The IBM boys helped me to derig in double quick time in the gathering gloom while getting their fingers cold in the dew depositing itself on the still cool wings. I rushed over to the clubhouse for a welcome cup of tea and came to conclusion that I am not addicted to caffeine since it must have been about 24 hours since my last cuppa and I had not developed the shakes in the meantime.

After supper I measured the straight distance between the TPs (not counting the diversions) and found it to be 951km. The extra 49km would have been easy to achieve since 49km at 120kt in a 50kt tailwind (and bearing in mind the effect of altitude on indicated airspeed) would have taken about 9min, losing about 3500ft. Such is life - if you do not plan ahead you don't achieve!

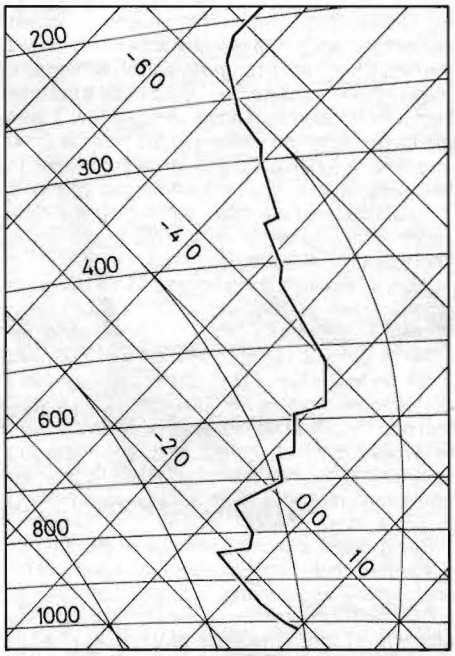


Barograph trace of the flight.

Never mind - so what about the day. As you have gathered it was remarkable for the strong lift between cloudbase at about 5000 and 12000ft where it died off suddenly. Any time spent above about 13000ft was wasted from the cross-country point of view. The upper wind was about 50kt and there was no upper cloud whatsoever. Cloud cover varied rapidly to the south of the mountains being about 7 octas at times, yet it opened up to less than 1 octa later. The air below 5000ft was very unstable and the odd shower occurred to prove it. The wave was consistently poor to the west of the Lake of Mentieth, yet the wave clouds seemed to disappear over the horizon towards Norway. There was far too much cloud to the north for a safe cross-country. I gather Aboyne was grounded that day due to strong crosswinds.

It is a shame that we cannot examine tephigrams before flying so we have to rely on hard earned experience to predict good days.

Tom Bradbury kindly obtained the ascents for me and it is clear from the 1200 GMT tephigram that there was an unusually deep isothermal (almost constant temperature) layer between 5000 and 15000ft. The wind speed also increased rapidly with height (being 88kt at 18000ft) up to a maximum of 106kt at 30000ft with little change in direction. These two features explain the strong lift over the relatively limited height range and also the cut-off at a lowish height. The unstable layer below 5000ft indicated the likelihood of good thermals with the possibility of showers.



Tephigram for 1200 GMT. Graphics by Steve Longland.

Although I have not included the information in the diagram, the jet stream did move across us and away to the east, resulting in reduced upper windspeed later in the day allowing the maximum wave altitude to increase with time. The bumps in the tephigram between 5000 and 15000ft show the effects of the balloon going through the waves as it ascended from Shanwell (near Leuchars). The temperature between 5000 and 15000ft was about −10°C which explained the lack of ice inside the canopy and why my feet kept warm. The synoptic chart for midday confirmed the anticyclone SW of Ireland with anticyclonic curvature over Scotland.

The low over Sweden was sufficiently far enough away to reduce the shower activity. The wind direction was remarkably constant (330-350°) up to 44000ft, and the wind speed increased almost linearly from 15 on the ground to 88kt at 18000ft. That sort of wind speed is not conducive to getting Diamond heights but a later ascent at 1800 shows a greatly reduced wind of 46kt at 18000ft.

So - if you do not have the correct information to plan properly then make the most of what you find and if you cannot go "up" then go "along" instead. It is a shame that so few cross-countries are done in wave.

Remember - a journey of 1000km starts with but a single decision.

If you have flown 300km or more in wave Tom Bradbury would be interested to have details. He is prepared to look into each occasion and write an article summarising the common features. If you can help, please write to the editorial office at Cambridge, marking the envelope "Wave Flight", and we will send them on to Tom.

TWICE LUCKY

Roger Coote of Southdown GC picked a classy spot to land his Astir when short of Bank Holiday thermals

I have always felt that landing out is like falling off horses. The more you do it, the less it worries you. But after a long spell without becoming unsaddled, you tend to be increasingly more nervous, cautious and timid at the prospect. Similarly, with field landings. If you haven't done it for a long time you tend to dread the prospect.

That was how I felt when I took off from Parham on May Bank Holiday morning to attempt the club task for the day, Devizes, Didcot, Pewsey. For a start, it was slow progress into wind under a relatively low cloudbase but along a familiar route.

Beyond Basingstoke cloudbase was thickening and large brown and murky streets were beginning to form with the wind backing due west. The first outlanding nearly took place ten minutes later. I had crossed a large blue hole to a cloud which failed to work and I was soon struggling. At 800ft above some watercress beds and with a field picked, I was once again redeemed. Back at the 4000ft cloudbase, I pressed on. Visibility was bad at that height and navigation was becoming extremely difficult. I decided that my safest route to Devizes would be to press out over the northern edge of the Marlborough Downs and use that as a navigational aid.

Membury and the M4 lay ahead but were lost in the gloom

I pushed on speed to cross the great broad shoulder of Beacon hill and set up course once again. Ahead I could just make out the little red brick town of Hungerford straddling the Kennet and Avon canal. Membury and the M4 lay ahead but were lost in the gloom. Following along the scarp face of the Marlborough Downs I identified Rivar Hill, site of Shalbourne GC.

My altimeter was reading just over 2000ft but the Downs looked horribly close. Fumbling with my map, I checked the height of Rivar Hill - 700ft. Yes I was right, the Downs were only a little over 1000ft below me. Ahead now, I could just make out Pewsey and decided to make that my TP. But I badly needed a thermal. The cloud formations were getting messy and there was nothing that I could really aim for. Down below, a Pegasus appeared to be running the ridge. I turned back towards Rivar Hill and kept within reach. The Pegasus was going into land. I hung on desperately for a few more minutes trying unsuccessfully to find that precious bit of lift. Then I followed the Pegasus.

As always at a strange gliding site, I was amongst friends. Chris Rowland, the CFI, was more than helpful. "The weather is phasing" he explained, "nothing is staying up at the moment but if you hang on for half an hour you might like to try a winch launch and see if you can get back".

I had only winched the Astir twice in the last five years but with the prospect of my retrieve crew having to travel over 100km on a Bank Holiday afternoon, I felt that it was the only decent thing to do.

The wind had now backed further and was giving a slight tailwind component so prospects were not good. I checked the weak link strength and decided that I was going to have to pull for all that I could get. But ahead, towards Hungerford, was developing the cleanest, roundest, nicest little cloud that I had seen for the last two hours.

The launch was a cracker. I left my altimeter set at 500ft and when I pulled off it read 1800. With the scarp of the Marlborough Downs now behind me, I pressed ahead for my sumptuous little cloud. It worked. At 4000ft cloudbase I turned south-east. Way ahead through the murk, I could make out the great runway of Greenham Common. Then the AA building at Basingstoke and at last, vaguely through the haze, the white golf ball in the centre of the airfield at Lasham. If I could make Lasham, that would certainly help the retrieve. At 3500ft, still well to the west of Lasham, I decided to try to make it back to Parham. To the south, I could see the next white golf ball at Oakhanger. Go for that one now!

But somehow from then onwards, I got it wrong. The cloud streets were running from the south-west and at right angles to my track. Perhaps I should have been more patient or perhaps I should have pressed on earlier. I only know that at 2000ft above Cocking chalkpits and in strong sink, I realised that I was not going to make it home. Two options remained. Either press on along the edge of South Downs and risk landing in the prohibited area of the stud farms around Duncton Down or make a clear decision and get down now. To the north lay the Cowdray Park polo field. That was a good landing area and there still might be another thermal over the sunlit fields below. I turned north.

The altimeter read 900ft and I was still in four down. As I cleared the large areas of woodland, the polo field came into view. To my horror, I saw lines of horseboxes, acres of parked cars and lots of little animals rushing about. Now I was in real trouble. By that time, however, it was too late to change my mind. I set up a good base leg well away from the downwind corner of the field, made my final turn low in over the woods, set up my approach just to clear the fence beside the car park attendants' sentry box and in I went.

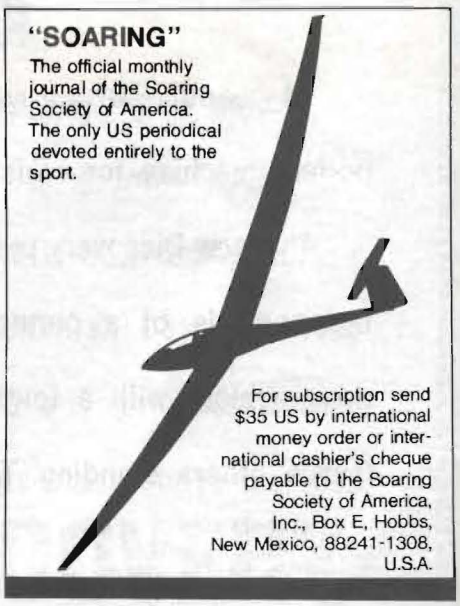
It was a nice one and on the smooth manicured turf of the polo field I was able to pull up quickly and to use the last of my energy to steer across and well to the side of the field.

Having parked the glider, I decided to face the music. It has always been my experience that the best thing to do in these circumstances is go for the Top. At least Prince Charles supports gliding, I mused. In my scruffy shorts and BGA beaney hat, I boldly approached the members' enclosure and requested an audience with the president. I did not know what the boss was called but at least that sounded right. I was told that I should speak with the "The Brigadier" and was directed to where he was sitting in the members' stand. Humbly, I introduced myself and made my apologies. I hoped I had not disturbed the play, I said, and that I had not upset the horses or caused any inconvenience.

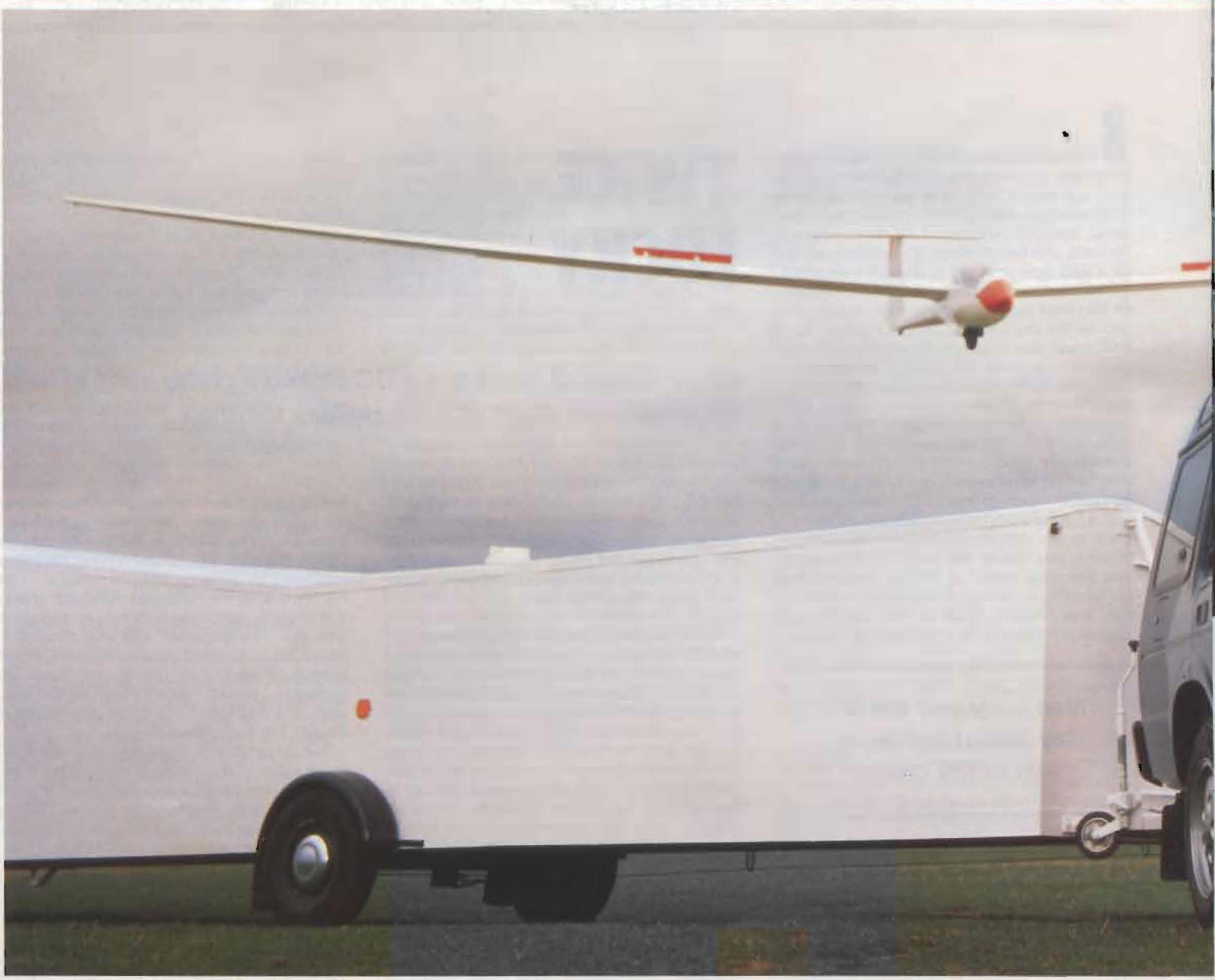
The Brigadier was absolutely delightful. Amid some rather strange looks from the other spectators, he lead me to his car where he allowed me to use his radio telephone to contact Parham. Thereafter, the going was easy. Within an hour my retreive arrived and very soon I was home.

Just another failed task, I suppose, but to me it was another happy day doing what I enjoy most. At least, I survived two more field landings. Perhaps if I had stuck around, I might even have had the chance of falling off a horse. If there is any moral to his story, it is to press on and not to worry too much about landing out. And if you do get into trouble, always try to deal with the Man at the Top.

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S & G CLASSIC

CHOSEN BY FRANK IRVING

THE 1956 WORLD GLIDING CHAMPIONSHIPS

Apart from the inherent interest of anything written by Philip, this piece from the August 1956 issue, p172, was noteworthy in two other respects. It related to the end of an era, in that 1956 saw the last World Champs to include a Two-seater Class, which was won by Nick Goodhart and Frank Foster flying the second Slingsby Eagle to be built (and still extant). The 1958 event saw the introduction of the Standard Class, called the "Restricted Class" in this article, largely devised in smoke-filled rooms in the Hotels de la Gare or de la Poste in St Yan. It could also be said to represent the high noon of the classical wooden sailplane: four years later, the GRP Phoenix was competing and the end of wood for serious soaring was in sight.

For me, this occasion was particularly memorable: Philip's "untiring team" consisted of Kitty, Mike Neale and myself. We needed to be untiring, for the free distance task was still in vogue and when Philip flew 380km, we had to drive a total of about 1000km. The large object near Philip's right elbow in the photograph is the radio: a Pye "Gliderphone" full of glowing tubes.

With the advantage of hindsight, one can detect a faint air of complacency in the writing (". . . best all-round sailplanes", etc.). The remarks about "penetration" look rather quaint by today's standards: the highest wing loading was probably that of the Meteor, at 6.45lb/sq ft.

By any standards there was some stirring aviation, like Philip soaring ridges in the Rhône valley, in cloud, using a T&S and a compass.



Philip Wills, World Gliding Champion 1952-54, and the only pilot to have flown in every international gliding contest, photographed in his Skylark 3 at St Yan.

The French did it: they held at St Yan the best Championships the world has yet seen. They had the weather - extremely varied but all the more interesting for that; they had the equipment, on a scale which made British mouths water; and to this they added the right spirit in full measure and running over. They knew we had come to fly, and they saw we were given tasks, and sometimes very difficult tasks, on every possible flying day. They ran the meeting with just the right mixture of discipline and good humour. The result was a Championship which I can hardly hope to see bettered in my lifetime.

In this analysis I will again follow the general lay-out of my previous efforts after each of the last five Internationals.

Aircraft. - A quite extraordinary conclusion is to be drawn from St Yan. Generally speaking, competing aircraft fell clearly into two separate Classes, which one might call the "exotic" and the "practical". The first, involving great refinements of design, materials and constructional methods, were mainly intended as competition aircraft built more or less regardless of cost; the most extravagant dream at St Yan would have been cheap at £20 000.

These aircraft were flying in direct competition with the second Class, which were more or less built down to a price which the ordinary man or unsubsidised club might be able to afford.

Machines built for performance, regardless of cost, versus machines built to a price should make a poor contest. Yet only three of these aircraft appeared (in 1st, 4th and 8th places) in the first 13 places in the Single-seater Class, and the Two-seater Class was won - and handsomely won - in the T-42 which was popularly called the "soap-box", so plain did it look in comparison with some of its sleek competitors. And probably one could buy five T-42s for the price of one of the exotics. Whilst Juez brought the dear old Sky to 2nd place, beating all comers except the redoubtable MacCready!

Where have "exotic" designers failed? Generally speaking, I would say that they have gone too far in chasing "penetration", and these advanced aircraft have lost the ability to circle efficiently in small, or even in averaged-sized thermals. Personally I would also bet that in the vital field of handling and stability characteristics our British aircraft were far superior to some others many times their price.

There were still far too many gliders at St Yan which had never been spun, and far too many without speed-limiting brakes. Another factor is the use of structural methods and materials which permit rapid repairs should a pilot have a minor accident. Such things are more important than retractable skids or variable camber devices.

In the first 11 places were six British aircraft, and one each German, Polish, French, Swiss and Yugoslav, the last three probably costing from three to six times as much as any of the other eight. An extraordinary result, and one of which we can feel proud indeed, for one can say without exaggeration that in 1956 Britain still has the best all-round sailplanes.

Equipment. - Once again, Standard cars and Pye radio saw to it that our retrieving teams arrived, as a matter of course, ahead of the others. On my two long flights, to Cuers and St Auban, my trailer rolled in two hours ahead of the next. For this my gratitude must also go out to my untiring team, but even they could not have done it without the right machinery.

My Cook compass again proved itself by enabling me invariably to come out of a circle in cloud straight on to the desired course, and at one crucial and rather nerve-racking moment enabled me to gain 1000ft slope-soaring in cloud over a 3000ft ridge, which got me over a rotten spot (and under a perfectly horrid rotor-cloud) which brought many aircraft down and led Bill Ivans and the Olympia 4 to their nasty accident. I saw one aircraft actually fitted with an electrical directional gyro, a vast and expensive machine to do the same job as the Cook compass does.

Undoubtedly the best solution to date

Frank Irving's new prototype total energy variometer (and Nick Goodhart's similar one) worked splendidly, and is undoubtedly the best solution to date, although unfortunately it is bound to be relatively expensive when it shortly comes on the market. Normalair oxygen is better than any previous equipment I have seen.

Pilotage. - Another curious result: the winners in both Classes pulled out away of everyone else. MacCready topped Juez by no less than 1085pts, after which the next ten places fell within a spread of less than 800pts; Goodhart was 640pts ahead of Rain.

There is no doubt that MacCready is a quite exceptional man, and no one has more deserved his victory. He was flying with a machine-like consistency which was most impressive, not for the top place in each task, but to win the Championships as a whole. The staggering thing is that he never flies a sailplane at all between Championships, and where this gets one I simply do not know. To get into a strange aircraft after two years' absence from the game and put up a show like he did seems hardly possible.

The performance of the Goodhart-Foster combination was equally impressive. To hear them at work on the radio made one realise the advantages that a good two-seater can achieve over a solo pilot, however able. There are to be no more Two-seater Championships as such, but this last one has produced a memorable and instructive result indeed.

Paul's lead in the Single-seater Class was so impressive that one might feel that his chance of being the first man in history to pull off the double

win in 1958 is indeed a strong one. But Nick's performance was of the same calibre.

As regards the general results, as I said in my 1954 report, I think the chances of the next World Champion being found in the first 25% of the list of placings in the previous one are strong, so I do not think our placings in the Single-seater Class were unsatisfactory. Here I am writing as an analyst, not as an individual pilot who felt very blue indeed after one or two bad days.

As an analyst, I would say that to have won the Two-seater Class by a handsome margin and to have achieved 6th and 10th places out of 45 in the Single-seater Class is a good record. As a pilot, what would I give for a chance to fly the first and fourth tasks again!

Organisation. - Quite excellent. The met was superb, the task-setting showed genius, the launching of nearly 60 aircraft in 28min, absolutely safely, was beyond praise.

Marking system. - The gradual development by **CVSM** of the basic marking system has clearly reached a stage where marking systems and tasks are now pretty satisfactory, and results achieved were very good. The system now copes satisfactorily with very bad weather as well as very good.

Someone had been too clever by half with the order-of-take-off system, and laid down that it should depend on the previous day's results. This meant (a) that, properly speaking, no flying could start until everyone had come back and handed in their landing certificates, and (b) that the wretched marking committee had to sit up all night and every night to have the results out in time. With launching as rapid as it was, it didn't in fact matter a hoot where one was in the launching order anyway.

The idea of dropping each pilot's worst day's marks has been deleted, but I am not sure whether it is still permissive if the organising nation wants it. I believe it would have been a good one at St Yan, as on at least one day certain pilots had no chance to catch a big storm that came over and blotted out the field, so scored nothing whilst the rest of us were disporting ourselves up to 20000ft and over.

The Future. - The main worry about the future is the possibility that no nation will find itself able to offer the necessary facilities to hold the 1958 Championships. In Europe, Poland and Yugoslavia might be possibles; elsewhere the United States seem the only chance. But who could afford to get there, unless they can raise far more official help than anyone has so far dreamed of? The FAI will shortly be sending out invitations, and I do indeed hope we shall get some interesting offers to take on what has become so gigantic a task.

The "Restricted Class" which it is hoped will take the place of the now defunct Two-seater Class in future World Championships is not, I imagine, likely to be ready until 1960, for even if the formulae and regulations are agreed in the fairly immediate future it is likely to take all of two years for the designers and constructors of the various nations to produce a sufficient number of qualifying types to make a contest possible. But progress is being made, and eventually I believe the Restricted Class will become more important for the development of gliding than the Open one.

MY 500KM

Stephen Lynn, who flew Diamond distance on July 18, finds that gliding is still a challenge after 20 years



Stephen photographed with the Caproni he used to fly.

Strange really. As I get older I seem to know even more pilots who say they have never wanted to do a 500km and never bother with badges. Well I hope you'll forgive my arrogance but last summer I completed my 500km and I'm proud of it.

As a glider pilot I'm nothing special and I've certainly taken my time; my wife laughs at the 20 year-old picture in my fading FAI/Royal Aero Club gliding certificate - yes, A and B signed off by Barry Rolfe in 1971. The 500km was my 1801 launch!

I'd love to tell you stories of numerous abortive attempts, forever falling 5km short of home. Actually I only ever had one genuine previous attempt. Someone had said it's a long flight so start early. I read the books and launched high, setting off on track 30min before the first thermal. I landed on a football pitch four miles away.

Last summer I booked a week to fly 470, the London GC's ASW-20. It just happened the club was running a soaring week organised extremely well by our pros, Liz and Jerry. There we were, a group of pilots with vastly differing levels of experience, and the club set out to provide something for everyone. It goes to show what can be done with our sport when the weather allows.

On Wednesday Jerry set the task, Devizes castle, Potton mast, Pewsey railway station. Andy Beatty, flying an LS-4 (Zulu 4) and I agreed to do it. I flew out to Thame/M40 in total blue but arrived at Chalgrove to much excitement at the sight of the first cu on track. The sky started to grow *en route* to Devizes.

I was running just ahead of Z4. I couldn't find the castle without radio advice, but finally turned Devizes. As so often happens on turning the corner the perspective changed and I had a fantastic sky in front of me. From my barograph trace I can see how I followed the energy slightly north of track, climbing most of the way back to Potton.

This was quite a run but the ASW-20's tips were a definite disadvantage when I needed to push forward for speed (argument for variable in-flight tips coming up). I could feel the aircraft objecting as I pushed forward, but what a sky!

I turned Potton mast at 5000ft, climbing and pushing. Z4 was nearby but we were both so preoccupied we couldn't see each other. I was running back to the south-west, but again the perspective was changing.

For a while I was dodging below the airspace restrictions, but then the sky was rapidly going blue. I didn't like losing my airborne signposts.

Abeam Dunstable: "Z4, 470: Want to go on?" "470, Z4, affirm." Without Andy's confidence I might have turned in.

Back at Thame there was a blue sky again. With the day in early decline, and 75km to Pewsey before turning for home, I was down to 3000ft. Z4 suddenly reported he'd overtaken me and was climbing at Didcot. That spurred me on - in fact he was hopelessly lost, way off track to the north of Calvert, but it did me good at the time.

As I dived for Didcot the sky decided the day wasn't over and a series of big cu's started to show. I climbed at 7kt back up to 6000ft and 470 was full of life.

With big glides up high all the way to Pewsey, I was there in no time and back into a sky that still looked more than adequate. I climbed to 4500ft over Marlborough and then took long and very slow glides off track to the next big flat cumulus. Wonderful things those ASW-20 tips. Eventually Didcot and a 2kt climb to 5500ft under an enormous sprawling white blanket pretence for an end of day cumulus. The day ahead was all but dead.

Twenty-five minutes later after a gentle beat up I landed with Zulu 4 coming in 30min later. I met Andy with a glass of cold champagne. We beamed at one another and retired to the bar exhausted and very satisfied. You can't take that away.

In retrospect it really was a special flight. There were no real struggles, no nail biting low points. I hate those. That's when I promise to give it up. Just 7hrs of wonderful flying.

But more importantly, isn't it absolutely marvellous that after doing this thing for 20 years I still find it challenging and get a sense of achievement from such a flight. It says a lot for gliding as a sport.

Sitting in the bar that evening, glowing, I said that I didn't think I would do anything on Thursday. Robin May said "Why not sit in the back seat of 13 (ASH-25) tomorrow? We might try the UK 600km record." We did and we succeeded - but that's another story.

TAIL FEATHERS

Bring back virginity

I told you in our last issue how I would literally go to the ends of the earth to avoid the after-dinner-speaking season. However I did not altogether succeed. The chairman of my club –



Low launches.

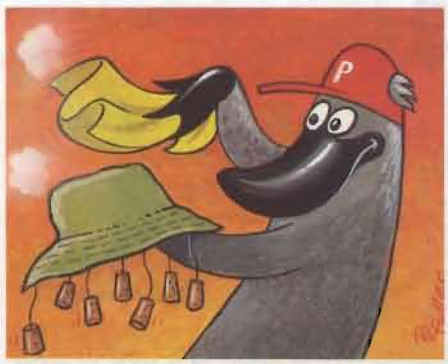
where I have loyally stayed as a member for 33 years (gosh, that's a third of a century) through thick and thin, regardless of low launches in the 1950s, high fees in the 1960s, long queues in the 1970s and oceans of Somme-quality mud (they should have made puttees standard issue) in the 1980s – threw himself on my mercy. He had, he said, desperately searched for weeks across the whole country for a distinguished celebrity speaker, but had finally come to the right decision – he'd given up. Would I, *faute de mieux*, do the honours for the club's dinner? It was an historic occasion, remember.

I fought a stiff rearguard action: I pointed out that a retiring, though hardly shy, member of the club staff was embarking on a brilliant new career as a stand-up comic in the pubs and clubs, and was exceptionally funny. True, his material had absolutely nothing to do with gliding, but since half the people who come to annual dinners are friends and family of glider pilots and know little about the sport, this was a great advantage. Surely he was ideal? Yes said the chairman, he had thought so, too, but when the chairman's wife, club censor and guardian of the club's morals, saw an advance ocpy of ****'s spiel she scissored out all the words that were racist, and sexist, and blasphemous, and scatological, and obscene, so ****'s script ended up looking like a lace doily. Then there was also the embarrassing matter of a fee, now that he'd turned pro. Platypus's material, by contrast, was believed to be more or less printable, and more importantly he was free in both senses of the word: available and buckshee.

The chairman briefed me "Don't go on too much about the glorious past of the club; people have had a bellyful of that this year, concentrate more on our glorious future". I suspected that was code for "Don't talk about yourself, talk about me." That's all right, I'm not proud. I said to one of my partners the other day "I'm just an old has-been" and he said "Plat, that's quite untrue – you never were anything!" That's what partners are for, to cut you down to size.

I had to tell the audience that frankly I wasn't looking forward all that much to the idea of gliding in the 21st century. Indeed I think that when the millenium arrives I shall sell my glider and take up wine, women and song – if I haven't left it a bit late by then and find my voice has given out. I'm always threatening to do that, of course, but something invariably crops up; so this winter I was looking forward to getting away from gliding and broadening my cultural interests in London and Paris, when I get this phone call from a chap who says we can ship a two-seater in a container to Australia for the whole winter for almost nothing. So I'm taking a flight on ****** in a month's time and am just hoping the airline remains solvent long enough for my ticket to be valid both ways. More of that trip in future issues, God willing.

My vision of the future of our sport is a pretty jaundiced one, as befits a person entering the curmudgeon phase of life. I am sure that by the time my successors are celebrating the club's centenary, the public lavatory on top of the hill will have expanded into Terminal Seven of London's fifth airport. Gliders will be able to go 20 miles from a thousand feet, which will be just dandy because nobody in England will be allowed to go above a thousand feet. Because everyone will



Taking a flight to Australia.

have so much leisure time, when we host the National Championships it will consist of a solid month of triangles all through Husbands Bosworth; it will be so tedious that it will be compulsory, like jury duty.

In the Welsh mountains, however, there will be a legend amongst the shepherds that a great black sailplane, having shed all its gel coat in 20 years of non-stop flight, is still piloted by an ancient aviator, permanently airborne and permanently lost, his beard streaming out of the clear-vision panel, living off rainwater and small birds and even the occasional unwary sheep, uttering his distinctive one-note cry "There must be wa-a-ave here somewhere . . .". At dusk villagers will hustle their pets indoors while pretending they don't believe a word of the story of the dreaded Jay-Jay-Bird. But those of us who are still around will know it to be true.



The dreaded Jay-Jay-Bird.

I look back enviously from this age of increasingly crowded airspace and cynical sophistication to that other age of freedom, innocence and simple faith. For instance, when you read the accounts of how the founders of this club operated, it is evident that they believe that as a special favour to them God had repealed the law of gravity. I'm amazed that they survived 12 months, 12 weeks even. Solo training is the most cockeyed way to learn to fly – I started that way in the 1940s (and had to be completely retaught when I joined the club in the 1950s and they still haven't got me sorted out yet). At least we in the ATC had a high performance machine with crisp controls called the Kirby Cadet, and one or two of the instructors actually had an hour or two in their logbooks, but in the 1930s, the blind confidently catapulted the even blinder off the equivalent of the dome of St Paul's, and on the way down totally inexperienced hands tried to grapple with primitive control circuits that had all the resilience of so much spent knicker-elastic. Oh, but the freshness and simple joy of it, nevertheless! In the greatest book on gliding ever written Philip Wills poignantly describes the pioneer members of our club: *We were young, virgin and ecstatic"*
Now look at us . . .

So much in gliding still novel and exciting

But you know, even now I quite often feel like a virgin. I'd better rephrase that. I mean, I often feel as those pioneers did; there is so much in gliding that is still novel and exciting. It was only a couple of months ago that I flew to the Isle of Wight and back, and got just the merest taste of what Geoffrey Stephenson had experienced when in 1939 he launched from the Chilterns and crossed the Channel, in a glider of a quarter of the performance that I had. It was only two years ago that I explored the Brecon Hills for the first time, and I've not tried Scotland yet, or soared the South Downs, or used the sea breeze front over Lyme Bay. And I still want to do a cross-country in a Kite 1. Our club has given me – given hundreds of us – a way of life, lots of friends and always something

new to look forward to, limited only by one's imagination. For that I shall forever be grateful to to the instructors, to partners past and present, and above all to the people who all those years ago devoted their energies and risked their necks to get our club off the ground and into the air.

Bring back horsewhipping

In the August issue, p190, I was excoriating our national newspaper journalists (those are people who think that *coruscating* means the same thing as *excoriating*, by the way, just as they think that *flaunt* means *flout*, *refute* means *deny*, *flounder* means *founder* and *crash* means *land*) and drew a pained response in the October issue, p233, from Stephen Young, chief executive of a respected regional newspaper group, who felt I was damning all journalists. The references throughout my piece were to *national* papers, as the text states in the very first sentence. There are hundreds of local papers which are highly responsible, an excellent reason for this being that the journalists live in the community whose life they portray. If you attend a local wedding and misspell the names of the guests the editor gets so much stick that you will never again repeat the error. Mrs Platypus learnt her craft that way before becoming a magazine editor. If you work in a smallish town you learn to



Check your facts.

check your facts so as not to alienate your readers, who can come storming around to your office within minutes. Whereas if you are sitting safely behind razor wire in a fortess in London's Docklands, you can invent completely defamatory nonsense about some hapless citizen of Bootle without giving a damn about the consequences. The ironic thing is that you can't get a reporting job on a national paper without first doing an apprenticeship on a local paper.

What happens to those humble, painstakingly acquired skills once their practitioners find themselves amongst the bright seductive lights of the nation's capital? What happens is that they get into the entertainment game if they're at the bottom, so to speak, of the national newspaper market, and into the opinion bending game if they're higher up. A fact is merely an interesting starting point for some much more creative, and highly paid, exercise. It seemed to me that the incessant reportorial bias about the Shackleton crash into a mountainside was to the effect that a stingy government had sacrificed young airmen's lives by forcing them to fly around in ancient airframes. A Scottish jury would say of th premature charge "Not proven!"[1] and throw it out. Couple this desire for an "angle" rather than a straight story with the demand for speed, throw in a large dash of technical ignorance and it is a miracle that any story produced by a non-specialist has credibility. Ultimately it is the fault of the editors and the proprietors, especially the latter, motivated by the wish for power, or riches, or fame, or thrills – but not by anything so dreary as the truth.

[1] *Not surprisingly, pedantic Platypus thoroughly disapproves of the use of* proven *rather than* proved *in any context but this legal one, but knows his is a lone voice* Ed.

SOMETHING SPECIAL

When Roger Warren set out for some ridge soaring in winter

Roger, who runs his own company operating as business transfer agents for industrial companies, started gliding in 1984 and now has a Gold distance, a PPL, IMC rating and group B licence. He still flies the bright yellow K-6CR which has been completely refurbished by the syndicate.

February 15, 1987, was a cold Sunday morning. As it was bright, I set off for Kitson Field, Ringmer, home of the East Sussex GC. Situated under the London TMA on flat clay that is slow to warm, this is not the ideal soaring site. The South Downs are just that bit too far away, so an aerotow to the ridge is a one-way ticket. Landing a club two-seater in a remote field does not do much to improve one's popularity, so my ridge flying to date had been limited to about one minute at Challock.

That day, however, Will Greenwood, another member, volunteered to help. The wind was fresh with a good northerly component so there was no doubt the ridge would be working. Will would take the club Skylark 4, with me following in our K-6CR, "The Banana" as it is affectionately known (the colour having some bearing on this).

I took the first aerotow of the day, and released just north of the Downs. Here was my first problem: I needed to be airborne when Will arrived or I would learn nothing other than my next field landing. A little cu was popping up not too far away so I flew over to inspect . . . it worked! I had 3000ft and the tug was approaching complete with the Skylark. Now I could learn all the secrets of staying up on the ridge.

The Skylark started to circle and I took the K-6 in underneath for a respectable climb. We travelled west using thermals. When were we going to get down on the hill with wingtips cutting the grass? No radio, so I couldn't ask, just follow. Another couple of thermals, and then suddenly I was alone. The Skylark had vanished. Anyway, it had been a good flight of well over a hour – I had plenty of height, so the field was in range.

Nearly back to Ringmer a thermal found me. This was probably the best climb I'd ever had, straight up to the TMA at 3500ft. I overflew the site and headed off to the south-east; the lift was terrific and it was hardly necessary to circle. Yes this was my idea of fun.

I'd been up for three hours and the cold had seeped through my layers of clothing. Legs could never have been so stiff before and both feet seemed to have disappeared altogether. That was it. I'd had my longest flight ever, but I'd had enough. I was off home.

With about a mile to go, I felt a bump and my reactions took over. Would you believe it . . . I was going up again. I decided to take this thermal as far as possible, and then definitely return to base. As I arrived at 3500ft the Skylark appeared at my wingtip. This time the driver was Mike Pierpoint. He waved to me, and together we flew around the sky, thoughts of hot coffee temporarily forgotten. I'd been up about four hours, the lift was stonking and the barograph ticking behind my head; five hours must be on, a Silver duration – today must be my day – "Go for it".

A brief word of advice here to other budding pundits. On no account in gliding ever think positive. Always think negative. For as thoughts of success ran through my mind the vario had other ideas, the lift vanished and there ensued a steady downward trend. From 3500ft, down to 1300ft without a sniff of lift. Life's like that, I thought, imagining how nice it would be to get warm again.

Then passing over the wood just north of the field, there was a bit of zero sink. I circled, but it had gone. I pushed back into wind and found zero again over the wood. A couple more circles; I lost it so pushed back into wind again. Yes it was still there – I concentrated, still at 1300ft, keeping the flying as accurate as possible and pushing back against the wind to stay over the wood. I had now been at 1300ft for half an hour with the same drill; a few circles then a push into wind. There was only a quarter of an hour to go for the five hours. But alas, the vario was thought reading again. It was downhill, 1200, 1100, I turned for home, 1000, the circuit looked clear, 900, turning in to join, 800, it was all over now.

Zero! Quickly into a circle, which I held, turning hard, but it had gone. I pushed into wind, concentrating and keeping the string straight. I was still circling, and thinking about that 5hrs, still at 800ft. Did I take off at ten past? I could not remember, but I kept on circling and pushing into wind. That was it . . . 1610, surely that must have been long enough! Downwind checks, the field was clear with all the other gliders parked by the hangar, lookout, airbrakes, touchdown, groundrun, stop.

Well, that was something rather special. The log said 5hrs 16min, not just a duration, but from Ringmer, in thermals only and in February.

Ridge soaring? – Perhaps I'll try that next week!

TOM BRADBURY

ROUTE PLANNING PROBLEMS

Having planned your cross-country taking into account the official obstacles, Tom Bradbury points out some of the Met factors to be considered

The complex pattern of airways and control zones, together with local summer problems such as air displays, parachuting, etc, combine to restrict the routes available for cross-country flights. After all these exclusion zones have been plotted on the map the task setter then has to make the most of the weather. This article presents some of the Met items one may have to cope with after sorting out the official obstructions.

Spread-out

The spreading out of cumulus to form an almost total cover of stratocumulus is one of the factors which frequently ruins a day which started fine and sunny. June 1990 (when it wasn't actually raining) produced so many occasions of spread-out that there were no claims for Diamond goal or distance at all. I recall more flights spoilt by spread-out than anything else. The most disastrous failure was an over-ambitious 600km task set for the Open Class on the first day of a Lasham Comp some years ago. No one got round because there were areas of spread-out the task setters knew nothing about.

Criteria for spread-out

These are the usual criteria for spread-out:

1. There must be a stable layer to restrict the tops of cumuli so that all come to a halt at about the same level.
2. The air beneath the inversion should have a lapse rate only a little less than a dry adiabat, (3°C/1000ft). Then as soon as clouds form the tops can shoot up rapidly, hit the inversion and spread out sideways.
3. The air must be moist. There is often an inversion on good as well as poor soaring days. However, on good days the air is fairly dry below the inversion and very dry above it.

Fig 1(a) shows what a sounding looks like on a spread-out day; (b) shows the difference on a fine day.

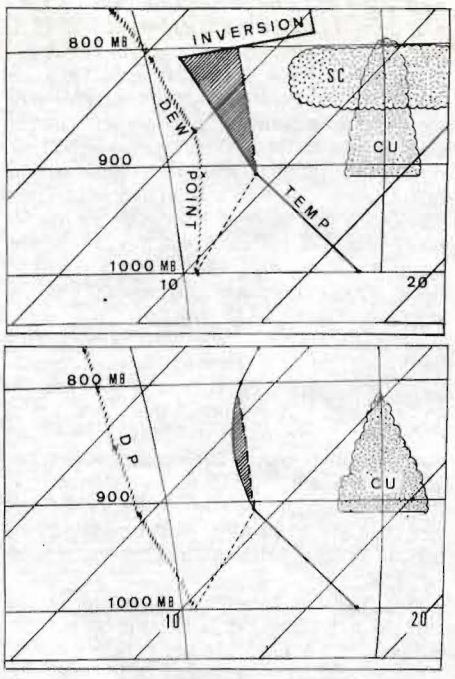


Fig 1

When humidity is low the cu tops which bump into the inversion cause turbulence which brings some of the dry air from above down into the convective layer. This warms and dries the lower air. It also raises the level of the inversion. The regular pulses of warm dry air from above prevent any tendency for spread-out.

Summary of conditions for spread-out under a strong inversion are:

1. Very unstable air under the inversion.
2. Condensation level at least 2000ft below the inversion (The Sc base is usually higher.)
3. The dew point within 5° of the air temperature in this layer. (The difference between dew point and air temperature is an indication of the relative humidity. At 100% humidity both temperatures are the same.)

Visible signs of spread-out are:

1. Unusually early development of cu which quickly produces excessive cloud cover.
2. Clouds which shoot up fast but do not maintain a flat base for long. Sometimes the bubbly top is still rising when the base is breaking up.
3. The appearance of little lenticular cloud caps (pileus) just above rising cu tops during the first couple of hours.

Spread-out due to showers

Spread-out is not exclusively a problem of solid inversions. Any activity which transports an excess of water vapour high into the atmosphere is liable to produce spread-out which cuts off nearly all the sunshine. Thus a region of deep instability with frequent showers may also grow its own high cover, either as decaying shower clouds at many different levels or as vast anvils of cirrus expanding from the tops of powerful cu-nims. The spread-out depends on the excess of moisture aloft being too much to be evaporated by the sink between showers.

Location of spread-out

There are certain areas where spread-out is very common on the eastern side of large anticyclones whose centres are over the ocean. The winds are usually from a northerly direction and the isobars curve anticyclonically. It is sad that in the UK this is also the recipe for good soaring weather. The critical item is the moisture in the lower atmosphere. As the cold air travels southwards it is heated by the warmer sea below and thermals transfer more and more water vapour upwards to form the clouds. The subsidence which occurs above the anticyclone produces an inversion which separates the cool convective air low down from drier stable air aloft.

Satellite pictures show that the cumulus is often well broken at first, then as more moisture is evaporated from the sea the individual clouds form large clumps. As the inversion strengthens these clumps flatten out, expand and join up to form huge plates of cloud. High resolution satellite pictures show intriguing patterns in the cloud. Photo 1 shows Ireland almost covered by spread-out. Only the coasts are free of cloud.

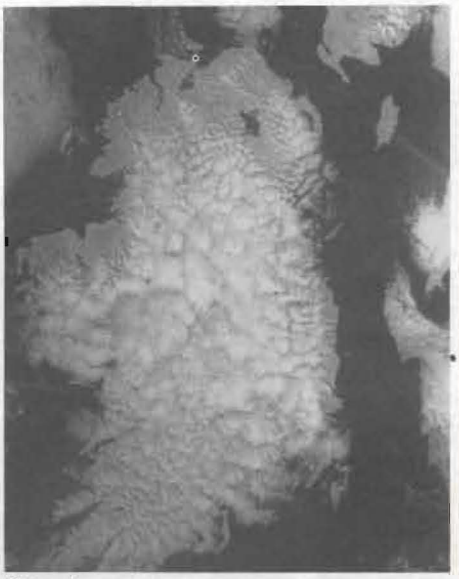


Photo 1.

From the ground all one sees is a distant crack in the cloud sheet through which slanting rays of sunshine penetrate the shadows. If you fly directly under such a crack you may find the air is actually sinking down through the cloud sheet. Before the crack closes up the sink can be as much as 10kt down, though it is usually much less.

The forecasting problem

If one has good coverage of satellite pictures the major cloud sheets can be tracked from hour to hour as they move towards the land. A problem arises if, as in photo 1, the sea is not quite warm enough to set off convection so that the air is

almost cloudless until it reaches land. Overland the sun's heat stirs it up and the cloud sheet forms a few hours after the first cu appear. In theory one should be able to predict this from an examination of the upper air soundings. Unfortunately most upper air stations only make soundings twice a day, at midnight and midday. (I am told this may change.) The stations are usually at least 300km apart so the twelve hourly soundings are seldom adequate to map the moisture pattern.

Looking for moist regions – lost fronts?

Since excess moisture is a major factor in spread-out one looks for any signs of its location. The position of old fronts is a good guide. Official analysts usually drop a "front" when it ceases to have any weather on it. If they did not their charts would become cluttered up with unimportant relics of past history.

Fronts usually fade away when pressure rises across them and the air aloft starts subsiding. Prolonged subsidence will evaporate all except the lowest layer of cloud. Finally low level divergence reduces the temperature contrast across the front and in time it loses almost every identifying feature. However, although the relative humidity is less the original moisture is still there, but no longer visible in the warmed air.

Several unexpected cloud areas have been traced to the arrival of an old front which had been officially lost (or abandoned as unimportant). These invisible fronts may be totally cloudless over the sea but the low cloud appears again overland. All it needs is a few hours of thermals during the morning.

Cycling

The Sc layer often causes its own break up by cutting off thermals underneath. Lack of thermals stops the supply of extra moisture needed to maintain the layer. After a time slow subsidence evaporates the Sc, the sun breaks through, thermals start up again and the whole spread-out process is repeated. This produces a cycle: thermic . . . dead air . . . thermic again. I have heard of a Nimbus 3 gliding more than 80km in dead air to get clear of the overcast leaving a trail of lesser craft sinking to the ground behind him.

Persistent cloud sheet

Some Sc sheets persist long after the thermals have ended. The cloud top radiates heat into space; this:

1. Cools the top of the cloud layer and makes it slightly unstable and
2. Makes the inversion sharper.

The cloud then develops a slow circulation of its own regardless of the land or sea beneath. It is no longer dependent on thermals rising up from the surface. This slow internal stirring, combined with wind shear over the top, causes the regular pattern of cells and billows which one can see when flying high above a Sc sheet.

What clears the spread-out?

If the original cause is removed before this internal circulation develops most cloud sheets will slowly fragment and disperse. Thus:

1. If the air dries out (detectable by a falling dew point at the surface) the cumulus base will rise. Prolonged drying lifts the cloudbase so high that the layer becomes too thin to persist.
2. If the inversion sinks down towards the condensation level this also makes the cloud thinner so that it breaks more readily. This effect explains why a developing ridge often gives good soaring weather; the lowered inversion makes the cloud depth too shallow for complete spread-out.
3. When the ridge has just passed, or the high has begun to decline and move away, the subsidence which caused the inversion ceases. The inversion may then become less solid so that cu tops are no longer rigidly confined to a single level. With no fixed level for cu tops the Sc is less likely to form a continuous layer.
4. If the cloud sheet is carried over a range of mountains it frequently breaks up, often producing a wave pattern to lee of high ground. This is usually due to the Föhn effect.

The Föhn effect

Air which is forced to rise over mountains cools and much of its moisture falls out as drizzle or rain on the windwards slopes and peaks. As a result when this air descends on the lee side it is both warmer and drier. Most mountain ranges break up the oceanic Sc sheets. Once the excess moisture has been extracted and the layer has been broken it is far less likely to develop again. See Fig 2.

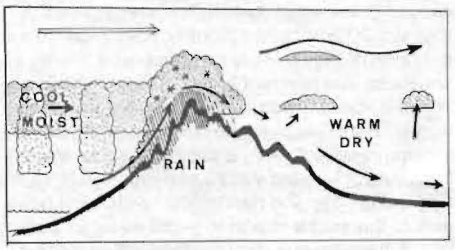


Fig 2

The British Isles has relatively small mountains compared to Scandinavia and Europe but even so their sheltering effect can be marked.

Shelter effect

To get almost total Sc cover one needs a lot of moisture trapped under the inversion. Anything which reduces the amount of moisture helps to break the layer. A long track across really dry land often results in the condensation level being raised to a level which makes Sc thin enough to break up. The sun then burns off any residual Sc. As a result continental regions suffer much less from the extensive Sc sheets which are so common over the UK. The inland regions of France, Germany and Poland usually get more soarable days in summer than does the UK. On the other hand regions near the Atlantic and North Sea coasts get almost as many poor spells as Britain. Spain and Italy have a different climate but both have shelter from high mountains.

Lee shelter in Scotland

The Highlands of Scotland are very good for drying out the damp Atlantic air and breaking up the cloud sheets. This is important both for wave and thermal soaring. Photo 2 shows an example of a cloud sheet breaking into waves over the Highlands.

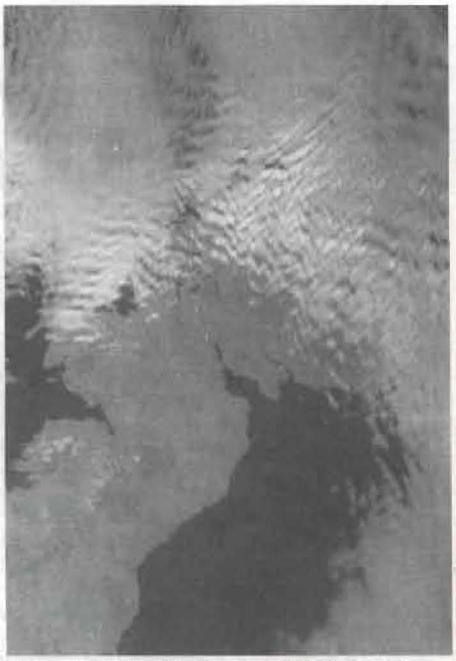


Photo 2. Both photos are published by courtesy of Dundee University.

There are a great many days when the whole of Scotland is covered with a wave system as stable Atlantic air sweeps across. This air is often so moist that there is total cloud cover on the windward side but good breaks occur on the lee side. With a west to north-west wind total cover often extends as far as the Great Glen. The first breaks often appear along the line from Fort William to Inverness and satellites show the wave pattern appearing to the south and east of that line. (Fig 3.)

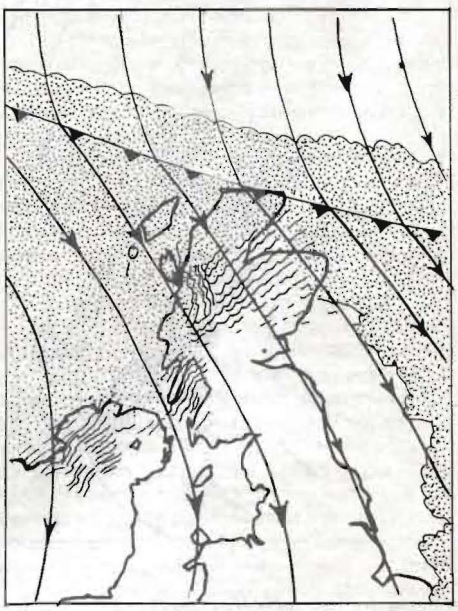


Fig 3

As the wind swings to a northerly point the cloud tends to obscure normally good wave sites ➡

such as Aboyne while leaving sheltered places like Portmoak with beautiful wave bars across the sky. The west coasts get their breaks when the wind comes from the east, but there are few sites able to take advantage of the easterly waves.

The difference between the windward and leeward side of Scotland is so marked that BBC forecasts often mention the shelter effect. There is almost always a wave system on days when Glasgow is in drizzly gloom but Aberdeen or Inverness have warm sunshine.

Pennine shelter

Cloud sheets carried in on the westerly winds are quite likely to break up on the lee side of the Pennines, particularly when the Sc tops are only 2000ft higher than the ridge line. Breaks are less likely when the cloud is very deep, for example when a frontal system arrives. Even then one may find that cloud along a weak front breaks up enough for the waves to appear over Yorkshire and up to the Scottish border.

Welsh shelter

The Welsh mountains seem a little better than the Pennines in breaking up the Atlantic cloud sheets. There can be a great difference in both cloudbase and thermal strength in the shelter zone to lee of the mountains. With a 300° wind flow the shelter zone extends right across the country giving good conditions to many southern English clubs as well as the Midlands. Places on the edge of the shelter band find a marked change in the weather over a short distance. One such site is Nympsfield whose soaring weather improves enormously when the wind swings away from the dreaded Bristol Channel sector. One can find the cloudbase rising 2000ft and the strength of thermals almost doubling after flying across the Severn Valley and reaching the shelter of Wales.

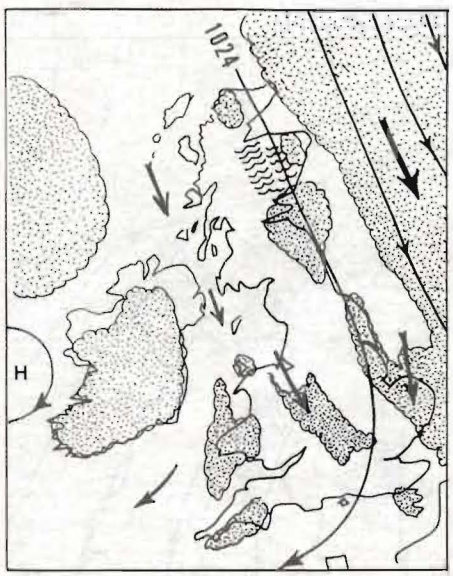


Fig 4

Gaps in the shelter belt

There are two important gaps in the high ground. One is the Cheshire Gap and the other is the Bristol Channel. Winds from 330° travel through the North Channel between Scotland and Northern Ireland and on through the Cheshire Gap into the Midlands. Nowhere has the air been forced to rise over high ground so it still retains the moisture it had out over the Atlantic. The result appears as a band of showers (when the instability is deep enough) or a zone of spread-out when there is a solid inversion. This shower or Sc belt can spread right down to the south coast.

Fig 4 shows an example when nearly all of Ireland was covered with spread-out but the northern half of the Irish Sea was clear. Cumulus did not form overland till the air was well into the Cheshire Gap, then the extra moisture resulted in an area of spread-out spoiling thermals right down to Berkshire. Fig 4 also shows how much of England was sheltered by the Scottish Highlands. Only the east coastal strip suffered.

When the wind direction is between WNW and SW the flow comes through the Bristol Channel Gap and may spoil soaring a long way inland. On calm days one can find adequate thermals in this gap during the morning but sea breezes kill the lift during the afternoon.

When Scotland shelters England

Some of the very best soaring weather occurs after northerly winds have brought really cold air south across the British Isles. Once a ridge or high cell moves near, stabilising the air and reducing the wind speed, the stage is set for massed 500km flights. Northern Scotland bears the brunt of the showers and breaks up the cloud sheets so that much of England has magnificent weather. So too does Wales, except for Snowdonia. There is alas a long strip of country where soaring is difficult. This is the east coastal stretch from Berwick to the Wash, and much of Norfolk and Suffolk too. Too much cloud with a low base makes this part a region to avoid as far as possible. If there are any showers they will almost certainly break out along the coastal strip. On some northerly days the whole of the North Sea is filled with clouds. Then if you fly east from Edinburgh the next clear zone does not appear until you reach the shelter of the Norwegian mountains south of Stavanger.

Scandinavian shelter

There is often a spell in late April or early May when pressure builds up north of Scotland and very cold winds come pouring south across Scandinavia. The northerly flow then turns right and reaches England from the NE. This arctic air drops most of its moisture as snow over the mountains of Norway and Sweden and is very dry when it reaches the North Sea.

At this time of the year the North Sea is usually very chilly indeed and the dry arctic air does not have time to pick up enough moisture to form clouds over the sea. When this air reaches England it needs very little sunshine to produce the most magnificent thermals with shallow high based cu and wonderful visibility.

Fig 5 shows the trajectory the air took over Scandinavia before the arctic flow was cut off by the arrival of a depression over the Norwegian Sea. The isobars show the flow on a day when a 750km triangle was flown at the end of April. With such winds one may find soarable cu start very

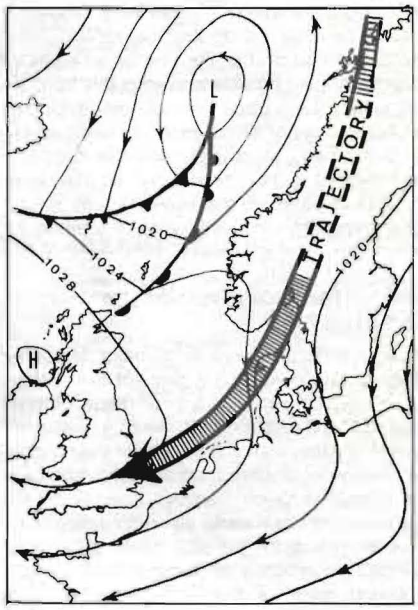


Fig 5

close to the North Sea coast. Later in the year these onshore winds need a much longer land track to set off thermals.

These exceptional conditions rarely last long. More than half a century ago Phillip Wills and others used the spring north-easterlies for long downwind flights to Devon. They are still excellent for that though nowadays Tutors and T-21s have replaced the pre-war Minimoas.

Mountain shelter and coastal effects with deeper instability

A variety of different conditions can be found when the instability is deep enough for cu tops to go well above the freezing level and produce showers. Fig 6 shows these variations over central and southern parts of England and Wales when there is a fresh WNW wind.

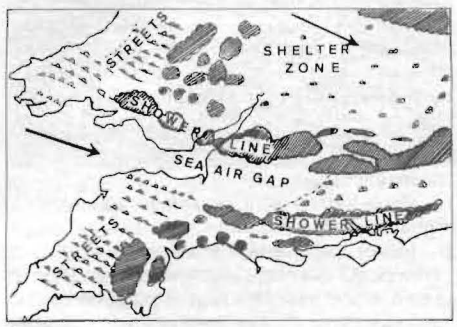


Fig 6

1. Streets these show up quite soon after the air has crossed the coast and starts to be heated by the land. The streets persist as long as the cu remains small but are destroyed when large cu form.
2. Clumps of showers: Where the air encounters higher ground large clumps of cu develop and showers begin. These often grow over the

mountains of central Wales and also over Dartmoor. Although there are no real spread-out areas in this example the showers were large enough to make detours necessary.

3. Shower lines: These often form near the edges of the mountains. The most prominent line started over the mountains near Swansea and extended across Cardiff and Bristol to the Berkshire Downs. Another formed near the eastern edge of Exmoor and extended across Southampton to the South Downs north of Chichester. The eastern end was probably boosted by sea breeze convergence. A third shower line (not shown in the sketch) extended downwind from Snowdonia and crossed the north Midlands.

4. Shelter zones: Between the Snowdon and the South Wales shower lines the Welsh mountains gave a shelter zone which extended over much of the Midlands. Here there were only small cu.

5. Bristol Channel Gap: No clouds appeared over the damp, flat area downwind of Bridgewater Bay. The Somerset levels are well known for lack of thermals when the wind is from the west. Although streets had formed within a few miles of the coast of Wales, Devon and Cornwall the same air penetrated almost to Salisbury before proper cumulus started to form.

Some thoughts on task setting

1. If there is a moderate wind it is often an advantage to set tasks into shelter zones. This reduces the risk of total failure due to spread-out. It may also be useful when showers are expected. High ground is a useful barrier against sea breeze penetration too and may keep out maritime low stratus.

2. With fresh to strong winds the lee of high ground offers a possibility of finding waves. There may also be streeting below and downwind of the wave bars making it easier to work upwind. Large mountains tend to break up cloud streets but they can reappear over more level ground. The longer the land track the better the chance that TPs will be visible from high up.

3. The middle of mountainous regions is more likely to have large clumps of cumulus or spread-out. The exception is on dry and rather stable days when thermals are stronger over the mountains than over the plains.

4. The edge of mountainous regions may generate shower lines which extend many miles downwind. The same effect occurs downwind of large peninsulars when they are aligned along the wind direction. In both cases there may be convergence set up between the heavy cloud over the coastal hills and an incoming sea breeze.

5. It generally pays to avoid TPs near windward coasts. With an offshore wind coastal TPs may be attainable but it is as well to turn them early in the day if the off shore wind is light. Some of the best cross-country days have little or no wind. Then it is important to keep the last leg well inland.

6. Wide, flat and often damp areas offer easy routes for sea air penetration. Particularly risky areas (depending on wind direction) are:

(a) The Somerset levels from Bridgewater to Wincanton.

(b) Much of East Anglia, Lincolnshire and the East Midlands near the Wash.

(c) The Cheshire Gap and the low ground down to Shrewsbury.

(e) The lower part of the Severn Valley and

(f) The lower ground inland from Poole and Southampton.

(g) The Thames Estuary and low lying regions of Kent and Essex. (But since much of this is in controlled airspace it affects few people.)

7. Beware of chasing after a retreating cold front. It is tempting to set off downwind when the cu are looking good on track. However, there is often a delay between post frontal clearance and the development of proper thermals. If there is a choice avoid the post frontal region. Otherwise pilots will have to hold off or even back-track until the ground warms up. Even worse, they may even be sunk by a spread back of upper cloud if the front comes to a halt. It has all happened before and will doubtless happen again.

INSTRUCTING

"How much standardisation do we need?" asks Derek Piggott

A common complaint about instructors, both in the gliding and power flying world, is that they all say different things. This can be very confusing for a beginner and difficult for them to know which instructor to believe.

Many think the solution is for the instructional patter to be standardised and in an attempt to do this the BGA Instructors' Committee has encouraged the idea for having a **BGA Instructors' Patter Book.**

The first reaction of most instructors will be of approval, but perhaps with the reservation, if they are experienced, "as long as it doesn't mean me". Many will be alarmed at the idea and see it leading to the assmuption that any deviation from that book is wrong. This, in the long run, will stifle development and hold back any improvement of the overall standard of instruction.

Having been involved in trying to write books of this kind, I know the problems of getting agreement on the text between even a few of the top instructors. It is too much a matter of opinion for anyone to state exactly how it should all be done.

It seems to me that whoever writes the Bible will produce a controversial book which will lead to many arguments. Some senior instructors trying to train and standardise their junior instructors will violently disagree with parts of the book, while others will take it as the Gospel. Moreover, some will insist it must be taught to new instructors, even though they disagree with it. This is highly undesirable.

Experience elsewhere has shown that when books are published by an official association they automatically become approved policy. We need books of advice on instructing, but they are better published by someone other than the BGA. This allows those running instructor courses the flexibility they need and should have, instead of being tied to a rigid system they may not entirely agree with.

What is needed is not standardised patter but agreed principles and a better general knowledge and understanding of the learning process. This involves having a properly defined structure for both the flying and ground instruction.

It is necessary to have an outline structure which is adhered to within the club or training organisation. Then, if there is a change of instructor, the student does not suddenly find himself being expected to do something he has never been taught, or not allowed to do something he has done on previous flights. Either of these can be very frustrating and bewildering.

This does not mean rigid standardisation of the patter but having a clearly defined idea of the order in which things will be taught. Using a standard structure enables any iunstructor to look at the student's logbook and perhaps ask a few questions to find the stage reached and where to continue.

The order in which new exercises are introduced can have a large effect on how easy or difficult it is for the student to make progress. Presented in the right order, the instruction can be greatly simplified and will be effective for the majority of students.

Most controversy is at the circuit planning stage of training

It is usually at the circuit planning stage of training that the most controversy exists. For example, one instructor will be adamant that the airbrakes must never be opened during the final turn, whereas another will allow it or even encourage it in certain circumstances, etc.

If we can all agree on how a glider should be flown and on the various procedures and ideas that need to be taught, defining the actual patter is of less importance. Wrong explanations and poor instruction come from people who do not fully understand their subject. Poor instruction and the wrong ideas can result in accidents.

One of the main purposes of an instructors' course is, in my opinion, to ensure that the new instructors have a sound knowledge of the principles of every related subject. If an instructor knows his stuff, he will never teach something which is incorrect. Moreover, an effective instructor can teach anything he knows about. The actual patter is best left for the individual to develop under the supervision of the instructor's course coach. Learning "the patter" does not turn a good pilot into a good instructor.

Once a pilot has a good, sound basic knowledge and the necessary flying skills to be an instructor, the need is for a basic structure for the instruction. I do not know whether country-wide we can even agree on that, but it is a vital step

towards efficient training and needs to be spelled out and explained if it is to be widely accepted.

In our instructional framework it is necessary to agree on the various situations which the student should have practice at dealing with. This has an important bearing on the safety of more advanced flying and in particular on safety in field landings. It is not enough to teach a student good circuit planning. They must have experience to recognise when the planning is going wrong and how to redeem the situation.

Analysing the field landing accidents and also many of the stalling and spinning accidents, it is clear that in most cases it is the inability of the pilot to avoid difficult situations in the planning of the field landing. Usually the pilot fails to position himself in a good position by the start of the base leg (if indeed there is one), and then with the high work load and stress, he is unable to escape from this bad situation and turn it into a satisfactory one. This leads to bad flying and often to stalling or flying into the ground while in a turn.

No amount of stalling and spinning practice will prevent this kind of accident which is caused by inadequate planning and allowing a bad situation to develop. For this reason every pilot needs practice at awkward circuits, where the planning is not ideal, so they can learn to avoid situations which are difficult to deal with and learn to recognise them and take necessary action to avoid them leading to disaster. Situations such as running short of height on the circuit, joining from directly overhead the landing area, being far too high and close to the chosen field, all need practicing if we are to avoid them causing problems in a later field landing.

We should also insist on some kind of briefing or ground instruction programme as part of our training structure. I believe in many clubs it is only by chance that student pilots ever get talks about any aspect of their training and many have no real idea of why and how things happen. While agreeing it is difficult to give everyone these essential talks, it is possible to make tape recorded talks or handouts to cover the main subjects and let the students brief themselves when there is no time for an instructor to do it personally.

While teaching to a basic structure and syllabus of training, we need to keep our critical approach to the actual air instruction which, at the moment anyway, is largely a matter of opinion. We need fresh ideas to think about and to try out. This is far more useful than having an approved book on instructing which at best will be the ideas of only one or two instructors.

We want thinking pilots as instructors, not a bunch of parrots.

BERNIE MORRIS, BGA Instructors' Committee chairman, replies

Derek appears to have been misguided as to BGA Instructor Panel policy and practices in relation to Instructor training and publications for instructors. Perhaps I could both explain the policy and the reasons for it.

The Instructor Panel does not provide the patter notes so that all instructors will say the same words and thereby reduce confusion for beginners. The patter words and associated demonstrations are provided to help the trainee instructor reach a basic level of competence in the short time available on the course, bearing in mind the environment that the candidate has come from and will be returning to after his course. The instructor course is just one step on the way to becoming a gliding instructor. It should be a springboard from which the instructor develops his own style as he gains in experience and knowledge. This is explained in the patter notes under the heading "I'm not a parrot".

Few instructors are gaining lots of experience at teaching flying exercises

In this country there are some 1628 BGA instructors above the AEI level who produced 1368 A certificates, 214 B certificates and 471 Bronze badge certificates in 1989. Simple mathematics shows that very few instructors are gaining lots of experience at teaching flying exercises. Evidence from our regional examiners conducting full rating tests confirms that all too often instructors have developed little and sometimes fallen below the basic level of skill and knowledge they reached on their instructor course.

The RAFGSA and the Lasham CFI run a course which leads to the issue of a BGA instructor rating. The RAFGSA have their own course material and methods which suit their circumstances. The Lasham CFI, being vastly experienced and available on site full time, is in the uniquely privileged situation of controlling the selection, preparation and post course development of his candidates, whilst being the only course coach. These very special conditions do not pertain in other BGA clubs.

The instructor course is a very intensive one. Pre course preparation and post course development is essential. The preparation and post course development is mainly in part time clubs with amateur CFIs and the **patter notes** and stalling reinforcement exercises are provided for the guidance of candidates and their CFIs. Instructor course candidates need to learn a sound method of giving flying instruction. They have at this stage neither the knowledge nor experience to understand or make valued judgments on alternative methods or the finer points of the task.

In the past there were complaints that course candidates and their CFIs were being confused by individual course coaches dismissing parts of the preparation notes and insisting on their own ideas. It is for this reason that the patter notes were revised and stalling reinforcement exercises agreed and written up. Instructor Panel policy is that instructor courses booked and paid for through the BGA office are standardised to the BGA material and the course coach presents a standardised course.

A **BGA Instructors' Manual** is being written which it appears will meet all but one of Derek's requirements.

It is not a patter book! Even those exercises which already appear in the revised patter notes are presented without patter. It is aimed at the full rating level of instructor and is intended to provide a reference for existing instructors and a guide to help new instructors develop towards the full rating level.

Each chapter consists of a detailed guide to briefing, in flight demonstration, trainee practice exercises, de-briefing, plus advice to instructors. The advice to instructors is not a list of rules but provides background information, identifies common problems and misconceptions, explains the philosophy of any particular recommendations and discusses alternative methods.

The manual is written in two parts. There is the detailed reference book in which for instance Circuit Planning runs to sixteen pages, but there is also an *aide memoire* which identifies the main points of the briefing, inflight exercises and debriefing.

It is not completed yet as it is an enormous task being tackled mainly by a small group of unpaid volunteer regional examiners. When will it be finished and available? I hope to see it in print by the time I retire as chairman of the Instructors' Committee in June but more urgent BGA crises have pushed it down the priority list a number of times in the last three years.

Derek argues that it is inappropriate for the BGA to publish an instructors' manual and that it should be left to private enterprise. Publishers are in business to sell books and the best interests of the gliding community of Britain is not high on their priority list, BGA instructors form a very small buying group which so far has resulted in publishers requiring authors to write something that will have the widest possible appeal; instructors, pupils and the international market. Control of content, amendment and copyright is in the hands of the publishers who pay the authors.

It will remain under our control to amend and improve as better ideas emerge

If the BGA produces a publication then it can be tailored to the needs of our instructors, will not be subject to copyright problems and will remain under our control to amend and improve as better ideas emerge and the sport progresses.

Anyone has the opportunity to be openly critical of the BGA policies and can have new and different ideas aired both through these columns in *S&G*, direct to the Instructor Panel or the Executive Committee. Open criticism and debate of commercial publications is less easy since threats of legal action are always possible.

The BGA instructors' course is not perfect and neither will the instructors' manual be perfect, but then none are, and overall control of both are in the hands of experienced and dedicated gliding enthusiasts.

Do the members want instructors' course content to be at the whim of individual coaches?

Should the BGA provide an instructors' manual against which the ideas of others can be evaluated or should it be left totally to professional authors and publishers?

MARY GOES TO LASHAM

Mary has been instructing at Booker since May 1987. Because Booker shares the airfield with two power flying schools, helicopters and the Marlboro team in addition to gliding, it would not be sensible to clutter up the air with several thousand feet of winch cable

As a Booker pilot, I have the greatest respect for Lasham. Wonderful site, wonderful food, splendid organisation. So organised, in fact, that some of the Booker sniping at blue cards and yellow buckets and Mickey Mouse rules has to be discounted. Of course Booker has the best pilots, there's no question of that. But organisation? Lasham has to be the most thoroughly organised gliding club in the country, and I'll tell you about the exception that proved the rule!

I've been doing some winching on Sundays at a charming little country site, a farmer's club at Edgehill Airfield that has been recently reformed as the Shennington GC. I've done 1500 launches by aerotow, and not a lot by wire. Feeling in need of a polish before presuming to instruct on the winch, where better to go than Lasham which runs, by the side on the main runway with the latest equipment, both winching and aerotowing.

"Sure, we'll look after you" said Terry Joint, Lasham CFI, cheerfully over the phone. "Just turn up early and put your name on the flying list."

So I turned up at 9am on the Tuesday and there were ten names ahead of me on the casual flying list. We rolled nine K-13s out of the hangar, all painted red. (If one does something naughty at Lasham in a K-13, you've got to get his number – they all look alike from a distance. We've got ours all different colours at Booker because if somebody busts the TMA we want to be able to **nail** him!)

"If you do something silly in the circuit you'll hear about it later."

Terry Joint kindly let me eavesdrop on his briefings. "Hold the stick lightly, thumb and two fingers will do, you don't need a death grip" said Terry to his student. "Just let the glider take off naturally, move the stick forward to keep it from climbing too suddenly, then progressively ease back into the full climb." The student looked quite pale and anxious. "Lean back and relax" said Terry. He didn't miss a thing. Not only did he know what was going on inside the student's head, he knew what was going on all around the airfield. The All Seeing CFEye. If you do something silly in the circuit you'll hear about it later.

I flew three times in a row with DCFI Malcolm Hook. The Lasham winch is on a whole different scale of performance from our winch at Edgehill. Continental style, a 2000lb breaking strain weak link is used with the K-13. When it's all out, it's all up, and the full climb in a K-13 when you ascend makes you think you're going to tip over backwards! They don't get the launches they used to get, however. Two reasons:

1. With a winch launch to 2600ft costing £4.25 and an aerotow to 2600ft costing £14.50, nobody queued up for the aerotows any more. They all wanted to go on the wire. You'd have to be a rather pathetic pilot if you couldn't find a thermal from 2600ft. So they moved the launch point from the end of the runway to the natural landing point about a quarter of the way up, which made for a quicker turnaround. Or that was the reason given by the management. The winch could still be relied upon for 2000ft from there, but the aerotow queue was shorter, so the hotshot cross-country fellows didn't mind paying for the aerotow.
2. And then one day with a bit of north in the wind, the resident winch driver didn't notice the cable had draped itself across an odd bit of ironmongery attached to the top of a shed close by, so he wound it in and sawed off Dan Air's rotating radar kit. That isn't the only bit of costly radar equipment downwind in a northerly, so on northerly days the winch run is shortened even more, and the days I flew at Lasham we achieved between 1100 and 1400ft per launch, which compares with 1100 to 1400ft on the farmer's home-made winch.

Cost of Lasham winch, thirty grand. Cost of farmer's winch, five grand. You can come and visit it if you'd like to copy. Dick Stratton saw it last weekend and said "It is a very creditable effort in a very short time and at a very reasonable cost!"

I put my name down on the flying list again after flying with Malcolm, but he had to do something else (did I frighten him off?) and I ended up with patient Jim Duthie. We did four in a row at the end of the day, me sitting in the back, and he quietly arranged for a double winch failure and a cable break, and at the end of that the evening group showed up and we surrendered the glider.

Next morning I turned up at 7.30am and there were 11 names ahead of me. A group of Early Birds had dragged out all the gliders, even before the sun came up, not realising that the crows were walking, so thick a fog lay round about.

It didn't clear up until eleven, and I didn't get to fly with Jim until after lunch. Then some trial lessons had to be flown, so I went up with a couple of these on aerotow and got told off for pulling off in 10 at 1500ft. "When they've paid to go to 2000ft, you've got to *drag* them to 2000ft." Okay, okay, when in Rome. Next customer I dragged to 2000ft and managed to keep them both up for 30min and eager for more.

Then the Dan Air truck came round to the launch point. Something big was due to arrive in 20min. We launched four more cables, and then cleared the runway for a 737 with a palm tree on the tail and sybaritic furnishing inside for the wealthy owner. I was quite thrilled to watch the mighty bird descend on the gliding site. Jim was less than thrilled. "It's nothing but an irritation and we've lost an hour of launches in the best part of the day!"

True enough. We had time for two launches together, and at 5.45 the fancy winch packed up. Starter motor gone again. Debate ensued. Cheaper to keep on installing new starter motors or keep the damn thing running all the time? By the time they rolled out the backup winch, the evening group had arrived and we had once more to surrender the glider. At this rate I was never going to finish my training! By gum, I was going to be first on that list the following day! I set my alarm for 6am.

And would you believe, at 6.15 there were 12 names ahead of me on that infernal flying list! I couldn't believe it. The Thursday morning Early Birds. They sure do utilise the kit to the maximum at Lasham. They fly from dawn to dusk, all summer long. How do they inspire such devotion? Cheaper dawn rates, that's how. Half price before ten, that's how. Organisation, that's how.

When at last the fog cleared and the Dan Air flight of the day had departed, I took three more cables with Jim and understood a lot more about winching than I had before. The importance, in particular, of knowing the *minimum* as well as *maximum* winch speed for the particular glider. If the launch is too slow for your glider, it is a launch failure, and you must release. No more signal for "too slow". Just nose down, and if things don't improve, forget it. Otherwise the glider may spin off the wire, which could spoil your entire day.

Confident now, I took one last cable on my own and played about over a stubble fire. And at last rolled up to the office to pay my bill and depart. Just in time to coincide with cross-country instructor "Gee", who was organising a retrieve for one of his ducklings. "Ah, Mary, my old chum!" he chortled, catching sight of me. I couldn't think of a good reason to say no, so I allowed myself to be persuaded to drive to Old Sarum to retrieve a Lasham pilot who had landed there in the club DG-100.

"I can't do it all by myself" I insisted. "I don't know how to take it apart and I'm not very good at wing roots, being old and feeble." "Not a problem" said Gee. "The pilot knows how to derig the ➡

glider. And Peter, here, will go with you; he lives near Andover and he's a useful sort of fellow."

Peter turned out to be very useful indeed. Seconded to a cross-country gliding course at Lasham by his organisation, which turned out to be the CAA, he hadn't actually derigged a glider before and was looking forward to the experience. He used to be a test pilot at Boscombe Down and did know his way around an airfield. Gee hooked up the trailer while Peter and I finished our tea. Then off we went in convoy to Andover, where Peter left his car and we arrived at Old Sarum just as twilight was descending. Two chaps in a Rallye were just about to depart with another Lasham glider. And the pilot of the DG-100 greeted us with dismay. "Oh dear, I thought Gee was coming to get me. Do you know how to derig a DG-100?"

At this point I lost my cool. Neither one of the two Lashamites in the tug were in the least interested in our predicament and off they went. Nobody was left at Old Sarum except the night watchman, and *he* didn't know how to derig a DG-100. I seriously considered abandoning the gormless pilot to his fate, but we opened the trailer doors by car headlight, and there were posted instructions "How to *rig* the glider". So working backwards by this, and in the mode of three blind men feeling an elephant, we pooled our expertise and managed to get the wings off and into the box without breaking anything, and it only took us an hour and a half. Cruelest of all, by the time we got back to Lasham they had locked up the bar!

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IT HAPPENED TO ME!

This article should really have started with my obituary . . . all because someone had fiddled with the glider radio and then failed to relock it correctly into its instrument panel mounting

I volunteered to fly the Discus back to the hangar on the winch launch. I went to control the rapidly steepening attitude of the glider in relation to the height and found there was no stick movement.

But I had "feel" and I remember repeating this loudly over and over again and then "elevator stuck but why?" I kept the stick fully forward because instinct said that is where the attitude should be. Instinct also flew that glider whilst I was continuing to work out why I had no forward movement.

No forward movement of the controls and rapidly running out of ideas

I was totally unaware of the world outside the cockpit and beginning to panic. I pulled out the brakes, put them away again, finally found and operated the release (which was what I really wanted to do all along) at 300ft with still no foward movement of the control column and rapidly running out of ideas.

At the same time as I came off the cable I spotted the cause - a piece of Perspex had fallen between the stick and the panel. No, it was the radio which had slipped out of its mounting. I took the forward pressure off the stick, pushed the radio back into the panel, corrected the glider attitude and flew back to the hangar without further problems. Thus ended the most frightening flight I have ever had in thirty years of continuous gliding and it lasted one minute or less.

Why did I initially think the radio was a piece of Perspex? The colour of the aluminium casing blended in with the grey colour scheme of the cockpit floor and the shiny pieces on the casing (where the panel tracks had rubbed) looked like reflections. The black face of the radio didn't look out of perspective from the instrument panel when jammed against the stick. Perhaps we should get designers to add hazard markings to our tubular instrument casings. In this case it would have helped identify the problem earlier.

Finding the cable release was a problem - it was difficult in a growing state of panic to remember it is under your left leg. Consideration should perhaps be given to designing gliders with mandatory operating control positions to help instinct. I fly gliders with the yellow ball on the top left, so on this day I found the airbrake (instinct is colour blind and has difficulty passing shape messages through a panic emotion pattern).

When checking the glider logbook later there was no mention of the radio having been removed or refitted, or an independent check of its locking device being made. Are there any others out there guilty of assuming that little jobs can be done without documentation and safety checks made by another person?

At the time of writing the BGA and the CAA are taking full action to ensure this incident is not repeated. Thank you gentlemen.

I never thought of jumping from the aircraft!

POLISH GLIDING HOLIDAY

Out of sheer curiosity we decided to take advantage of Jim Wiltshire's "Blue Sky Adventures" holiday offer to glide in the Polish mountains at Bielsko-Bialski. The coach journey was long and arduous but we arrived in the early hours of the third day. The "hotel" turned out to be a rather up-market, free and easy clubhouse on the side of the mountain overlooking the airfield.

There were two spacious hangars housing the fleet - a Bocian, Puchacz, Pirat, Cobra, Jantar and SZD 51.1 Junior. All were for hire at a fraction of UK prices with the enormous Russian Yak giving low cost aerotows. There is ridge soaring in almost every direction and wave flying is commonplace.

The sincerity of the friendship and helpfulness of the Polish people during our stay was unbelievable and an added bonus was, at the time of going to press, the low cost of living. There were also conducted walks, museum visits and shopping excursions for non gliding wives and girl-friends.

We will make every effort to return, but next time by air!

EUNICE BOYLE

GEOFFREY HAWORTH

ALF- gliding through four decades



Alf photographed at Eaglescott Airfield after his record flight in April.

Geoffrey Haworth writes about a very special Norfolk pilot

Norfolk is renowned for longevity. Centenarians abound in the county, the consequence, no doubt, of brisk north-easterlies killing all known germs and a flat terrain which makes few demands on the cardio-vascular system. Plus the quality of life, a quality enhanced for some by the existence of the Norfolk GC amongst whose members are many of riper years to the extent that the airfield often resembles the set for the "Last of the Summer Wine".

Alf Warminger is a fine example celebrating his 70 years recently with a 400km declared goal record flight to Eaglescott Airfield near Barnstaple. A native of Norfolk he joined the Civil Air Guard ("The what?" cry the under sixties) in 1938, gained his PPL the following year, transferred to the RAFVR and was called for full-time service on September 1939, serving as a fighter pilot in the UK and in North Africa.

Though characteristically modest about his wartime experiences, one noticed a quiet satisfaction in his voice recently when called to the 'phone by a young RAF air traffic controller for some alleged infringement. Alf courteously apologised, adding that he understood the problem having himself had a similar experience whilst flying a Hurricane in 1940!

Demobilisation brought a successful business career, long public service as a magistrate, Norwich City Councillor and Sheriff as well as numerous and varied interests. But throughout, the flying bug continued to bite. He continued service with the RAFVR founding an ATC Gliding School at Horsham St Faith - an ex Liberator base and now Norwich Airport - remaining OC for fifteen years. At first, all ATC training gliders were single-seaters, the valiant instructors standing bats in hand, 'twist winch and glider, feverishly signalling instructions and ever ready to dive into the nearest ditch.

In 1949 he bought his first glider, an Olympia, for £350, flying it from its Welford factory to Norfolk behind a Tiger Moth - his first ever aerotow. To this he added, for £316, an ex-WD Auster MK 5 complete with tow hook and all the spares he could carry. Few people then (or now) owned their own glider and tug, especially for £800, and Alf readily acknowledges his good fortune and opportune timing in the pursuit of his sport.

Whilst continuing his ATC work his personal gliding flourished. He participated in almost every Nationals between 1953 and the late seventies when, aged 60, he began to feel the pressures of competition flying at that level.

Meanwhile badge and record flights flowed. In the early sixties he completed three Diamond legs, all from Swanton Morley with a 500km flight to Perranporth, 300km to Weston Super Mare and a 29 600ft climb in a cu-nim. from a winch: in flat Norfolk! There followed:- 500km O/R return 1971, Swanton Morley to Dursley near Nympsfield - a flight of 8hr 46min; 300km declared goal Swanton Morley to Weston Super Mare 1976: 200km Tibenham to Aston Down 1985.

Alf felt and still feels that there are two sorts of glider pilot with different club needs. Some are willing to participate in pilot training - the life blood of most clubs - and other chores. Others, perhaps with fatter wallets but limited time, wish only to soar. Putting this philosophy into practice he founded the Norwich Soaring group at Swanton Morley whilst retaining his membership of Norfolk GC, by that time at Tibenham.

Flying about every day clocking up a disgusting number of hours in his Ventus

But now Alf is back at Tibenham, as its president, flying almost every day during the season, clocking up a disgusting number of hours in his Ventus. This familiar figure, neat as ever in long peaked cap, trousers tucked in the socks, collar and tie, arrives early, having checked the weather and made his flight plans, to rig with meticulous attention to detail. His retrieval car boot - unlike most which resemble the back end of a jumble sale - shipshape with tools, clothing, maps and food for the crew.

To the envy of lesser mortals his flights are almost always successful; the result no doubt of realistic goals, a good aircraft, vast experience and sheer skill - plus his encyclopaedic local knowledge. Alf appears to wander round eastern England as most of us stroll round the back garden. Away from East Anglia his annual visit to Scotland in September 1990 produced a climb to 22 000ft.

During a high altitude soaring flight from Aboyne the clouds all but closed underneath him, leaving but a small hole through which to dash to Lossiemouth from where he was given landing permission but at about 1200ft was asked to hold for another aircraft. He was polite but firm.

On another occasion he found himself with permission but short of height over a large American base from which our allies were anxious to launch their aircraft, the types of which cannot for security reasons (Alf's security mainly!) be divulged. Ever the opportunist Alf suggested that they go ahead and launch whilst he spectated from above. This they did thus initiating from their after-burners spectacular thermals which lofted him to 5000ft and home.

What then continues to motivate a septuagenarian who has achieved almost everything? He still enoys the challenge of flying in which no two flights are the same. Though taking little part in the formal social activities, he thrives on club life which he likens to a "commune" in the sense that co-operation in the common interest is essential. Gliding clubs are at once social levellers and age levellers and he firmly believes that a continuing association with young people delays the ageing process. One suspects, too, that he derives satisfaction from showing them a thing or two. He savours the contrast between the hurly-burly, the intrigues and stresses of club life with the silent isolation of the glider cockpit where "occasionally you come face to face with yourself."

Reflecting on four decades of active gliding he notes the enormous growth of private ownership of ever higher performance and expensive machines, believing some separation of the training and soaring elements to be inevitable, particularly with the increasing numbers of motor assisted gliders - machines incidentally which in his view removes the essential spice of uncertainty from cross-country flying. As clubs are obliged to bear the substantial costs of buying and maintaining their own sites and facilities so diversification of site utilisation into other aero-sports may be necessary; a prospect likely to concentrate the minds of gliding folk.

Though relatively few can match his skill Alf Warminger is an inspiration to old and young alike. "I managed to beat Alf." remains a cry of great satisfaction. There are, no doubt, other potential Alfs among the younger generation who will fly for several decades but few will see and be part of so many changes and developments in the sport - from Dagling to DG-400. And he has many years to go.



1935 Rhönbussard (BGA No. 2077) photographed by Ted Hull.



Above: An H-17, Hols der Teufel and Grunau Baby in front of the London GC's clubhouse. Photo: Tony Hutchings. Below: A 1950 Moswey (BGA No. 2277). Photo: Ted Hull.





Susy Mo
stable T-

MICHAEL BEACH

THE WIDENING

Michael Beach puts forward the su
members for a Gliding Heritage Ce

There is a massive and ever increasing gap between the performance of modern gliders and the early efforts of the pioneers. Gliding has attracted some very clever designers and modern machines in the right hands permit flights beyond the imagination of the early pilots.

They have visibly demonstrated the performance improvements and focussed some attention on to the early machines - it is hardly necessary to draw parallels with motoring.

Vintage gliders are becoming a significant part of the gliding scene, and **other countries** have museums and centres where they are exhibited and flown.

England has virtually nothing, and as a matter of national pride something should be done. We would like to propose that Dunstable is the logical place for the gliding movement to consider as its heritage site. I'm sure you are all reaching for your pens to tell us that other clubs have claims,

Francis Russell's photo of Michael Beach in his recen
Geoffrey Stephenson.





ɔring considering where to land one of the three Dun-31s. Francis Russell was holding the camera.

GAP

ggestion of some London GC ntre

and of course they do, but on balance we believe Dunstable is the most realistic place.

Several members of the London GC are becoming increasingly aware of the gliding heritage that surrounds them, and most weekends see historic machines airborne over the hill where gliding history was made.

Apart from the obvious and widely known gliding scene, there is another significant link – the LGC clubhouse. It is considered by experts to be of major architectural importance and it will come as no surprise to you to hear that consideration is being given to the possibility of linking restoration of the building to a gliding heritage centre.

You will note that we are not using the word "museum" as this could be construed as meaning non-flying. This is definitely not the case. Whatever it is called – "heritage centre", "gliding birthplace" or whatever, it will certainly be a place where early and pioneer machines will be **flown.**



Michael Beach's photo of a K-1.

The LGC will be actively encouraging this, along with assisting in the reconstruction of classic early gliders.

The purpose of this article is twofold: first to propose the idea that a historic centre would be of great benefit to the gliding movement and to ask for your goodwill, and secondly to set out what we hope could be achieved.

The Nicholson clubhouse could be restored to its original condition and the hangar under it used to house vintage and pioneer gliders.

Although the concept sounds ambitious, including as it does the need for a new hangar for the club's fleet of modern gliders, it need not be overly expensive. (Here is an unprecedented opportunity for a gliding philanthropist!)

In the meantime, the Dunstable Historic Sailplane Group would like to announce its next project: a rally for Kaiser/Schleicher gliders, next Spring Bank Holiday, May 25-27.

We hope to host a weekend of enjoyable flying and to try and assemble as many of the series K-1 to ASH-25 as is humanly possible. It is hoped to set handicapped tasks and that pilots of the early gliders will attempt to out soar the later machines in thermals or on the hill.

Further details will be supplied in the New Year.

A Gull 3. Photo: Michael Beach.

tly completed Hols der Teufel with Dan Smith (left) and





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TASK SETTING FOR THERMAL SOARING

Part 1

Ian Strachan has flown in many Regionals and in 12 Nationals, twice being the Standard Class Champion. He has set the tasks in many competitions from 1964 onwards, including for seven National Championships

This is Part 1 of a two-part series, and is an abbreviated version of a fuller paper which may be obtained from the author c/o Lasham by enclosing a 32p stamp for postage.

Introduction

1. Task setting is not a science because whatever precise calculations are made, pilots' performances will probably be different. Neither is it an art, because a wet finger in the air or the backing of hunches are just not acceptable ways of proceeding and will lead to poor tasks and the probability of unfair competition. The weather is always fickle, and the prediction of thermal strengths particularly so. However, a structured approach to task setting and a modicum of calculations will avoid major pitfalls, such as unjustified task distances leading to landings out miles from base, or gross under-setting leading to pilots completing the task twice.

2. The aim, if you are setting a task for a group of pilots, particularly in an organised contest, is fair competition. It is not an excerise in record attempts or "let's see how far we can stretch them today". Fair competition includes making due allowance for the skilful pilot in a lower performance glider, not only looking after national team pilots in the hot ships, so I don't believe that "if one glider gets back it was a successful task." It is possible to have fair competition with gliders differing in BGA Speed Index over about a 20% range. Over this figure it becomes progressively more difficult to achieve tasks that are satisfactory to both the high and low performance gliders.

3. The following paragraphs give a basic methodology which has worked successfully in the past. The method of calculation is not only appropriate to competition task setting but is also useful for general planning purposes for thermal cross-country flying, in this case omitting the allowances made for other gliders launching, starting and finishing. The text that follows uses as an example a competition held on a good day with 8hrs of thermals at an average true rate of climb of 3kt until 5pm, and a wind at working heights of 15kt. Calculations are based on the following graphs.

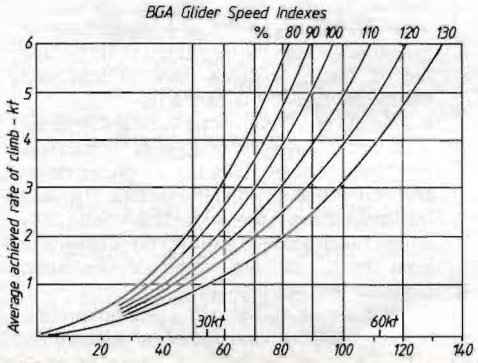


Table 1

4. These graphs are obtained directly from performance curves of various gliders across the range of performance, using the conventional construction for cross-country speed derived from a tangent to the curve originating from above the horizontal axis at the value of the rate-of-climb. They could therefore be back-plotted to find the original performance curves which are believed to be realistic ones and not exaggerations. The speeds given are average speeds through the air and are only valid as groundspeeds in nil wind conditions, but it is straightforward to adjust them for wind. Table 2, one of 19 in the full paper, adjusts the speeds in Table 1 to give average groundspeeds for a closed-circuit task (an equilateral triangle) flown in a 15kt wind. The full set of tables allows for headwinds and tailwinds as well as triangles, for winds at 5kt intervals up to 30kt, and should be useful for pilots and clubs for pre-flight planning both in advance and on the day.

On the day - first steps

5. Having obtained the met forecast or consulted with the met man, at least one hour before briefing estimate the following.

a. Likely time of competition launch, *eg*, for a day which brews up early, 11 o'clock. Avoid the temptation to make this too early; midday may be more likely, or later if thermals take some time to develop.

b. Estimate the average rate of climb for the task period (3kt in our example). This is the "64,000 dollar question"! Avoid the temptation to exaggerate. Pilots' tales later in the bar are normally of peak variometer readings, not measured averages over, say five minutes, and certainly not the average real rate of climb for the day, which should allow for delays in centring, and reductions in climb before leaving. Effective rate of climb when applied to average cross-country speed should allow for *any* time not spent in flying along track. Divide the "bar" figures by about two, and you won't go far wrong! The average climb figures produced by electronic systems such as the S-NAV will be a better indication. A day which starts early will often overdevelop unless it is very dry at the low level inversion. A consistent average true rate of climb of 4kt or more ➡

Average cross-country groundspeeds km/h for equilateral triangle in a 15kt wind

Average Rate of Climb (Kt)	Glider Speed Indexes 80%	90%	100%	110%	120%	130%	Average rate of Climb (Kt)
6	70	76	84	96	110	122	6
5	62	69	76	89	100	112	5
4	55	60	68	79	89	101	4
3.5	50	56	63	73	83	95	3.5
3	44	50	57	66	76	87	3
2.5	39	45	52	59	67	77	2.5
2	33	38	45	49	57	68	2
1.5	24	29	35	40	44	53	1.5
1	13	17	23	27	31	41	1
	80	90	100	110	120	130	
			Speed Indexes (%)				

Table 2

Note: Calculations are made assuming an equilateral triangle with one leg into wind, based on the formula:

$$\text{Average groundspeed} = Vxc \times \frac{3}{2+\frac{Vxc}{Vw}}$$

Where Vxc is the still air cross-country speed for the thermal strength (*ie* Table 1), and Vw is the average cross-country groundspeed into wind (Table 1 speeds minus 15kt (28km/h.)

in the south of England is rare except for a short time in the afternoon. Figures between 2 and 3kt in the UK will be more normal. For task setting purposes, use figures over 3kt with great caution. At the end of the day you can back-plot the actual speeds achieved on the cross-country speed table (Table 2) to see what average climb rate pilots actually utilised for the day.

c. Estimate the dolphin factor. This is the speed increment that it is reasonable to apply to the basic speeds in the tables to allow for the fact that well flown high performance gliders spend a substantial amount of time flying straight rather than using the "climb-and-glide" flight element from which the figures are derived. The factor will be a function of forecast closeness of thermals, possible streeting on track, glider performance and pilot ability in the task group. In Open Class Nationals on good days with plentiful thermals, the top pilots regularly achieve between 5 and 10% more than the Table 2 figures; however, using large increments for task setting should be done with caution since it only needs an area of spreading out somewhere along the route to reduce speeds significantly with the risk of oversetting and causing many out landings. More research is needed here, and in 1991 it is hoped to have more feedback of actual average rates-of-climb from pilots whose gliders are fitted with vario systems such as S-Nav and others which store such data. For instance, analysis of a record flight in 1990 gave an increment of 13%, but this was a record on an exceptional day.

d. Estimate the time of the last consistent usable thermals, *eg* 7pm.

6. Start times. To the likely launch time (5a), add the elapsed time to launch all the gliders in the task group, plus an allowance for a typical glider to work-up for the startline. Where more than one task group is flying, for those launched later add their time to launch to the typical start time already used for the earlier task group. Launch order is discussed later; meanwhile the example assumes the following:

Group 1 (High performance gliders):
11 o'clock start launching, 30min launch+ 30min for work-up to start=12 o'clock typical start

Group 2 (Medium performance): assuming conditions are safe and suitable to stream their launch straight after group 1;
As group 1+30min to launch=12.30 typical start

First finishers

7. First gliders back. Decide what time you want the first gliders back. these should be the high performance machines in the task group (if well flown). If there is a risk of early cut-off of thermals, particularly if a front is coming in, set this time early to allow for this. A good rule is not earlier than 4.30pm or later than 1.5hrs before forecast cease of reliable thermals. Typically, between 5 and 5.30pm is a suitable time, allowing lower performance gliders to finish later, hopefully in conditions suited to fair competition and not on the last, dying thermals.

8. Time on task for first finishers. Subtract the times in para 6 from those in para 7, to obtain time on task for first finishers, *eg*:

First group: 12 to 5 o'clock=5hrs
Second group: 12.30 to 5 o'clock=4.5hrs

9. Average groundspeeds for first finishers. For a closed-circuit task in a 15kt wind, use Table 2. This table is calculated for an equilateral triangle with one leg into wind, and for simplicity of calculation assumes no wind effect on the other two legs. This is a slightly pessimistic assumption, particularly in strong wind conditions, but is balanced by the greater difficulty in maintaining a consistent rate of climb in strong winds and the figures are perfectly valid for planning purposes. If you have the time, carry out proper vector triangle calculations using the actual wind components for the chosen route, but as task setting is almost invariably done against the clock, Table 2 will be found more practical. For other than closed-circuit tasks, make a wind allowance based on the average wind component for the course and the estimated time on task.

a. For the conditions in the example (3kt average climb, 15kt average wind at operating height), Table 2 gives groundspeeds of 87km/h for a 130% glider, and 66km/h for 110% machines.

b. Assume a good day with some streeting, and use dolphin factors of 10% for the 130% gliders and 5% for 110% machines. The final groundspeeds are therefore: 96 and 69km/h.

10. Ground distance for first finishers. Ground distance (*ie* course length) for first finishers can now be calculated:

First group: 5hrs at average of 96km/h =479km
Second group: 4.5hrs at average of 69km/h =312km

Last finishers

11. To check whether a low performance glider still has a chance of completing the task, repeat the calculations in paras 7-10 using the low performance glider's cross-country speeds and a time on task up to when thermals cease to be reliable (7pm in our example). It is also appropriate to reduce the average rate of climb used since this will lessen at the end of the day, and in addition, lower performance gliders intercept less thermals for a given height loss and so tend to use thermals of less strength than the hot ships. The lowest performance in each group for which it is reasonable to allow is given below; manifestly if someone enters a T-21 he can expect to land out!

Lowest performance allowed for: Group 1: 110%
Group 2: 100%

12. Time on task for last finishers. Taking 7pm for last reliable thermals, task times for last finishers are 7 minus the para 6 times:

Group 1: 7-0=7hrs
Group 2: 7-0.5=6.5hrs

13. Speed on task for last finishers. Reducing average climb by 0.5kt to allow for the later thermals and lower performance gliders, and using Table 2 again for 15kt average wind:

Group 1: 110% glider at 2.5kt=59km/h average groundspeed
Group 2: 100% glider at 2.5kt=52km/h

This reduction in rate of climb is arbitrary, and you can make your own mind up what to use in different circumstances. The main points are the methodology and the need to use at least *some* reduction for the lower performance late finishers. Finally, if the forecast conditions warrant it, apply dolphin factors as before. However, it is unlikely that flights lasting well into the evening will achieve substantially more than the Table 2 figures, and so in the example 5% is used for the 110% machines and nil for the others. This makes the final groundspeeds:

Group 1: 110% at 2.5kt and 5% Dolphin=62km/h
Group 2: 100% at 2.5kt and 52km/h

14. Ground distance for last finishers

First group: 62km/h for 7hrs=434km
Second group: 52km/h for 6.5hrs=338km

Task lengths

15. We now have the following range of course lengths for each task group, having allowed for both the highest performance gliders finishing at our target time and a typical batch of low performance gliders finishing late:

Glider Performance	Time of finish	Group 1	Group 2
High	5pm	479km	312km
Low	7pm	434km	338km

16. Conclusions on distance set. Course lengths for each task group should therefore be set below the low performance figure for the task group (to ensure that a well flown low performance glider has a good chance of getting back), aiming for close to the high performance figure where possible. From the table above, for Task Group 1, 410-430km would be appropriate, and 310-330km for Group 2. It will generally be found that the critical (*ie* lowest) distance is that for the lower performance late finishers. You can set over the high performance distance if you want because they will simply finish later, but not over the low performance figure because this would deny a well flown lower performance glider the chance of finishing.

a. You might make your final choice of ideal task length based on the figures above but considering the number of gliders in the group at the ends of the range of handicaps. If there are plenty of lower performance machines, bias the distance down (*ie* optimise the finish time for a glider lower in speed index than the maximum in the group); but if there are few low performance machines, bias the distance up.

b. If uneven soaring conditions are forecast such as overdevelopment, sea air, going blue, wind increase, etc, bias the distances down and do not add any dolphin factors. This particularly applies to the longer tasks, especially where turning points have to be a long way from base, or are close to awkward airspace features.

c. If the task group has just had a long, fatiguing task or long retrieves, deliberately set a bit short the following day and allow them to show their skills at speed flying and choice of start time. If there have been only a few finishers in the last few contest days, bias the course distance down to ensure more finishers. Conversely if everyone finished on the last contest day, you can afford to bias the distance up, accepting the risk of more out landings.

d. A good rule-of-thumb is, "if in doubt, bias down" - it is always better to have more finishers than a lot of out landings. Out landings are not only undesirable in themselves but also tend to lead to less than fair scoring, particularly if the high performance gliders get back and others do not, no matter how well flown.

17. You are now ready to apply these chosen distances to the map. Although it has taken some time to explain the calculations, on the day they can be done in only five minutes or so. The tricky task is yet to come, that of fitting the distances into a route clear of airspace restrictions and using pre-planned turning points where possible. This will be covered in the final part of this article in the next issue.

Comp No. Howard E. Mills, brother of Jonathan who regularly writes for *S&G*, is living in Germany and has acquired the German competition letters HEM for his DG-300.

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BGA & GENERAL NEWS

NEW NATIONAL COACH



As regular readers of the BGA Newsletter will be aware, Graham McAndrew joined the BGA staff as the second national coach on January 1.

Graham has been CFI at Booker for the last three years and prior to that was Brian Spreckley's deputy CFI for three years - an excellent way to learn the trade!

However, Graham's experience is not all big professional clubs. Before working at Booker he was an active member, instructor and cross-country and competition pilot at Northumbria GC for a number of years.

Graham's nearly 4000hrs of flying include *ab-initio* instructing, AEI and instructor training, advanced and cross-country courses, motor glider instructing and examining and tugging, with enough time left over to win a couple of Regionals and get into the top ten of the Nationals (oh, and a two-seater height record recently beaten).

Welcome Graham. We expect the movement will benefit greatly from your experience and knowledge.

Chris Rollings, *national coach*

(Graham has already shown he can work well with Chris - they are joint holders of the UK two-seater 300km triangle record. Ed).

S&G SOARING YEARBOOK

This spring we are publishing the ***S&G* Soaring Yearbook**, which will really be a cross between an annual and a 7th issue of *S&G*. It will have 72 pages, some in colour, cost £3.50 and have a good mix of articles plus all the information you will need for the coming year.

For a start it will have the annual records and annual statistics, a two page airspace update and all the vital information to carry you through the season from the speed indices to competition numbers. We intend to make this a book every glider pilot will consider to be required reading.

In addition, Tom Bradbury will explain how to plan for Diamonds using only media Met and Andy Davis will tell you how to make the very best of the good days.

Platypus will be at his most outrageous. This might be the age of the speedy glass-fibre but Chris Wills shows the other side of the gliding world with a feature on vintage sailplanes.

With more pilots gliding abroad, in this first **Yearbook** we will focus on flying in France with William Malpas, an Englishman living in France, painting the scene and the possibilities.

Back home, we will have a map giving the position of all the UK clubs and site details, plus lots more to entertain and inform.

Obviously we will be using a lot of illustrations and would be grateful for the loan of good colour and black and white photographs. Please send them to our Cambridge address with captions.

FAI GENERAL CONFERENCE

For the last two years, one of the most important and time-consuming topics being discussed at the top levels of FAI has been the organisation of the "World Air Games" - a combination of World Championships of all the different air sports in the FAI at the same time and in the same region.

The Aero Club of France (AeCF) had offered to host the first games in 1991 and had obtained a promise of very substantial sponsorship money from the Midi-Pyrenees Provincial Council. However, the French Gliding Association (FFVV) and many of the other air sport organisations in France are not part of the AeCF and were not willing to collaborate with them to host the games. Strenuous efforts had been made to resolve the internal air sport disputes within France with frequent promises of imminent agreement followed by postponement of decisions.

Then at the FAI General Conference in Budapest in October a firm and final decision was taken to abandon any plans for the games in France in 1991 and to hold the first Games in Greece in 1995. This will give plenty of time to sort out problems and to integrate the dates for the Games with other championships' programmes. Each of the Air Sport Commissions - like our IGC (CIVV) - will have to decide exactly what shape their part of the Games will take.

At the formal presentation ceremony of the Conference, Chris Wills was awarded (in *absentia*) a Tissandier diploma for his work on the Vintage Glider Club and Ann Welch received the new Pelagia Majewska medal awarded for outstanding contributions to gliding, in memory of a famous Polish woman glider pilot.

The Conference also saw the demise of the *FAI Bulletin* - a very professional, but limited circulation journal edited by Ann Welch. In future, there will be a new FAI magazine - *Air Sports International* edited by an Indian - Atul Dev. This will come out twice a year initially and will cost about 5 US dollars per copy.

Tom Zealley, *The Royal Aero Club delegate*

BARRON HILTON CUP

This cup, open to glider pilots from all over the world, aims to promote cross-country flying on an international basis. The five Classes - the three FAI Classes, the Two-seater Class and Club Class - are scored separately with Gold, Silver and Bronze medals awarded in each Class.

The top five pilots will be invited with a guest to the USA gliding camp at Barron Hilton's Flying-M-Ranch at the edge of the Sierra Nevada.

Full details from the BGA office.

JANE SIMPSON

We extend our deep sympathy to Chris Simpson, BGA vice-president, and to his family, following the death of his wife Jane, peacefully at home on October 25 following a short illness. Jane supported Chris actively throughout all his many official capacities for the BGA and we shall greatly miss her contributions which livened many an otherwise dull meeting.

Barry Rolfe, *BGA administrator*

NATIONAL LADDER

Since the last issue (see p316) there have been some changes to the Weekend Ladder result. Keith Nurcombe (Tutor) didn't take declaration board photos until after his big flight so his place at the top, plus the L. du Garde trophy, goes to Ed Johnston and the Slingsby trophy, for 2nd place, to Richard Palmer.

WORLD CHAMPIONSHIPS' CHANGE

Due to potential operational difficulties at Minden, Nevada, USA the 1991 World Championships will now be at Uvalde, Texas, 200 miles west of Houston. The dates have also been changed from June 30-July 13 to July 27-August 11.

GEL COAT INVESTIGATION

An investigation into gel coat cracking by the Royal Melbourne Institute of Technology's Department of Transport and Resource Engineering has resulted in a comprehensive report. The conclusion was that "premature failure resulted from a resin system with an incorrect mixing ratio.

"The incorrect ratios of thinners, styrene and catalyst resulted in a poorly crosslinked, brittle matrix with built in stress raisers. These stress raisers, combined with microscopic polishing marks, produced a surface which when exposed to chemical attack from the environment rapidly failed."

Please contact Dick Stratton, BGA chief technical officer, if you want further details of this report.

BGA CHARGES 1991

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Inspectors - issue/renewal per year	£15.00
Instructor Record Card	£25.00
Instructor renewal per year	£5.00
Official Observer - issue	£5.00

OBITUARIES

KENNETH WILKINSON



Ken, a BGA vice-president and former chairman, died in October. He started gliding with Imperial College GC in the mid 1930s and got his Silver badge in 1937 with a courageous flight in a Kirby Kite direct from Dunstable to the then London Airport at Croydon! He was No. 17 in the British list.

During the war he led the work on military gliders at Farnborough, especially on blind

BGA ACCIDENT SUMMARY -

Edited by JOHN SHIPLEY,
Chairman, BGA Safety Panel
Compiled by David Wright

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Injury	Hrs
83	Std Cirrus	1624	M	2.3.90 1325	Nympsfield	60	N	2050

Before winch launching into turbulent conditions the pilot ensured his harness was tight. At 300ft, the glider was subject to violent gusts, probably due to curlover. The pilot's head punched a hole in the canopy. The cable also broke but the pilot was able to land safely. **4in soft cushions may have been a factor.**

84	Libelle	1756	M	7.5.90 1620	Nr Swindon	43	N	87

After selecting a field and a normal landing the glider ran over a diagonal rut not visible from the air. The impact damaged the fuselage and an airbrake fitting.

85	K-8	1653	M	8.5.90 1814	Nympsfield	24	N	40min

After a satisfactory first solo flight the pilot was briefed to ensure a fully held off landing. On the second flight the pilot made a normal circuit until the speed was allowed to build up on final approach. The glider was rounded out and ballooned 10-15ft into the air. It then stalled and hit the ground nose first.

86	Astir CS	-	S?	26.5.90 1429	Nympsfield	46	N	48

After a firm, but not heavy, landing on hard, uneven ground the glider suddenly came to a halt as the u/c collapsed. It was found that the u/c casting had broken in several places.

87	Discus	3398	S?	4.6.90 1500	Nr Cirencester	37	M	415

Selecting a field from 600ft the pilot saw water troughs **but not the electric fences** which were first seen on base leg. Angling his landing run across wind he then reduced speed to make a short landing. In concentrating on the obstacles he **failed to monitor his speed** and the wind gradient and **could not round out on the uphill surface.**

88	ASW-19	2727	S	17.6.90 1330	Nympsfield	41	5	55

The glider's left wing dropped during the initial stages of an aerotow launch. The pilot levelled the wings but by then the glider was diverging from the take-off track. **The wingtip struck the forward signaller,** an inexperienced new club member, in the stomach at about 30kt causing severe bruising. **The pilot should have pulled off early.**

89	Astir CS	2437	S	20.7.90 1645	Marton, Yorks	42	N	21

After several climbs to 5000ft the pilot became disorientated and lost. After losing height he had to make a field landing and so chose a good field. However, he misjudged his height and failed to notice that **the sea breeze front had passed through** giving him a 12kt tailwind and he overshot the field and hit the hedge.

90	K-6	2478	S	21.7.90 1530	Gamston	46	N	33

The visiting pilot had a good launch but became out of position for a normal landing so landed downwind. Overshooting, and running towards a fence the pilot induced a groundloop which damaged the fuselage. A 1000 yard long runway was within easy reach from the glider's initial position.

91	Blanik	2094	M	27.6.90 1825	Nr Talgarth	51	N	108+2000pwr
					P2	30	N	0

The pilot wrongly assessed the wind direction and flew into a valley where he encountered strong sink. With little time for field selection he landed, downwind, in a small 30° upsloping field. With an **inadequate approach speed he landed heavily,** collapsing the u/c.

92	SF-34	3325	M	8.7.90 1445	Aston Down	32	N	25
					P2	23	N	59

In strong, gusty, crosswind conditions the pilot found himself tight into the airfield on base leg. After a very tight and fast turn on to finals the glider was flown on at over 60kt and ballooned back into the air. The next touchdown was heavy and slightly sideways. Pitching down, the nose wheel pushed up the instrument panel into the canopy.

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towing and snatch take-offs. Ken was once caught out. A military glider with several passengers became uncontrollable and all had to bail out. Ken carelessly allowed his glasses to blow away. As a civil servant he claimed a new pair from the Treasury. They resisted, suggesting that he should have put them in his glasses case!

After the war he joined British European Airways and rapidly rose to head their engineering division, eventually becoming vice-chairman of British Airways.

For several years after the war gliding took second place to his aeronautical career. He became president of the Royal Aeronautical Society but served the BGA as chairman of the Technical Committee in 1946-8 and in the early 1970s succeeded Peter Scott as chairman of the BGA.

The coming of glass gliders attracted Ken back to fly the ASW-15 at Booker and he flew in several Nationals in the 1960s and 1970s. He was one of the group of distinguished aeronautical engineers who have had a life long interest in gliding. For example, he led the team which established the Standard Class glider in 1956 and supported the Sigma project from 1966.

Ken was a shy man but determined. He succeeded due to a fine intellect and much appreciated support from his wife Mary and his children Judith and Roger to whom we send our condolences.

We were lucky to have retained Ken's devotion to gliding for so many years.
ALAN YATES

MRS FRED N. SLINGSBY (FLUFF)

The death of Fluff Slingsby at the age of 95 on October 11 was a great shock as I had come to think of her as immortal. I had known her since the 1930s - her sense of fun carried you away and her laughter was infectious. No wonder Fred Slingsby fell in love with her.

They married in 1919 and she first flew in the early 1930s when bungy launched in a Dagling. She was with Fred in 1934 when he found the site at Sutton Bank, which became the home of the Yorkshire GC, and after his death in 1973 she often visited the club. During the 1989 Slingsby Week she was photographed with 19 Slingsby sailplanes and said it was one of her happiest days.

After the war Fluff worked tirelessly for the British Red Cross and will be remembered with love and affection.
MOYRA JOHNSON

LAND-ROVER DISCOVERY

If you want to go bungying you will need four-wheel drive as well as a suitable glider. One of the high points of my gliding life was in 1965 when I took delivery of a new 12-seat Land-Rover, which rapidly became the focal point of my mountain expeditions. Unperturbable and unstoppable, it towed trailers up the most inaccessible launch points from Wales to Aberdeenshire, and as often as not stretched the bungys as well.

On recent expeditions I have seen in operation, and myself driven, a Range-Rover and

Ref No.	Glider Type	BGA No.	Damage	Date Time	Place		Pilot/Crew Age	Injury	Hrs
93	Blanik	1917	W/O	8.7.90 1730	Bidford	P2	40 0	N N	150 0

P1 found that in strong winds he had drifted out of position so attempted to return to the airfield. After reducing speed to make the most of a patch of zero sink he found he could not make it so decided to land in a field. After a steep, fast approach to avoid wires and minimise the effect of turbulence from buildings, then groundlooped the glider.

94	K-13	-	S	6.7.90 1145	Wambrook	P2	34 42	N N	289 19

During a cross-country flight P1 decided that a field landing was necessary. Landing across the diagonal of a good size field all was normal until the glider started to round out. Suddenly the left wing dropped, (stalled?), hit the ground and caused a groundloop damaging the wing and fuselage.

95	Std Cirrus	1727	M	14.7.90 1419	Sandhill Farm		53	N	51

In conditions of 5-10kt gusty wind the pilot made a normal approach at 55kt using half airbrake. At 5-10ft the airspeed fell rapidly and the glider landed heavily despite the pilot closing the airbrakes. He was thrown against the canopy which cracked. Both wings were also damaged.

96	Boolan+Chipmunk	2013	N	3.5.90	Husbands Bosworth	P2	57 0	N N	1164 0

P2 was "boxing the wake" under instruction from P1. When high and to the right the tug started turning left and P1 took control. He dived under the slipstream, overtaking **the tug which was then pulled up into a near** vertical stall as the rope tightened. **The tug pilot managed to recover and restart the engine** which had faltered during the push over.

97	Blanik	1880	W/O	18.7.90 1715	Kenley		42	S	4

The winch drum "threw a loop" so the winch driver terminated the launch, after first ensuring the glider was at a reasonable height to land ahead. Instead of doing this the pilot started a gentle turn to the left from which the glider spun into the ground. A possible factor may have been low pilot weight.

98	Swallow T-45	1331	M	18.7.90 1130	Kenley		0	N	11

After a long ground run the glider climbed slowly to about 50ft. The pilot, realising that the launch was not satisfactory, pulled off and lowered the nose. He then opened the airbrakes before noticing his low speed and rate of descent. The glider landed heavily despite the airbrakes being closed.

99	Pilatus B-4	1821	N	21.7.90 1710	Aston Down		25	N	402

After the glider was rigged and inspected the pilot took off and started to thermal. He soon noticed that the rear fuselage was shaking. A safe landing was made after a large circuit. The cause was **a missing fueslage bush** for the rear drag pin on the right wing. Pilatus B-4 owners should be aware that this and other bushes can come loose.

100	SHK-1	1623	M	4.5.90 1245	Nr Sandown, IOW		58	N	967

The pilot was investigating the spinning characteristics of the glider when, after a normal recovery from a left hand spin, he initiated one to the right. Standard recovery did not work as he could not obtain full left rudder with back stick. He recovered by easing forward then applying rudder and landed safely. **Incorrect control deflections were found upon inspection.**

101	Discus	-	M	17.7.90 1820	Booker		32	M	961

After a competition finish at about 100kt the pilot pulled up and flew an abbreviated circuit. Turning tightly on to finals he failed to monitor the speed and opened the airbrakes. The nose fell and the pilot just managed to level the wings before the glider landed heavily, collapsing the u/c, possibly just recovering from an incipient spin.

102	Dart 15	1181	M	15.7.90 -	Milfield		57	N	74

After a normal approach in a 15kt crosswind the glider entered the lee of some trees. The pilot found that the large amount of rudder, which he had applied to counter the crosswind, caused the glider to yaw to the left. The right wing rose and the left wing and tail touched the ground causing a further swing through a fence and into a ditch.

103	Vega	2509	M	30.7.90 1745	Dunstable		39	N	33

On his third flight on type the pilot took as his aiming point the base of a dip in the landing area. In doing this he misjudged his height and hit a ridge in the field. This, combined with excessive airspeed and his use of the airbrakes, resulted in the glider bouncing heavily at least three times before the undercarriage collapsed.

104	Puchacz	3620	M	23.6.90 -	Long Mynd	P2	37 0	N N	650 0

After briefing visiting pilots on the "bungy launch" P1 prepared for the first check flight. The wing holder signalled start stretching the rope and P1 next noticed that the right hand crew had signalled stop, but the other crew did not halt immediately. Slipping, they released their stretched rope which flew back and broke the canopy.

105	K-21	-	M	30.7.90 1930	Long Mynd	P2	44 42	N N	920 1.5

After landing the glider's nosewheel struck a rock that was proud on the surface damaging the nosewheel mounting frame.

106	Olympia 460	1150	S	10.7.90 1540	Portmoak		63	N	270

After a normal approach the pilot misjudged his separation from the cable tow tractor which was parked well off the normal landing area. **The glider's left wing dropped and hit the tractor's cab.** This slewed the glider into the ground breaking the left wing in half.

107	Kestrel 19	1761	S	5.8.90 1430	Richmond, Yorks		52	N	490

The pilot made a landing into a grass field on a day of gusty 25kt winds. The final approach was very rough but from 50ft to landing it was smoother. During the ground run a gust hit the glider and a wing dropped on to the ground. The glider groundlooped which damaged the fuselage, tail and canopy.

108	K-21	2835	M	6.8.90 1615	Sutton Bank	P2	59 0	N N	500+ 0

While soaring with a pupil to 3000ft P1 noticed that a heavy squall was approaching the airfield so decided to land before it arrived. After experiencing some trouble losing height, the squall beat him to the field and the severe sink combined with curl-over from the hill resulted in him landing short on moorland. Higher speed may have been used.

109	K-13	2739	M	25.7.90 1152	North Hill		56	M	7

After a normal approach to a cross-wind landing the pilot found that operating the airbrakes caused a dramatic loss of height. At the same time the glider moved to the left and the airspeed deteriorated. The glider sunk heavily to the ground despite closing the airbrakes. **This visiting pilot had encountered curl-over well known to local pilots.**

110	ASW-15	3375	S?	22.7.90 1600	Nr Abergavenny		42	N	302

After selecting a large field from 5 miles away the pilot attempted to soar locally, but with no success. **The field had a one in five up slope with a crosswind from the left.** He decided that it was still OK and made a **normal circuit** and approach until at about 7ft, in the roundout, he stalled in heavily causing substantial damage to the glider.

F=Fatal; S=Serious; W/O=Write Off; M=Minor; N=Nil.

two of its Japanese competitors. With these for comparison, and years of Land-Rovering behind me, I looked forward to trying the new Discovery the moment it was announced. When I did test one, it was love at first sight. Sitting in the driver's seat I immediately realised how much I had been missing a high driving position and superb view; sitting in the roomy back seat I rediscovered the joys of really adequate headroom.

Mechanically, the Discovery is a Range-Rover except for the engine. Four-wheel drive is permanently engaged with a differential between the front and back axles. This avoids the "winding-up" of the transmission that the old Land-Rover suffered in four-wheel drive on tarmac, but has the disadvantage that on a cold morning the drag from the transmission is very noticeable (free-wheeling front hubs halved this on my Land-Rover). But when the going gets rough the centre differential can be locked, effectively turning the Discovery into a Land-Rover.

There is a low-ratio transfer box as usual, but the main gearbox of the Discovery has five gears, fourth being straight through. The chassis is the Range-Rover's, so the overall length is about the same, but the Discovery is a welcome few inches narrower and thus handier in town. Clever external styling belies the fact that it is a little taller than a Range-Rover, which explains the superb view (6' 4" - will it fit your garage?).

The two-door Range-Rover was a problem on steep hillsides because the doors were so heavy and the front seats difficult to tilt for access to the back. Improved design of the seat mechanism in the Discovery has made for easier access *and* a smaller door. There is now a four-door version too, but as it comes with all the extras I don't want, it holds no attraction for me. The only extras I specified were a tow-bar (naturally - it has holes at several heights, too) and some front mudflaps.

I have the diesel-engined version, a turbo-charged 2½ litre. There is also a 3½ litre petrol V8 version, but most purchasers opt for the economy of diesel, and it gives more torque at lower revs anyway. Either will hardly notice a glider trailer in tow, and at two tons nor will the vehicle.

The interior layout is excellent, and is especially well-furnished with pockets and ledges. A radio and cassette player is standard. The only electrical socket is the cigar-lighter, which is a pity (my Land-Rover offered a two-pin dashboard socket). I find that the main gear-lever gets in the way of handling the transfer box lever, and (perhaps because I am tall) the ignition switch is maddeningly inaccessible. Locating it reminds me of reaching for the spoilers of a T-21 under the right knee. Why isn't it visible? The back seats are split two-and-one and fold forward easily, whilst rear access is through a huge spare-wheel-carrying back door, as in the Land-Rover.

Our very first outing was to the new site of the Cambridge University Gliding Club at Gransden Lodge, a muddy former airfield, and when we returned I looked underneath the Discovery to find out where all the mud had gone. It seemed to have accumulated in nooks and crannies to an alarming degree, until I realised that the nooks were made of plastic and the crannies of aluminium. Only the roof is steel (so you *can* use a magnetic aerial!).

Delivery was expected to be three months but took four, and my specification was somewhat casually varied without warning. The blue interior came out brown (more practical, actually) and the exterior was covered in unwanted stuck-on trim. But a roller-blind to cover the load-space and a glass-fibre tray to protect its floor were thrown in too, so I am not complaining.

I haven't tried her on the hills yet, but she'll be just as good as her predecessor, and I look forward to fifteen years of expeditions, after which it will be time to hang up the bungys anyway.

THE ARM-CHAIR PILOT

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1990
319	Hirst, A. T.	Booker	6.8
320	Booth, D. A.	Coventry	31.7
321	Robson, T. J.	Derby & Lancs	31.7
322	Green, G. R.	London	31.7
323	Collingham, C. E.	London	31.7
324	Eddie, A. J.	Grampian	31.7
325	Durham, M. W.	Clevelands	7.8
326	Mills, J. N.	Shalbourne	26.9
327	Woodman, P. J.	Bannerdown	7.8
328	Matyear, A. D.	Wyvern	7.8
329	Duncan, J.	Four Counties	7.8
330	Sherlock, C. C.	Clevelands	7.8
331	Macfadyen, Geralyn	Cotswold	7.8
332	Arnold, J. G.	Bannerdown	7.8
333	Gibson, W. R.	Phoenix	7.8
334	Claughton, N. I.	Clevelands	7.8
335	Critchlow, M.	Bicester	7.8
336	Davey, C. M.	Four Counties	7.8
337	Crabb, S. J.	Coventry	31.7
338	Evans, R. H.	Fenland	7.8

DIAMOND DISTANCE

No.	Name	Club	1990
1/478	Hirst, A. T.	Booker	6.8
1/479	Jenkinson, T. P.	Booker	6.8
1/480	Hawkins, G. P.	Oxford	27.5
1/481	Crabb, S. J.	Coventry	31.7
1/482	Booth, D. A.	Coventry	31.7
1/483	Ashcroft, J. P.	Vale of WH	31.7
1/484	Robson, T. J.	Derby & Lancs	31.7
1/485	Green, G. R.	London	31.7
1/486	Collingham, C. E.	London	31.7
1/487	Eddie, A. J.	Grampian	31.7
1/488	Cox, A. W.	Enstone	7.8
1/489	Durham, M. W.	Clevelands	7.8
1/490	Conyers, P. B.	Chilterns	7.8
1/491	Goulding, N. B.	Clevelands	7.8
1/492	Mills, J. N.	Shalbourne	7.8
1/493	Woodman, P. J.	Bannerdown	7.8
1/494	Atkinson, P.	Bicester	7.8
1/495	Matyear, A. D.	Wyvern	7.8
1/496	Ellwood-Wade, R. D.	Chilterns	7.8
1/497	Duncan, J.	Four Counties	7.8
1/498	Barker, K. D.	Bristol & Glos	7.8
1/499	Sherlock, C. C.	Clevelands	7.8
1/500	Macfadyen, Geralyn	Cotswold	7.8
1/501	Gordon, D. J.	Wrekin	7.8
1/502	Arnold, J. G.	Bannerdown	7.8
1/503	Gibson, W. R.	Phoenix	7.8
1/504	Claughton, N. I.	Clevelands	7.8
1/505	Critchlow, M.	Bicester	7.8
1/506	Cleaver, A. G.	Bannerdown	7.8
1/507	Davey, C. M.	Four Counties	7.8
1/508	Mills, A. M.	Wyvern	7.8
1/509	Evans, R. M.	Fenland	7.8

DIAMOND GOAL

No.	Name	Club	1990
2/1875	Dowding, M.	Lasham	12.7
2/1876	Marshall, A. J.	Wrekin	27.5
2/1877	Joly, C.	Portsmouth Naval	6.8
2/1878	Crabb, S. J.	Coventry	31.7
2/1879	Jessop, P. M. B.	Bicester (in Australia)	17.3
2/1880	Collingham, C. E.	London	31.7
2/1881	Wright, A. C.	Yorkshire	18.5
2/1882	Sword, C. D.	Northumbria	31.7
2/1883	Young, M. A.	London	31.7
2/1884	Stott, B.	Wolds	31.7
2/1885	Turner, P. H.	Yorkshire	3.8
2/1886	Griffin, B.	Trent Valley	1.8
2/1887	Griffiths, P. J.	London	3.8
2/1888	Bowes, D.	Wolds	31.7
2/1889	Marlow, A.	Booker (in France)	31.7
2/1890	Brown, G. B. D.	Cambridge Univ	31.7
2/1891	Dawe, R. A.	Clevelands	1.8
2/1892	Davies, E. F.	Booker	7.8
2/1893	Taverner, T. G.	Clevelands	7.8
2/1894	Cleaver, A. G.	Bannerdown	1.8

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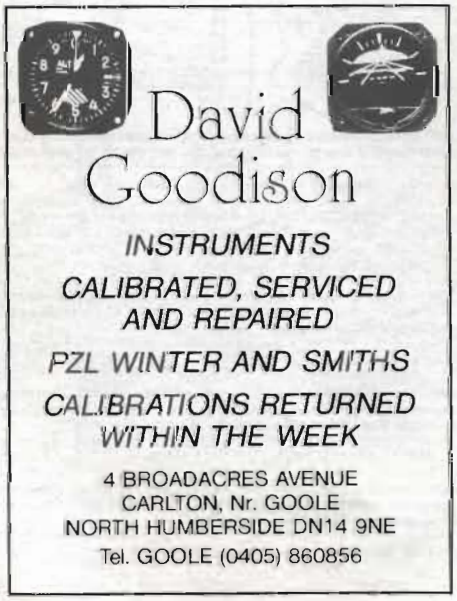
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2/1895	Blake, M. P.	Midland	31.7
2/1896	Abrahams, R. W.	Norfolk	7.8
2/1897	Way, S. R.	Southdown (in South Africa)	18.12.89
2/1898	Waterhouse, P. W.	London	20.7
2/1899	Gilbert, C. N. R.	Two Rivers	17.6
2/1900	Lyons, G. J.	Booker	3.8
2/1901	Ross, G. R.	Lasham	3.8
2/1902	Hoolahan, J. B.	Kent	3.8
2/1903	Callaway, G. J.	Bath & Wilts	3.8
2/1904	Tagg, D.	Southdown (in France)	4.8

DIAMOND HEIGHT

No.	*Name*	*Club*	*1990*
3/962	Macfadyen, Geralyn	Cotswold	28.9
3/963	Crabb, S. J.	Coventry	4.3
3/964	Evans, R. M.	Fenland	30.10

GOLD BADGE

No.	*Name*	*Club*	*1990*
1471	Dowding, M.	Lasham	12.7
1472	Pickering, J. A.	Booker	9.9
1473	Jessop, P. M. B.	Bicester	17.10
1474	Collingham, C. E.	London	31.7
1475	Wright, A. C.	Yorkshire	31.7
1476	Sword, C. D.	Northumbria	31.7
1477	Stott, B.	Wolds	31.7
1478	Marlow, A.	Booker	31.7
1479	Dawe, R. A.	Clevelands	1.8
1480	Taverner, T. G.	Clevelands	7.8
1481	Macfadyen, Geralyn	Cotswold	28.9
1482	Crabb, S. J.	Coventry	4.3
1483	Way, S. R.	Southdown	22.12.89
1484	Haynes, M. R.	Essex & Suffolk	1.8
1485	World, T. M.	Portsmouth Naval	10.7
1486	Gilbert, C. N. R.	Two Rivers	17.6
1487	Lyons, G. J.	Booker	3.8
1488	Ross, G. R.	Lasham	3.8
1489	Callaway, G. J.	Bath & Wilts	3.8

GOLD DISTANCE

Name	*Club*	*1990*
Dowding, M.	Lasham	12.7
Pickering, J. A.	Booker	9.9
Marshall, A. J.	Wrekin	27.5
Joly, C.	Portsmouth Naval	6.8
Crabb, S. J.	Coventry	31.7
Jessop, P. M. B.	Bicester (in Australia)	17.2
Collingham, C. E.	London	31.7
Wright, A. C.	Yorkshire	31.7
Sword, C. D.	Northumbria	31.7
Young, M. A.	London	31.7
Stott, B.	Wolds	31.7
Turner, P. H.	Yorkshire	3.8
Griffin, B.	Trent Valley	1.8
Griffiths, P. J.	London	3.8
Bowes, D.	Wolds	31.7
Marlow, A.	Booker (in France)	31.7
Brown, G. B. D.	Cambridge Univ	31.7
Dawe, R. A.	Clevelands	1.8
Davies, E. F.	Booker	7.8
Taverner, T. G.	Clevelands	7.8
Cleaver, A. G.	Bannerdown	1.8
Blake, M. P.	Midland	31.7
Abrahams, R. W.	Norfolk	7.8
Way, S. R.	Southdown (in South Africa)	18.12.89
Waterhouse, P. W.	London	20.7
Shaw, P.	Burn	31.7
World, T. M.	Portsmouth Naval (in France)	10.7
Bradley, H. J.	Midland	12.7
Gilbert, C. N. R.	Two Rivers	17.6
Lyons, G. J.	Booker	3.8
Ross, G. R.	Lasham	3.8
Hoolahan, J. B.	Kent	3.8
Callaway, G. J.	Bath & Wilts	3.8
Tagg, D.	Southdown (in France)	4.8

DIAMOND HEIGHT

Name	*Club*	*1990*
Dunlop, M. P.	South Wales	10.3
Pickering, J. A.	Booker	9.9
Jessop, P. M. B.	Bicester	17.10.89
Macfadyen, Geralyn	Cotswold	28.9
Underwood, G. J. T.	Midland	1.8
Crabb, S. J.	Coventry	4.3
Way, S. R.	Southdown (in South Africa)	22.12.89
Haynes, M. R.	Essex & Suffolk (in USA)	1.8
Roberts, W. G.	Midland	10.8

SILVER BADGE

No.	*Name*	*Club*	*1990*
8515	Pickering, J. A.	Booker	9.9
8516	Edwards, J. H.	Wolds	9.9
8517	Fielder, R.	Wrekin	10.8
8518	Spreckley, Natasha	Booker	8.9
8519	Young, I. M.	Oxford	2.9
8520	Russell, A.	SGU	9.9
8521	Lawrance, Catherine	Buckminster	9.9
8522	Henderson, R.	Buckminster	8.9
8523	McKeith, T.	Anglia	12.8
8524	Grinter, A. F.	Wolds	26.9
8525	Dawson, C. P.	Dorset	16.9
8526	Spletter, E. A.	Lasham	26.9
8527	Jennings, N.	Booker	24.7
8528	Rayment, J. A.	Aquila	2.9
8529	Smithers, C. R.	Cambridge Univ	13.9
8530	Bone, P. T.	Cornish	28.3
8531	Lancaster, J. S. R.	Norfolk	31.7
8532	Macdonald, I.	Booker	9.8
8533	Robinson, C. J.	Essex & Suffolk	7.8
8534	Burge, G. W.	Swindon	16.10
8535	Challans, Margaret	Lasham	6.8
8536	Dainty, B.	Bristol & Glos	15.9
8537	Tuppen, Lesley	Vectis	31.8
8538	Foster, D. B.	Swindon	9.9
8539	Porteous, D.	Angus	23.5
8540	Pinner, Diana	Bristol & GLos	3.11
8541	Woodman-Smith, M.	London	3.11
8542	Spreckley, O.	Coventry	1.9
8543	Reynolds, D. A.	Cotswold	18.7
8544	Adamczyk, D.	Yorkshire	31.7
8545	Thiele, S.	Booker	9.9

UK CROSS-COUNTRY DIPLOMA

Complete

Name	*Club*	*1990*
Robinson, C. J.	Essex & Suffolk	12.8
Dawe, R. A.	Clevelands	2.8
Kerr, G. J.	Midland	1.8
Svenson, B. W.	Wolds	18.8

Part 1

Hopkins, B.	Shenington	7.8
Jones, P. R. T.	London	7.8
Wilson, P.	Burn	31.7
Ward, R.	Devon & Somerset	10.7
Joyce, T. D.	South Wales	25.7
Brown, S. R.	Stratford on Avon	18.7
Parker, W. H.	Booker	3.8
Morrice, Tynna	Lasham	5.8
Harwood, J. H.	Buckminster	5.8
Palfreyman, A. J.	Stratford on Avon	9.8
Turner, P. H.	Mendip	11.8
Fitzsimons, V. G.	Chilterns	12.8
Smalley, J. R.	Trent Valley	18.8
Pain, J. A.	Kent	20.8
Myers, P. G.	Blackpool & Fylde	26.5

J. Pickering (Gold badge No. 1472 and Silver badge No. 8515) flew Gold distance on September 3, 1989, in less than 5hrs and Gold height on October 6, 1989, but didn't qualify for either as he didn't have his duration until this September 9.

WORLD CLASS COMPETITION



Our photograph is of models of 42 entries in the FAI's World Class glider competition. The prototypes will be compared on the ground and in flight and drawings and documentation of the winning design will be available to any manufacturer interested in producing the glider. There are two UK entries from Keith Emslie and Peter Chodera.

THE DUAL PURPOSE PICCOLO



Peter Selinger photographed the 50th ultra-light Piccolo built by Technoflug, a small company in the Black Forest, Germany. This single-seater is said to have the safety and comfort of a motor glider and the pilot has to have a motor glider licence. Piccolo is either flown as a light aircraft or as a self-launching sailplane with only 10 to 20% motor time.

STALL WARNING SYSTEMS

In response to the early 1987 announced OSTIV Competition for developoment of a special flight instrument stall warning for sailplanes, the Dallas Gliding Association appreciated the need for such a device and undertook the challenge to develop a suitable system, described in this article by Richard Johnson who did the flight testing.

To be of much practical value and appeal to most pilots we believed that any candidate stall warning unit would need to be small in size, rugged, light in weight, low in both cost and installed air drag. Also, it should operate reliably in rain and turbulent air during both straight and turning flight and at light or heavy sailplane gross weights. Negative *g* stalls and those in severe icing conditions were not included in our design criteria, at least at the present time.

Development testing lead to wing top surface mounted flat bottomed cambered airfoil probe designs, pivoted at the airfoil nose, which performed well, and they were used for much of the subsequent flight testing. Most of the flight testing was performed with a Ventus A sailplane. However, as the system configurations matured, the stall testing was extended to seven additional sailplanes, ranging from a Schweizer 1-26 to a Nimbus 3.

The good performance of the flat bottomed airfoil probes were offset to some degree by their fragility and somewhat complicated fabrication. Therefore, the final phase of the stall warning probe development was directed toward finding a simpler and more rugged probe design that would perform equally well as the already developed flat bottomed two surfaced airfoil designs.

It utilised a standard magnet epoxied to the right side of the vane

Trial and error flight testing finally resulted in the simple cambered flat plate airfoil probe design using a 20mm wide by 30mm chord cambered plate airfoil moveable vane. It utilised a standard HAMLIN H33-606 magnet epoxied to the right side of the vane and a common HAMLIN MS RR-2-185 reed switch inserted into a fore-and-aft adjustable switch bracket that is mounted below the base of the vane support bracket.

Fig 1 shows a similar but smaller 14mm wide by 20mm chord vane configuration that is the current favoured design. It uses the smallest standard HAMLIN H-31-604 magnet that we could find along with an equally small HAMLIN MINI-25-115 reed switch.

Both the 20 and 30mm chord vane configurations are easily fabricated from 0.4mm (.016in) thick aluminium 2024-T6 alloy sheet, as are their vane support brackets. The reed switch bracket is cut from 0.1mm (0.004in) thick tempered aluminium, which is handily obtained from a common aluminium beverage can. Full scale flat patterns of each of the required sheet alluminium parts are included in Fig 1. They are easily fabricated by cementing the patterns directly on the aluminium sheet material; then drilling, cutting, and lastly bending the parts into the shapes shown.

All these parts must be of a non-magnetic material because the performance of the magnet/reed switch combination will be severely degraded if steel or other magnetic materials are used for the sensor unit parts. The only exception appears to be the 1.0mm (.040in) diameter pivot pin, where a slightly magnetic stainless steel (standard aircraft safety wire) is used satisfactorily. In addition, when the unit is mounted on a wing for flight use, it needs to be located at least 1cm (.4in) from any steel pins, control rods, brackets, or other parts, otherwise the magnetic reed switch may not open and close properly.

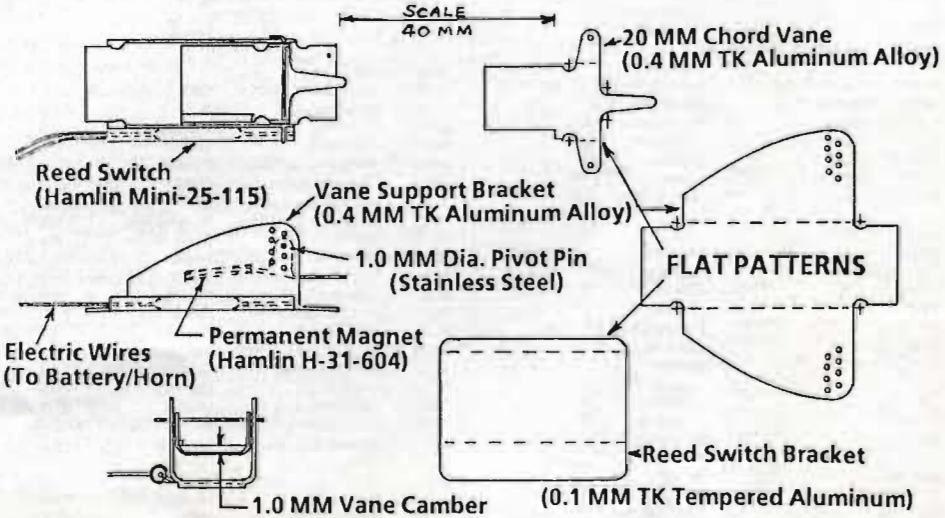


Fig 1. Full scale sensor unit drawings.

Small size No 28 AWG electric wires are soldered to the ends of the reed switch, and they lead to a small 9v battery and a piezoelectric warning buzzer (Radio Shack Part No 273-060A) mounted in the cockpit area. When not in flight or when the wing is stalled, the vane trailing edge descends to where the reed switch closes, sounding the buzzer. Because of that, the battery power needs to be switched "off" until after take-off. Alternatively, the battery power can be turned "on" and "off" automatically by installing a pitot pressure actuated electric switch, as was done with the Ventus A test sailplane.

Stall Warning Vane Installation

1. Measure chord of test wing at a point approximately 100mm outboard from fuselage side.
2. Mark .70 chord location on top wing surface (aft of the leading edge).
3. Install stall warning probe at that location with pivot forward and longitudinal axis parallel to fuselage centreline. Attach with two pieces of 40mm long plastic tape approximately 15 to 20mm wide, applied laterally, with one over the vane bracket's forward lip and one over its aft lip.
4. Tape electric wires to wing surface aft of the probe and run into cockpit area *via* an access door or wing root passageway.
5. Place control/speaker unit in cockpit side pocket or tape to convenient location on cockpit side wall.
6. Test probe before take-off by turning on power switch and:
   (a) Check for horn operation when trailing edge of vane is full down.
   (b) Place 1.0mm thick shim below vane magnet and check that horn does not sound.
   (c) Place a .4 to .6mm thick shim below vane magnet and check that horn does sound.
7. If horn does not operate per steps 6a through to 6c, it is likely that the reed switch bracket

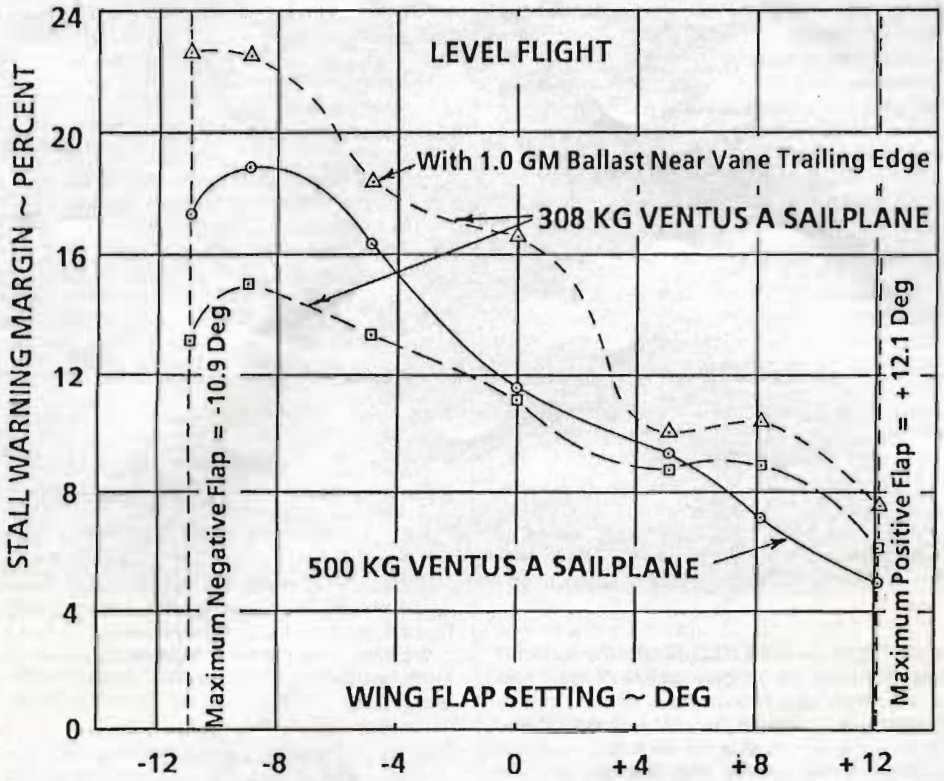


Fig 2. Flight test stall warning data.

will need to be untaped and the vane bracket shifted slightly forward or aft to accomplish correct horn/vane movement operation.

Vane Adjustments

1. The multiple vane pivot pin holes are provided such that the vane leading edge height may be adjusted in increments of 1.0mm.
2. Experience to date indicates that the vane leading edge height above its support bracket should be about .25 to .50% of the test wing chord for smooth laminar airfoils; and about .50 to .75% of chord for rough ro non-laminar airfoils.
3. If too little stall warning exists, it can be increased by:
   (a) Adding a 1, 2 or 3 gram lead ballast weight near the vane trailing edge. Use rubber or sanding disc cement so that changes can easily be accomplished. Mount weights on the top surface of the vane but be aware that sometimes the ballast weight installation will create excessive hysteresis in the warnings.
   That is characterised by a significantly higher airspeed being required to "unstall" the probe's warning than that needed to obtain the stall warning. It is likely an airflow separation problem on the vane itself was the cause of this. That characteristic is satisfactory, in my opinion, provided the hysteresis is not more than 1 or 2kt.
   (b) Lowering the pivot height.
   (c) Moving the probe aft chordwise on the wing. If the wing is equipped with flaps, do not move the probe closer than .03 chord forward of the flap leading edge.
4. Conversely, if too much stall warning is experienced, it can be decreased by:
   (a) Removing vane trailing edge ballast weights and/or adding ballast to the projecting tongue located at the vane leading edge ahead of the pivot.
   (b) Raising the pivot height.
   (c) Moving the probe forward chordwise on the wing.

Fig 2 is a plot showing flight test measured stall warning magnitudes with the Ventus A test sailplane as a function of both sailplane gross weight and wing flap setting. The sailplane airspeeds are based on indicated values only for both warning and actual stalling airspeeds. Note that the basic data, without the vane ballast weight attached, provides between 5 to 11% airspeed stall warning with 0 to +12.1° flap settings. At large negative flap settings the stall warning margin increases to as much as 19%. Since those negative flap settings are optimum only at airspeeds well above stall, that additional degree of warning is not considered to be detrimental.

The concept of the stall warning system described in this article is based upon the use of a single stall probe unit being mounted on either the right or left wing panel surface, within about 5 to 25cm (2 to 10in) from the fuselage sides. It is likely that some sailplanes, and especially motor gliders, may need to mount the stall probe farther out on the wing to obtain satisfactory performance. Should that be the case, it may be necessary to install two probes, one on each wing panel, to obtain adequate stall warning margins from both left and right hand turns. That did not appear to be needed with any of the seven sailplanes included in our tests; however, sailplanes with tendencies toward tip stalling or other non-docile characteristics will likely require the use of a dual stall probe system. Those should be wired in parallel to a single battery and horn system, but a dual battery/horn system will increase reliability.

The stall warning data presented in this article were measured with the sailplane side-slip angle kept reasonably small. Ventus flight testing with a single stall warning probe mounted near the left wing panel root showed slightly greater warning magnitudes when the sailplane was side-slipped to the left, but little or no stall warning was observed during the right side-slips. If full stall warning magnitude are desired during side-slip flight operations then two stall warnings probes need to be used, with one each on the left and right wings. That was accomplished with the Ventus with good results.

It must be appreciated that the stall warning systems described in this article are experimental in nature and should only be used as such. They are not intended to replace the sailplane's airspeed indicator or good airmanship and judgment. Properly used, however, they can add to some degree to flight safety. How to best use such devices must be determined by individual experience.

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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 0223 247725, to arrive not later than February 12 and for the June-July issue to arrive not later than April 16. The fax number is also 0223 247725.

GILLIAN BRYCE-SMITH
December 5

ANGUS (Arbroath)
Despite our busy soaring season, launches and hours were down. We celebrate our 21st birthday in August.

Our October flying week was disappointing, mainly due to terrible weather. We are updating our club fleet and looking for a single-seater glass-fibre glider to replace the Pirat.
P.E.

AQUILA (Hinton in the Hedges)
Our end of season skittles night was well attended and a great triumph of organisation -thanks to Bob Murray who also gained his Bronze badge.
J.R.

BATH & WILTS (Keevil Airfield)
We had a delightful annual dinner with awards going to Graham Callaway (two trophies including the ladder); Dave Pengilley (the Club Aircraft Ladder trophy for the third year running); Bob Hitchin (again winning the trophy for photographing seven white horses in the shortest possible time) and even the CFI won a cup, the almost did it award for 295 of a 300km.

Although our runways are now in use the winch is preferred to autotowing as the new surface is so abrasive. Congratulations to John Wale on going solo.
B.H.

BICESTER (RAFGSA Centre)
It was one of those memorable Aboyne expeditions with something for everyone. Congratulations to P. Atkinson, J. Jury, G. Bennett, R. Pepper and D. Francis (Gold heights) and J. Allen, N. Smith (more than once!), B. Lincoln, J. Nelson and J. Wright (Diamond heights).
M.H.

John Allan took this panoramic view of Aboyne during the second week of October about an hour after the conditions developed at around 1030.

BLACK MOUNTAINS (Talgarth)
Between the rain and snow we have had some memorable soaring and a few very busy weekends. Several on a Dunstable expedition gained around 10000ft in wave. Our members, Alister Mackintosh reached 12500ft in October and Ivor Shattock 14000ft in November.

Congratulations to Bob Cole on his solo and Bronze leg.
J.G.

BLACKPOOL & FYLDE (Chipping)
Congratulations to Kevin Gosling, Alan Jones and Norman Slater (going solo); Bill Green (Silver badge) and Barrie Purslow, who retrieved "The Picture" from Lakes GC in October. We are now one all.

We have negotiated an extra 150ft of land at the narrow end of the field which significantly extends the undershoot area. We have also bought a "slitter" machine to cut narrow, shallow grooves which are then filled with stone, enabling surface water to drain away quickly and us to operate even after heavy rain. (We could do a very reasonable loan deal to any other soggy club!)
V.H.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)
The excellent season gave us lots of flying and competition successes. Andy Davis had a brilliant year - he won the 15M Nationals, came 2nd in the Pre-Worlds in the USA, won the National Open Ladder and flew the first UK 750km in a Standard Class glider. Steve Parker won the 15M Lasham Nationals; Ken Barker the Inter-Services Regionals; Alain Escher, Glen Thomas and Gordon Bishop the Inter-University task week; Ray Payne came 2nd in the Northern Regionals and our team won the Inter-Club League.

We are flying seven days a week with our first ever permanent winter instructor, Steve Bennett. The ongoing clubhouse refurbishment will include four more bedrooms, a new office, briefing room and ladies' shower.
H.E.

Obituary - Ted Waterman
It is with sadness that we record the sudden death of Ted Waterman on October 30. Ted had been connected with flying for most of his adult life starting as a rear gunner in the RAF and spending several years as a prisoner of war after baling out.

A member for about 25 years, he flew a few days before his death. He was an inspector and spent many hours repairing and overhauling our gliders and tugs, including the rebuild of the Swallow. His help in building the south hangar and other field maintenance was invaluable. In latter years he arranged for most of the repacking of the parachutes.

Ted will be sorely missed as a member, colleague and friend.
Tony Pentelow

BUCKMINSTER (Saltby Airfield)
The bonfire evening was very entertaining and the annual dinner a great success. Awards went to Roy Henderson, Bill Kirton and Roger Shepherd (who shared the duration trophy); Cathy Lawrence (improver); John Harwood (100km); Phil Walsh (club member); Mike Jordy (Milk cup) and Russell Cheetham (club ladder).

We now have more than 90 members.
D.H.

BURN (Burn Airfield)
The club fleet has been greatly enhanced by a K-13, imported from Germany, and a K-21, our first glass two-seater.

An unusual party and disco in the clubhouse in October commemorated the 25th birthday of a K-6CR which has been at the club since new. Many previous owners and friends attended.

The annual dinner was a great success with Derek Piggott as the guest speaker.

We have appreciated the interesting series of flying lectures given by Bill Thorpe. Congratulations on going solo to M. Smith, R. Smith, A. Jackson and A. Wales.
D.G.K.

CAIRNGORM (Feshiebridge)
We enjoyed our many visitors in September and October, led by the Avon Soaring Group. During the third week there were 26 Diamond heights including one by our member, Bill Longstaff, who reached nearly 27000ft asl for a new club height record.

We have replaced the K-7 with a K-7/13. The hangar is threatened by erosion from the river and will have to be moved to the south end of the runway.
S.M.

CAMBRIDGE UNIVERSITY (Duxford)
Preparations for our move to Gransden Lodge in the middle of 1991 are progressing well with the grass runway sown and the promise of a hangar and buildings suitable for a clubhouse and workshops. There is a great deal to do but members are enthusiastic and with their help we have the prospects of a fine new site.

The annual Portmoak camp in September wasn't as well attended as usual but gave members their first taste of wave flying.

Congratulations to Colin Smithers (Silver badge); Andy Barron, Janet Birch and Stephen Meadows (Bronze badge) and Chris Partington,





The Argyll and West Highland GC's Puchacz photographed by Tony Shelton over the Firth of Lorn on its way back to Connel Airfield. It was flown by Graham Smith with Jim Holton as P2.

Tony Tyley, Stuart Morgan, Andy Zucker and Philip Ancliff (going solo). Also to John Glossop and Iain Baker (Nimbus 3DT) on the UK multi-seater 400km triangle speed record flown from Duxford on August 30 at 113.70km/h.
J.L.B.

CLEVELANDS (RAF Dishforth)
It has been a quiet autumn with several familiar faces absent in the Gulf. Much hard work has been done on the social side and the airfield resembles a building site as it is prepared for Army use.

At the AGM, awards went to Jackie Clegg, Neil Claughton, Colin Walker, Derek Smith and Robin Sinton, with a special presentation to Roy Olender and Stan Cynalski (see last issue).
J.P.

CONNEL (Connel Airfield)
November was exciting with frequent wide-spread wave. It is often out of reach of our wire launches but early in the month Ken Allaway and Alex Fleming (Puchacz) made contact above the airfield and soared to 10000ft over the Glencoe pass. Later, our chairman, John Anderson, flew a Pirat to Kilmore for Silver distance and a Gold height (13000ft).

Most recent of all, Iain MacArthur and Danny Clark (Puchacz) on a hangar flight met a 14kt express lift over Loch Awe but had to leave it at 6000ft because of the gathering gloom.
R.W.

Gerry Bryer of Connel GC after his first solo with DCFI, Alex Fleming.



COTSWOLD (Aston Down)
Congratulations to Doug Gardner on all three Diamonds with Diamond height at Aboyne and Roger Seymour on going solo.

The clubhouse is warm and pleasant and Andy Davis gave an excellent informal lecture during one of the winter social evenings.

We have a splendid new towcar and will soon take delivery of our new K-13.
G.M.

COVENTRY (Husbands Bosworth)
We had another good season with over 80000km flown and many badge claims including a 500km Diamond distance by Paul Crabb who, with his twin brother Steve, has gained all three Diamonds in three years' flying.

Silver distances were by Toby Wright, Rob Norman, Lawrence Brown, Dave Parry and Alan Blake; Peter Burgoyne and Liz Farmilo flew 300km Diamond goals from Le Blanc, France, and Andrew Spalding, trying to claim the seaside trophy, flew (along with bucket and spade) 160km to Ipswich. The last cross-country of the season was Carl Buzzard's Silver distance to Saltby on October 14 in 35min.
D.L.S.

CRUSADERS (Cyprus)
The club Falke is being renovated by Ray Brown. The IS-28B has been written off so the T-21 is the club two-seater until the K-13 is back from repair at Bicester.

Simon Wilkinson and Erdinch Ustenler have gone solo. Andy Stenton has come from Fenland where MT member Andy Maclean is going.
A.D.S.

DARTMOOR (Brentor)
For the first time we will be flying all winter. Our field is fenced to keep out wandering sheep, cows and the hunt; we can leave gliders rigged in our new hangar and dry off between downpours in our rebuilt caravan.

Peter Rogers has gone solo and Tim Smart has resoloed after a long absence. With Gerry Neild going to the Gulf with the RAF and Don Puttock leaving, our main problem in 1991 will be a shortage of instructors. Is anybody out there listening?

Our ladies, having helped on the field and in social events, are seeking their reward - a flying course.
F.G.M.

DEESIDE (Aboyne Airfield)
The annual dance was again an outstanding success and the following were awarded trophies: J. Davidson (best gain of height); G. Keates (best cross-country); A. Middleton (all round contri-

Carl Buzzard of Coventry GC celebrating after his Silver distance on October 14.



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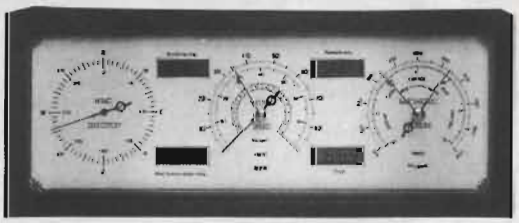
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bution to the club); J. Stephens (most meritorious flight) and the CFI's trophy went jointly to B. Henderson and I. Carmichael for their work with AEI flights.

Jack Pirie has gone solo and launches for 1990 were some 30% up on 1989.

We are well forward with plans for a second tarmac runway; both Puchacz have oxygen and radios; the Vega trailer is finished and we have a towable fire fighting unit for the launch point. We have bought spare engines for the Super Cub and Pawnee and have some Rallye spares available - if interested ring Alan Middleton.

Iain Donnelly is taking over as tug master from Mark Recht who is going to Paris for two years.

If you were involved in the mega retrieve at Glen Esk on November 2 and lost a substantial sum of money, contact our secretary in writing giving details of your loss. A farmer has handed in money found on the hill.
G.D.

DERBYSHIRE & LANCASHIRE (Camphill)
The vintage weekend was successful with pilots visiting from all over the country. Steve Carver and Bob Bollom are full Cats; Anne Robinson and Mike Grundman have AEI ratings and we have had numerous solos.

Our K-7/13 has been repainted and there is a new LS-7 on site. After a four-day winter week we will revert to our full activities in April.

Tom Bradbury gave us an excellent Met lecture. Our good wishes to Toby who is making a good recovery from his accident.
G.W.

DEVON & SOMERSET (North Hill)
This season we have had many visitors and an equal volume of our members have scattered themselves across the island.

Congratulations to Rod Ward and Malcolm Chant (Gold heights); Frank Bertorali (Bronze badge) and to Gordon Bonney, Chris Oldfield, Terry Newberry and Mark Woolaway (going solo).

A new DG-300 has joined the private fleet.
G.P.

ENSTONE EAGLES (Enstone Airfield)
Our new Twin Astir is a much modified version with many of the Twin Acro features.

The annual dinner-dance was a great success. Congratulations to all the trophy winners and especially John Canning who won the cross-country cup.

Membership is still growing.
M.F.S.

GLYNDWR (Denbigh)
Visitors from Cosford and Devon & Somerset contacted wave in October. Rhod Evans (K-6E) reached 19100ft for his Diamond and set a new site record. Ten others reached 13000 to 17500ft and Mick Boydon and Mick Davis completed our ridge run.

The newly acquired club K-8 is popular; we recently contacted wave over the site in easterly winds and are planning a hangar/workshop complex.

Congratulations to Keith Lewis on his assistant instructor rating.
T.K.

HEREFORDSHIRE (Shobdon Airfield)
To our great sorrow Chas Nightingale, our CFI for many years until forced to resign due to ill health, died on November 25 and we lost a good friend. We send our condolences to his wife Carol and his family.

After a summer of excellent thermal soaring the wave season has started well. Richard Palmer from Avon flew to 19000ft in very rough looking wave on November 18. Several others followed but came up against the empty oxygen bottle barrier at 10000ft.

Visitors are welcome and a tow can be arranged even on weekdays.
G.W.R.P.

HUMBER (RAF Scampton)
This summer has surpassed all expectations. Congratulations to Chris Gildea (1st in the Inter-Services Regionals' B Class) and Dave Cockburn, CFI (7th in Class A); Steve Ashton, Keith Whittaker and Richard Tobin (5hrs, Richard also gaining part 1 of the UK Cross-country diploma); Mike Tobin and Daniel Smithson (Silver height) and Phil Haines (going solo and gaining a Bronze leg).

The Hallowe'en party went well.
K.M.G.

KENT (Challock)
Our annual expedition to Aboyne in October resulted in seven Gold heights and two Diamonds.

Maureen Capie has joined the K-6CR syndicate. The popular AEI flights for groups and the one-day courses have brought us many new members.

The ex club T-21 (Kermit), lately owned by members, has regrettably been sold after being with us for over 20 years and we have replaced our Citabria with a Pawnee.
A.R.V.

KESTREL (RAF Odiham)
Due to a bowling alley, our clubhouse is being razed to the ground. A tremendous effort by core members, particularly Paul Carter, is ensuring we have a habitable new clubhouse by the spring.

Congratulations to Tracey Button, Russell Butcher and Mike Clark on going solo and to Andy Aveling on completing all three Diamonds with a 500km and Diamond height within two months.

A new Discus came in September.
J.N.

LASHAM (Lasham Airfield)
We have had another record year with 42285 launches and 366700 reported cross-country kilometres.

We have added a new K-13 and an ex-ATC K-21 to our fleet and now have a total of 160 single-seaters and 12 two-seaters.

We are twinning with a French GC - yet another example of the new Europe.
M.T.C.

MIDLAND (Long Mynd)
Our manager, Roy Dalling, has become CFI at Portmoak. We thank him for all his work over the last few years and wish him well in his new job.

The Aboyne expedition in October was enjoyed despite disappointing weather. But we had good conditions for our wave week course with Nick Heriz-Smith gaining his Gold height.

Simon Adlard, Paul Garnham, Chris Harris, Rod Hawley and Paul Shuttleworth have become instructors and been especially busy on the evening courses.
A.R.E.

NENE VALLEY (RAF Upwood)
At our AGM in November we reluctantly accepted Paul Winterton's resignation as chairman due to heavy involvement in his new job. In his place, Roger Emms, backed by CFI Horace Bryant, outlined plans for two expeditions and a task week (somewhere other than Bassingbourn!).

New committee members include Roger Morrisroe (safety officer), Brian Palmer (ground equipment), Mel Bain (PRO) and Julian Pool (social secretary).

Dick Meayers, Gordon Reece and John Young are refurbishing the K-8 we have bought. Congratulations to Roger Emms on his assistant instructor rating.
R.E.

NEWARK & NOTTS (Winthorpe)
The annual dinner-dance was a great success - the new committee's best effort. Trophies were presented to Roger Starling, Dan Goldsworthy, Frank Hunt, Paul Russell, Andy Roe and Mike Abrahams.

Congratulations on going solo to Joe Burrows, Chris Goldsworthy and Shirley Maddex, Shirley in the Motor Falke.

Visitors are always very welcome.
M.A.

NORTHUMBRIA (Currock Hill)
Congratulations to Graham McAndrew from his friends at Currock Hill on his appointment as national coach. Our oldest member, 80 year-old Bob Hopwood, has been made an honorary life member. Bill still flies dual and loves aerobatics.

We have bought a new two-seater, ordered a Puchacz and are replacing our ancient Daimler bus winch. We are all working hard to raise capital and refurbish the hangar, bunkrooms and clubhouse.
R.D.

NORTH WALES (Rhuallt)
We had a very successful Christmas dinner-disco. Trophy congratulations to CFI Ray Ball (height trophy for the second year running and the cup for the best flight in the club K-8 with a 50km O/R along the Clwydian ridge); James Barber (outstanding flight trophy for over 6000ft in thermals and the "bog seat" award for forgetting his barograph); Mike Sanders (first solo of the year); Tony Cooper (most progress) and Dick Moore (a trophy in recognition of dedicated and energetic service, encouraging us in what could have been a much more difficult rebirth of the club).
N.D.J.C.

OXFORD (Weston on the Green)
Our annual subscription was raised to £100 at the AGM in November. The committee is unchanged except that Mark Pollard replaced ➡

Gerry O'Sullivan whose work over the last few years is much appreciated. Steve Evans is the new CFI.

Richard Hall presented the annual awards to John Giddins (club ladder trophy), Phil Hawkins, Mark Pollard, Steve Porat and Martin Hastings with the flying brick award going to Colin Shepherd.
F.B.

PHOENIX (RAF Brüggen)
We have had a successful year with 7107 launches, over 2000 flying hours and plenty of good weather, cross-countries and competitions.

We congratulate 23 on going solo and the three Bronze badge and seven Silver badge pilots. And especially Nick Slater and Ritchie Lovegrove (Gold heights); Pete Heyes (Gold distance); Bill Gibson (Diamond distance for all three Diamonds); "Nobby" Clarke and Al Farmer (2nd and 5th respectively in the British Overseas Nationals) and Chris Heames (1st in the Laarbruch Mini Comp).

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We say goodbye to Mick Wilson and his son and Bob Brown - they are sorely missed.

Stop Press! After 15 years' of endeavour (one husband, two children and a car crash) Jane Kennedy has gone solo.
H.T.

PORTSMOUTH NAVAL (Lee-on-Solent)
Congratulations to Sue Hollamby (going solo); Richard Croker and Dick Masters (Bronze badge); Arthur Yardley (Silver height) and to Julian Oswald, Keith Walton and Alan and Yvonne Clark (AEI ratings).

Several members joined a successful Bicester expedition to Aboyne where Bruce Lincoln achieved Diamond height, Derren Francis Gold height and everyone enjoyed some wave flying.
K.S.

SCOTTISH GLIDING UNION (Portmoak)
The year ended on a high with the formal handover by the Scottish Sports Council of the Pawnee; the appointment of Roy Dalling from the Long Mynd as our staff instructor/CFI designate (and we wish him well) and our annual dinner with the honours going to Colin Hamilton with two trophies and a further two shared with Alan Bauld; Brian Scougall (three) and Dick Middleton and Richard Allcoat (one each).



Bernard Smyth's photo of the Grunau Baby restored by Sid Smith and Co at Nympsfield.

The Silver Salver went to Graham Smith and the Darren Powell award for tugging to Keith Buchan. One of Colin's awards was for the best distance flight which completed his three Diamonds on the day Alan Purnell did 950km in wave (see p10). Congratulations also to Ian Melville (Silver badge) and Richard Eyre-Todd (going solo).

With Roy's appointment we will operate throughout the year with a wide range of courses and facilities for visitors.
M.J.R.

SHROPSHIRE SOARING GROUP (Sleap)
We had a good year's flying with a few badge claims and the wave season has started well. Barry Bate is now chairman with Don Badley as secretary and Vic Carr as treasurer.
N.A.P.

SOUTHDOWN (Parham Airfield)
Our much loved K-8 is being restored and recovered by volunteers and a new Tost winch is coming in May. We had another successful Talgarth expedition and Brian Bateson, chairman, is planning our first visit to Dishforth during the Christmas week.

Congratulations to Derek Tagg on his 300km from Le Blanc, France, and grateful thanks to Kathleen Mitchell for organising our flying accounts for 17 years until they were computerised.
C.M.R.

STRATFORD ON AVON (Snitterfield Airfield)
The new K-21 is being refurbished and the super winch system with back-up Rover conversion and retrieve winch are proving very worthwhile.

The AGM was well attended with trophies awarded to Vernon Brown (best flight); Phil Pickett (most progress); Ian Edkins (chairman's special award) and Chris Morris.

Dave Benton's Bronze badge lectures are very successful. The new clubhouse is superb following refurbishment by Vic Berry and Stan Smith plus twin loos and shower in the adjoining portakabin courtesy of Martin Greenwood and Jeff Gale.

Congratulations to Colin Bushell and Tony Palfreyman (AEI ratings). Bob Horsnell is our safety officer and Jonty Boddington winchmaster.
H.G.W.

STRATHCLYDE (Strathaven Airfield)
We have had a reasonably good year and congratulations to Dave Miller, Jim Provan, David Hanlon and Robert Henderson (going solo); Jim Murdoch (Silver badge) and Tim Barnard (a new instructor).

Our open weekend in September was a great success. We even wangled a Spitfire for the Battle of Britain Memorial Day which drew the crowds and raised much needed funds. Our old winch worked splendidly, filling the gap until our tug is repaired.

We have bought a Blanik, which is going well,



Mike Richardson, Scottish Gliding Union's chairman, accepting the Pawnee from Allan Alstead, chief executive of the Scottish Sports Council, at Portmoak on November 17.

and the syndicate owned Grasshopper is causing amusement and interest. We are putting a self-sustainer engine in our T-21.
D.I.H.J.

SURREY HILLS (RAF Kenley)
We continue to expand with a new wave of optimism. Thanks to the efforts of Mikal Wilkins, Bob Young, Peter Poole and Pete Sparrow in raising the structure, we have a new hangar for the club fleet - K-7, K-13, T-31, Swallow (for the purists) and Ogar motor glider (for advanced instruction). We fly Monday to Friday from 10am to dusk, but it's wise to telephone first.

Congratulations to Eric Harvey (going solo) and Stuart Abbott (BGA inspector rating). We were sorry Ian White has left as resident instructor but pleased he is staying on as a member. We are still short of instructors. Any help would be appreciated.
S.E.A.

THRUXTON (Thruxton Airfield)
We had an excellent Christmas dinner with a lecture from our crop circle expert, "Busty" Taylor.

Congratulations to brothers Dave and Paul Mayle on both soloing on the same day.
J.B.L.

Obituary - Dave Bourne
During October, we sadly paid our last respects to Dave after a long illness. He never mentioned his suffering and became one of our most steady and reliable solo pilots and air experience instructors.

An inspiration to us all, Dave was always happy on the airfield and, despite his problems, found the energy and commitment to apply his engineering skills to many maintenance tasks.

Our sympathies go to Eileen and his family. We shall miss him.
Leslie Dawson, CFI

TWO RIVERS (RAF Laarbruch)
The two autumn expeditions were extremely successful. At Innsbruck the föhn wind blew on seven days making the flying extremely rough and exciting with spectacular views, resulting in two Gold heights and one 5hrs.

At Bisperode John Hill, Chris Breeds and Mike Burrows completed their 5hrs and in seven days we totalled 86hrs, nearly 18 by John Hill. This gave a lot of flying to the relatively inexperienced.

Congratulations to Jack Wright, Simon Urry, Yvonne Hill and Andy Walters on going solo. The RAFGGA AGM was a great success with us winning the NATO challenge cup, the Safety and Two-Seater trophies and a trophy by Phil Jones.

We are planning a spring expedition to Sisteron and send best wishes to Roddy McCrae in the Falklands.
L.F.

VECTIS (Sandown Airport, Isle of Wight)
Our expedition to Saumur, France, was a great success with better weather than previously. Alasdair Maclean flew all three Silver legs; Ken Taylor his distance; Lesley Tuppen height and distance to complete her Silver and Peter Tuppen flew 300km.

Our dinner was well attended. Jim Britton won the most improved pilot's cup with other awards going to Ken Box and John Leonard.

The club K-8 is being re-covered and an ex Army van is giving launch point shelter. Our Super Cub 150 has been fitted with a silencer, giving a noise reduction of about 10dB.

Congratulations to Andy Noctor on his assistant Cat rating and Chris Bacon on his Bronze badge.
L.T.

WOLDS (Pocklington)
It was a super season again and we have six solo 16 year-olds, many having progressed to the K-8. Andy Butler, Bob Holroyd and Alan Grinter have Silver badges and John Edward won the most notable flight award.

Next season we have expeditions to France and Scotland. When our Supercat winch arrives, combined with our extra 37 acres, the launch rate will further improve.
N.R.A.

WREKIN (RAF Cosford)
During our October expedition to Glyndwr, Dave Judd finished his Gold badge with a height; Mick Boydon and Keith Harsent (K-21) reached 17000ft and Mick Davis took his ASW-20 round most of Wales in wave.

At our AGM in December trophy winners included Richie Toon, John Barrett, Mick Davis, Rowly Fielder, Dave Gordon and our soup dragons Sue Gordon and Caroline Ruscoe. Dave Gordon takes over from Mick Boydon as CFI. Joe Croshaw has resoloed.

Don't forget our 25th anniversary - see our classified advertisement.
R.J.

YORK GLIDING CENTRE (Rufforth Airfield)
The hardy members of our latest syndicate have been flying their Hawbridge Baby; the group owned Motor Falke (G-BAMB) is being renovated and Bob McLean has lent us a K-7 with an option to buy.

Tom Stoker won the club ladder with an impressive margin; Roger Alexander has gone solo and Nigel Buckley resoloed after a two year break.

We have put in planning permission for three T-hangars to house our fleet of Falkes and the caravan site is almost ready.

Our dinner-dance was entertaining and we are hosting a Christmas party for disabled children.
A.W.

YORKSHIRE (Sutton Bank)
Mike Wood is CFI for a year and then David Hayes will take over. We wish them every success. Henryk Doktor will be a hard act to follow and we thank him for his hard work and dedication over the years and hope he has a long and happy retirement.

Henryk's retirement dinner-dance will be at The Old Swan Hotel, Harrogate on February 23. Tickets are £21 from Mrs S. Kane, tel 0642 762670.

Congratulations to Jack McGregor and Brian Clarke on going solo. We had an exciting ridge and wave soaring week at Cairngorm GC's Feshiebridge in October.
C.L.

FRENCH EXPEDITION

The *Route des Cigognes* expedition, which is mainly for self launchers and motor gliders, meets in Paris on April 20 and returns there on May 12 after an ambitious trip *via* Perpignan, the east coast of southern Spain down to Gibraltar, Tangier, Beni Melal to Ouarzazate on the southern side of the Atlas mountains.

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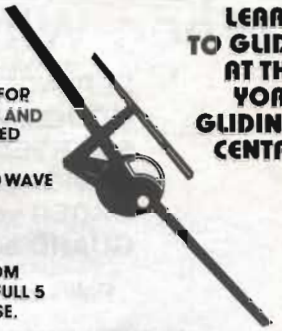
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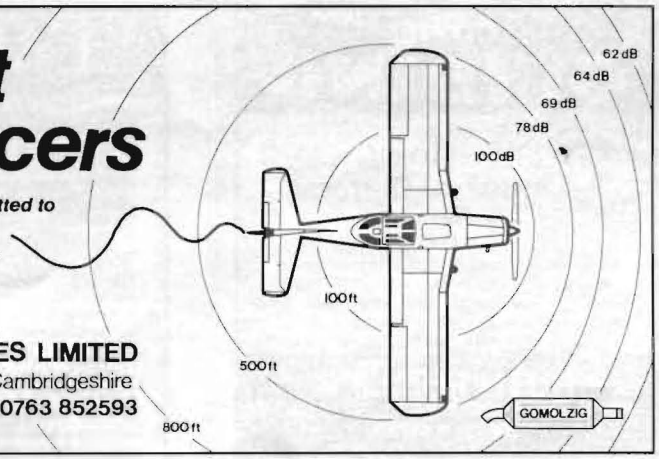
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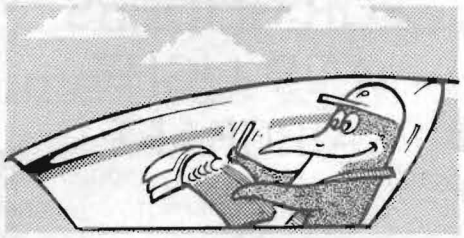
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This was the impression of Lasham during the Open Class Nationals given in a classically fatuous piece in the *Independent*, a paper which has rarely lived up to the pledge on its foundation to give particular attention to minority sports.

Viewing Lasham from the provinces one couldn't argue with the first sentiment – though with the superior educational standards in the regions it would be more grammatically expressed – and pots of money are singularly absent or, at least, not so ostentatiously displayed at the smaller and more remote gliding sites.

But it is quixotic, indeed, for the *Indy's* writer to regard safety as "indecent" while tittle-tattle, if not nasty gossip, has never been in short supply in any gliding milieu I've seen.

As for exoticism – try selling its romance to anyone traipsing through mud to the loos as a force niner shrieking in from Malin Head blows heavy rain like stair rods, threatening to project the trailers into the next county and to de-skin the hangar sides. A setting for murderous *intent*, perhaps, but for upper-class homicide? No way!

My own view of Lasham was scarcely enhanced on August 30 when I dropped by for an hour or so for the first time in many years. Introducing myself as a visiting pilot from a provincial club I asked at the office counter whether they still sold airmaps there.

"Some," was the snapped and hatchet-faced reply. The only other word spoken after I had ordered mine was an equally terse statement of the price – which proved to be higher than I subsequently paid for others in the series elsewhere.

Out at the Lasham launch point I fared little better, not a soul offering any conversation to an obvious visitor save for a quick word from someone I already knew.

Had I been a first-time visitor, rather than an old hand who knows the gliding movement houses many more friendly, outgoing, people too the impression I would have gained would have been, frankly, appalling.

It was left for warm and friendly – and much more beautiful – Nympsfield, where an intended 3hr drop-in stretched into a three-day stay, to salvage in me any regard for the larger gliding sites. Meanwhile, my depressing Lasham visit, on a glorious summer day, prompts in me the question: If south easterners are so dejected at living in their congested, blighted and costly corner of the country, do they *have* to take it out on the rest of us?

Lasham replies: Yes, we are big and occasionally visitors can get ignored. The day in question was a Thursday and was obviously a good soaring day as 265 launches were achieved – that is 40 or more an hour at the high point. The visitor was probably mistaken for a member as he did the right things at the launch point. At least we hope so. We have in total nearly 1000 members – twice as big as any other club. A welcome for all can be a problem. Many other visitors are very pleased with their reception. Sorry Penguin.

Phil Phillips

PS Hatchet-face sends her love.

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Beefbirgers

Three days after I'd delivered my Hungarian friends György Szentgyörgyi and Judit Czontos to the airport after their month's tugging at Bellarena in July, Hen Penguin and I found our path up to a neolithic grave in Tyrone blocked by a herd of about 20 bullocks.

I'd learned in passing from György that Hungarian does not have any onomatapoeic words. I'd already known it has precious few monosyllables. The upshot of this is that Magyar moggies don't purr. They *doromböl*. Same as Hungarian cows don't moo. They *birg*.

So on a whim I said an emphatic "Birg!" to the several tonnes of self-propelling beef which blocked our path. To our astonishment the mass of bullocks turned as one beast and immediately

scarpered up a steep rocky slope, without a single protesting moo. Not even a birg, in fact. It was if they had got a message that the heavy mob from the Budapest city abattoir was coming up the track.

Now you can coo blandishments or yell abuse in English until Kingdom come - or, indeed, until the cows come home - at the cattle which are invariably blocking the track on to our club site. All you get in return is dumb insolence. They won't actually *move* until you nudge them gently with the car.

So the next time you're balked by cattle after an outlanding or a retrieve - as I was some years ago at Maiden Bradley in Wiltshire when I was driven frantic for more than an hour trying to keep 70 encircling steers away from my Phoebus - try this rare Hungarian monosyllable. It might just work.



By Ivor Shattock.

SURPRISE, SURPRISE

You know how it is at winch sites when it's time for cable break checks: the P2 climbs in the front knowing that the P1 in the back is about to pull the bung, at some delicately chosen moment. This is never a lot of fun for the P2, but always loads of fun for the P1. (There are several ways the P2 can make it quite exciting, but that's another story.)

One of the aims of the excercise is to remind you (the P2) to expect and think about a cable break on every launch, not just the cable break check. So ideally it is nice to give you more than one flight (there will be other checks to carry out too), and to try to catch you out by not telling you which launch will have the simulated cable break.

Now at a lot of winch sites, certainly mine, your "turn" consists of three launches. Any more, and the pupils further down the queue get a bit restless. So here we have it: the idea is that you will have three launches, and on one of these there will be a cable break, and it will be a *surprise*.

But . . . imagine for a moment that you have had two launches and are waiting for the third. If on the previous two launches the bung hasn't been pulled, then you know for sure that it's going to happen this time. So it's not going to be a surprise, is it? So this can't happen; that is, the cable break can't be on the third launch.

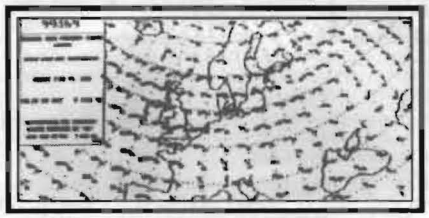
Good. But now suppose that you've had only one launch (without a cable break), and that you are waiting for the second. Well, we've just seen that the cable break won't happen on the third launch, so you know that it's got to happen on this second launch coming up. But then it won't be a surprise, will it? So that can't happen either. That is, the cable break can't be on the second launch.

So the cable break *has* to be on the first launch. But then that's hardly a surprise either. In fact it's easy to see that there can't be a cable break at all.

So imagine your surprise, half way up the second launch, when the cable breaks!

Larry Matthews

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ADVERTISERS' INDEX

Aardman Animations	41
Airgo International	46
AMF Enterprises	50
Anglia Sailplanes	49
Anglo-Polish Sailplanes Ltd	6
Argyll & West Highland Gliding Centre	48
Baltic Sailplanes Ltd	54
Benalla GC	33
Black Mountains GC	48
Bon Accord Jewellers	55
Booker GC	52
Bristol & Gloucestershire GC	48
British Gliding Association	30, 35
Buckminster GC	48
Cair Aviation Ltd	51
Cambridge Aero Instruments	3
Cambridge University GC	48
Centreline Services	IFC
Charleston Hotel	55
Chiltern Sailplanes Ltd	36
Classifieds	54-56
Peter Clifford & Co	7
Connevans Ltd	2
Cornish Gliding & Flying Club	49
Cotswold Gliders	51
Coventry GC	48
Desk Top	2
John Edwards	26
Enstone Eagles GC	49
European Soaring Club	55
Flite Lines Marketing Ltd	8
D. Garrard	50
Glider Instruments	53
Goodison Glider Instruments	38
Hart Technology	53
HT Communications	33
Hydro-Tech Eng	9
JSW Soaring	5
Kent GC	48
Land-Rover	14-15
Lasham Gliding Society	49
London GC	49
London Sailplanes Ltd	3
Lowndes Lambert Ltd	2
Marchington GC	49
Midland GC	49
Monaltrie	52
Mowbray Vale Insurance	4
Neogene Paints	51
Norfolk GC	49-54
Northumbria GC	49
Oxfordshire Sport Flying Club	50
Piggott Brothers & Co Ltd	33
Protech Sailplane Services	33
RD Aviation Ltd	IBC
Rematic	51
Sailplane & Engineering Services Ltd	33
S&G	44
Scottish Gliding Union	7
Skycraft	5, 50
J. L. Smoker	52
Soaring Equipment Ltd	33, 53
Soaring Magazine	13
Soaring (Oxford) Ltd	8
Southdown Aero Services Ltd	44
Southern Sailplanes	BC
Speedwell Sailplanes Ltd	38
Sunsail	52
Roger Targett Sailplane Services	44
Ultra-Pro Ltd	44
Vale of White Horse Gliding Centre	56
B. Weare	26
Wells Design Ltd	55
Welsh Borders Para Centre	33
C. P. Witter	56
Wolds GC	49
York Gliding Centre	49
Yorkshire GC	47
Zulu Glasstek	50

Coventry GC are hosting an Alpine task week at Kempton, Bavaria from May 5-18 in the handicapped Classes. Anyone interested should contact Nick Hackett, tel 0509 890469.

HUNGARY

The 1992 European Championships will be at Szeged, Hungary, in the south-east, where the Ladies National Championships were held last summer from July 28 to August 11. The 52 competitors flew a total of 2464hrs with 27 achieving more than 750km and 77 flying in excess of 500km.

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