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April-May 1992
Volume XLIII No. 2

EDITOR
Gillian Bryce-Smith
281 Queen Edith's Way, Cambridge, CB1 4NH
Tel 0223 247725 Fax 0223 413793

CONSULTANT EDITOR
Rika Harwood
66 Maisemore Gardens, Emsworth, Hants, PO10 7JX
Tel 0243 374580

SUBSCRIPTIONS
Bev Russell, BGA Office

COMMITTEE
A. W. F. Edwards (Chairman), M. Bird, M. F. Cuming,
B. Rolfe, B. F. R. Smyth

ADVERTISING MANAGER
Helen Richie
Cheiron Press Ltd
Hillview, Heathfield Road, High Wycombe
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Tel 0494 442423 Fax 0494 442423

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PUBLISHER
British Gliding Association
(Barry Rolfe, BGA Administrator)



Cover: Steve Bennett's photograph of a 2000ft tow he had at Dunstable in Geoff Moore's EoN Primary which resulted in a soaring flight of 15min.

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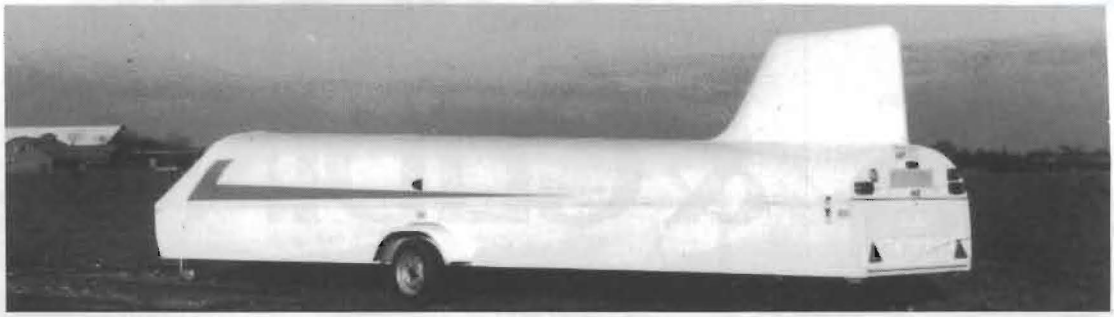
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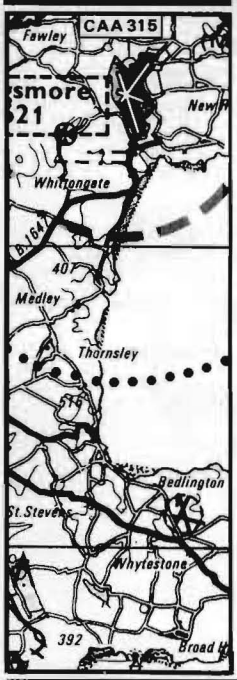
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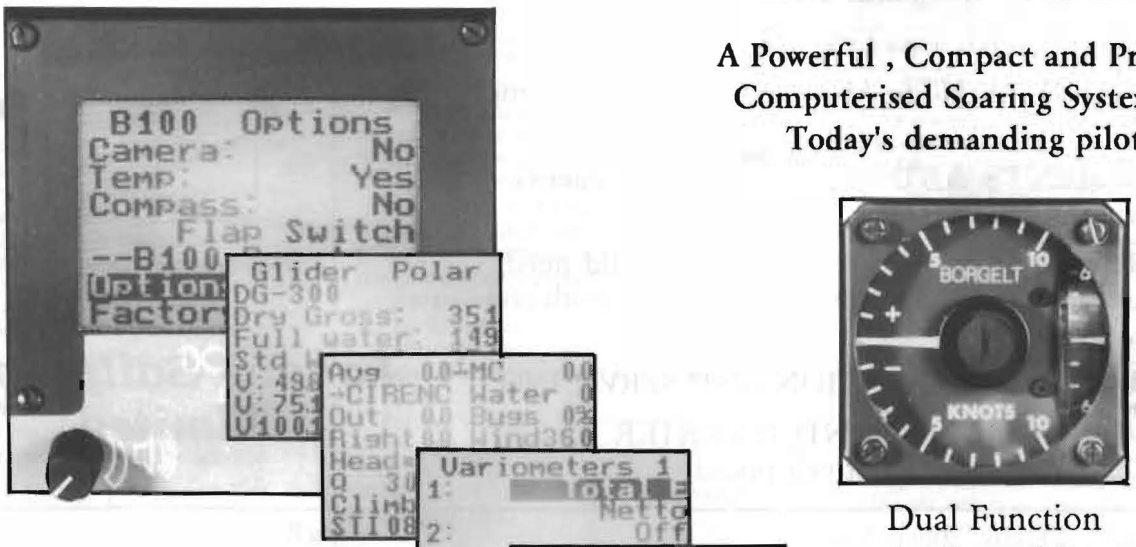
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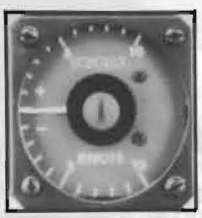


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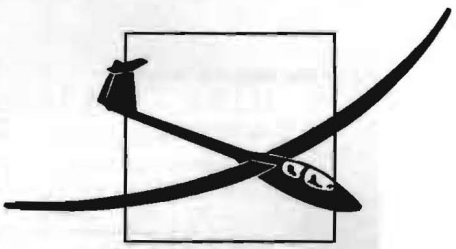
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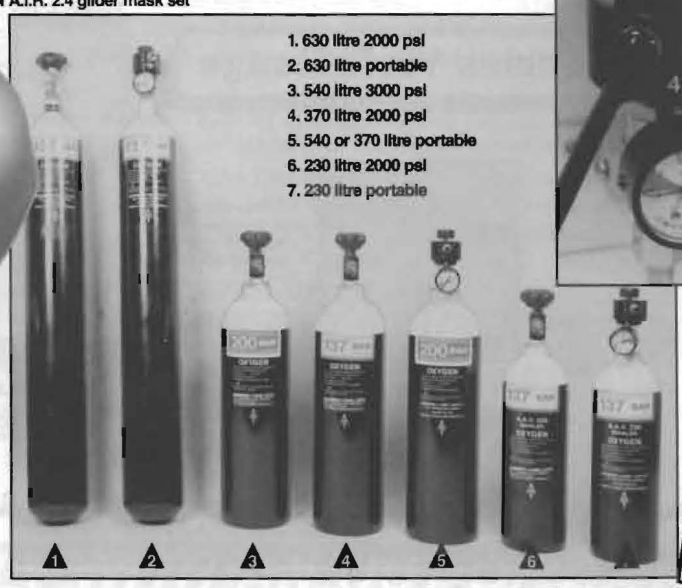
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YOUR LETTERS

GLIDING CLUBS' DIRECTORY

This plea is written by the author of the British Gliding Clubs Directory, published by the BGA and available from their sales department at £4.25p including p&p.

Dear Editor,

I intended that the Directory should be updated every two years. Also, the next time around I would like to see a bit more history of the clubs included and any ideas that you, the user, may have. Feel free to write.

Also, even more to the point, I would like to work with somebody on the next directory. As an American serviceman I move when I'm told to and regrettably must leave soon.. However, I don't want the "Everything you wanted to know about British gliding clubs but didn't know where to look" to die.

If you are a chronic letter writer, have a MS-DOS computer and a slight streak of masochism, I'd like to work with you starting as quickly as possible so that the Directory will continue. Please write to me at the address below.

BOB RIDDLE, *Box 3724, RAF Mildenhall, Suffolk IP28 8NG*

THE CASE FOR A GLIDER

Dear Editor,

Life is full of problems, risks and uncertainties without which we would all be sitting around contemplating our navels, bored out of our minds. You might think with these three naturally occurring elements of life that man (a generic term, women libbers please note) would have quite enough to cope with. But no. Man is a perverse creature with a mind of his own and those representatives of the species with a bit of "go" in them show infinite resourcefulness in compounding life's difficulties and hazards simply to add a bit more zip to their own lives.

Why else do such people climb mountains, run businesses, drive fast cars, sail across oceans and any other of the myriad of unessential activities – not forgetting that universally popular exercise in problem generation, risk taking and uncertainty – getting married and breeding?

What has all that got to do with gliding? Well the answer is just about everything for boiled down to its essentials, gliding is about problem solving, risk taking (not necessary to life and limb but to pride, ego, self-esteem etc) and about uncertainty.

Remove any of these elements or water them down by stuffing an engine behind your neck and what have you got? Instead of something intensely intellectually stimulating, adrenalin pumping and exciting (it's called fear at the time, excitement in retrospect), with uncertainty and surprise the stimulant for your spirit of discovery and adventure, you are left with a pallid imitation of the **real thing** stripped of those essential ingredients which make the sport so intriguing and compelling and which attracted you in the first place.

Now this is exactly what Mr Pullen in his letter (see the last issue, p7) seems to be suggesting we should be doing. From the general thrust of his argument and the uncompromising tone of its message, it seems he is advocating that we all go grinding around the sky turning on the fan every time we were faced with the real decisions and judgments which **proper gliding** throws up. It is after all a bit arrogant to rubbish the 95% or more of us who still get our kicks out of problem solving, risk and uncertainty, especially as, in his new appointment, he is supposed to be representing the British Gliding Association.

That there is a case for the turbo I would not dispute but it has got little to do with **real gliding**. It is a different activity engined by a different philosophy. Ironically on the opposite page to Mr Pullen's letter, Mowbray Vale's opener to their ad said it all, and I quote:- "Wouldn't it be nice if you could predict when conditions would be just right for your 5 hours or 300km!"

For Mr Pullen and his turbo I predict it's just about right for 90% of the days of the year. How stiflingly boring.

JOHN JEFFERIES *(Silver badge and bar), Dunstable, Beds*

PS. I note that Mr Pullen claims to have flown 9000km last year in his ASH-25E. He might like to know that with rather less flying opportunities and in an ASH-25 (mercifully **without** an engine) I flew over 60% more kilometres. There has to be a message. Perhaps he should try throwing out his expensive ironmongery and filling the space with adventurous spirit, complete with bottle of course.

HIGH PERFORMANCE TRAINING

Dear Editor,

As an enthusiastic proponent of high performance training, I would like to applaud Chris Pullen's 1500km of air-experience instruction in an ASH-25 (December issue, p291); but I can't understand where the problem lies with regard to future training.

Surely, having started his friend at the top, as it were, Chris is honour bound to continue his training in the ASH. True, he may amass an almost tedious number of hours and kilometres in the thirty-or-so flights it should take to solo, but where's the harm in that? Gliding is supposed to be fun, right? After soloing in the ASH, he probably won't want to fly lesser gliders, and so could avoid the trauma of converting to them altogether.

Ridiculous? Perhaps, but who would have thought, twenty years ago, that by now we would routinely be training (and even soloing) pupils in high performance glass gliders? By showing more of the "fun" aspect of modern gliding during the training process, rather than simply leaving the pupil to discover it haphazardly after solo, as is still so often the case, could not the huge drop-out rate be diminished at the post-solo stage? This *is* possible for *any* club, through the use of the BGA Janus (or whatever its successor turns out to be).

ALAN SANDS, *St Girons, France*

IT STARTED AS A JOKE

Dear Editor,

Peter O'Donald, in his article on handicapping for the National Ladder in the December issue, p314, is quite mistaken in his assertion that ". . . a pilot concentrating on downwind dashes in a Tutor is probably unbeatable." A few minutes with a calculator working out scores for some hypothetical flights will demonstrate the falsity of that statement. In truth, a pilot concentrating on fast closed circuit flights in a Tutor *may* well win the National Ladder, but isn't that what it's all about? The high scoring flights in the Tutor during 1990 were both closed circuits, while the one which got the most publicity (the flight to Snowdonia) was a failed goal flight and earned a relatively poor score.

The highest scoring flight was an O/R of 142km (Husbands Bosworth – Evesham) flown in almost perfect conditions, and it should indeed have scored well. Starting cloudbase at noon was almost 5000ft above site which allowed the full 1% rule advantage. Regular 10ft/sec climbs were found at five or six mile intervals, with only one minor fumble. The cloudbase rose to 7000ft above site (although the airway limited climbs to FL45 for much of the flight) and the final glide of 12 miles just got me over the fence for a downwind landing.

I have never before flown, and probably never will fly, so well in such conditions. The first reaction of the organisers was to alter the handicap for the Tutor, and now it is unlikely that *four* such flights would qualify for the top ten. Ho hum, I shall just have to do the same over 200km this year I suppose.

The National Ladder was intended to be a fun contest for all comers. The Tutor flying started out as a joke (look what you got me into, Norm) and almost as much merriment has been had from watching the hot shots squirm as from the flying itself. The aim was to show that literally *anything* stood a chance of winning that trophy. However, it now seems to be getting serious, especially if the glass boys think that they ought to win just because they fly glass. There appeared to be some mid-season "adjustment" of handicaps when Norman was doing his stuff the year before. The organisers must take care in moving the goal posts, in case they get accused of, er, moving the goal posts.

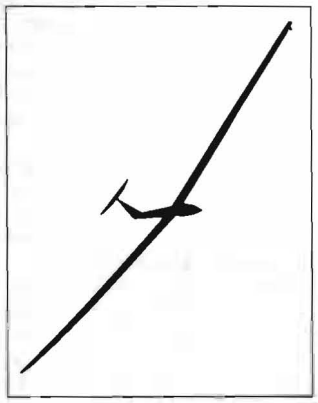
KEITH J. NURCOMBE, *Rugby, Warks*

Peter O'Donald replies: Keith Nurcombe has misunderstood my article in the December issue, p314. I did not say that he or anybody else won the National Ladder by downwind dashes in a Tutor. Given a fair handicap, of course the Ladder should be winnable by closed circuit flights in a Tutor. Hence, my comment: given its present handicap and the extra advantage a low handicapped glider gains flying downwind under the present rules, a Tutor probably *is* unbeatable in a downwind dash. I see nothing wrong, however, in utilising to the full any advantage that the rules of a competition may give you: indeed it would be folly not to take advantage of them. One year I ➡

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made a downwind dash in a Kite 2 in order to gain a higher position on the Ladder. If I saw a chance of winning the Ladder by a downwind dash in my Moswey 3 I wouldn't hesitate to take it.

At least I am confident that the handicaps for the Kite 2 and Moswey are about right. What about the Tutor? Its present handicap is only 48. The Tandem Tutor is stated to have a max L/D of 18.5 at 39.5kt with min sink of 2.04kt at 36kt. For the Tutor, at a wing loading of 15.8kg/m² the max L/D would occur at 33kt and the min sink at 29kt. If we assume a max L/D of 17 at 33kt, the Tutor's handicap would then be 54. A similar handicap is obtained when max L/D is 17 at 35kt. If the max L/D is reduced to 16, the handicap becomes 52. Not until we get down to a max L/D of 15 at 33kt does its handicap come down to 48 – little better than that of a hang glider. For values of L/D in the range 16-18, the Tutor's handicap cannot lie outside the range 51-58.

The Tutor is not the only glider with too low a handicap. It has been known for several years that the Discus, LS-7 and ASW-24 have performances comparable to gliders like the ASW-20 with a handicap of 108. Yet these Standard Class gliders have been kept at a handicap of 104. This is far more serious for handicapped Regional Competitions than for the National Ladder. Pilots want ratings out of a Regionals: they want a fair competition. At present a Standard Class glider without water gives a clear advantage. Empirically measured polars are now available for the Discus, LS-7 and ASW-24.

I have calculated their handicaps by exactly the same method, based on rate of climb in the British Standard Thermal (BST), as that which produces the handicap of 108 for the ASW-20. At the same wing loading, the performance of each of these gliders is very similar. Of course the Discus has a larger wing area and hence lower wing loading for the same cockpit load and ballast. In BST at a wing loading of 32kg/m², the handicaps come out at about 107 compared to the ASW-20 at 108. In fact the Discus and LS-7 are slightly better than the ASW-20 at speeds up to about 75kt. The ASW-20 gets the higher handicap because its flaps give it a lower speed at min sink and hence a better rate of climb in BST.

The precise speed at min sink, although not a clearly defined point on a glider polar, does appear to be a critical variable on which the handicap depends. Reduce the circling speed by 1kt and the Discus and LS-7 would have exactly the same handicap as the ASW-20. In BST, 33° is the optimal angle of bank for these gliders. This is contrary to general observation: most pilots appear to circle at 40° of bank or more, while the precise circling speed is not found to be critically important in achieving the best rate of climb. In BST, the lift decreases as the square of the distance from the thermal centre. A wider circle at higher speed therefore produces a reduced rate of climb and hence a lower handicap. Manoeuvrable Standard Class gliders flying at steeper angles of bank and higher speeds than the theoretical optimum do appear to climb as well as any. This suggests that the theoretical lift distribution of BST does not conform to real thermals. Nobody flies at the slow speeds and gentle angles of bank optimal for BST.

A further general problem concerns the use of ballast. The current procedure is to reduce the handicap by two if ballast is not to be carried. For example, the handicap of the ASW-20 comes down to 106 without ballast. Yet absurdly, its handicap of 108 is based on the *unballasted* polar. *With ballast*, its handicap calculated for BST would be 106: with ballast of course, the ASW-20 has a lower rate of climb in BST and hence a lower handicap. How to allow correctly for ballast gives rise to the additional problem of how to allow for gliders with different

wing areas and loadings. The LS-7 has a smaller wing and therefore a higher wing loading than the Discus at the same all-up weight. Although the two gliders have an almost identical performance and exactly the same handicap at the same wing loading, their handicaps will differ for a given cockpit load and ballast. For optimal performance in the same conditions, the Discus should fly with more ballast than the LS-7. How should the handicapping system allow for this difference? The answer might be to produce a table of handicaps for a range of wing loadings.

My calculations force me to conclude that Tutor pilots are currently gaining an unfair advantage considerably greater than even Discus, LS-7 and ASW-24 pilots. Can the National Ladder really be such a fun competition, or any competition at all, when only pilots flying one of four types of glider (six if we throw in the LS-4 and Pegasus) can possibly win? (Please note: I have no personal complaint – I fly an LS-7 and a Moswey.) In the process of calculating handicaps, two general anomalies have come to light. 1. The BST implies that gliders should be flown in thermals at angles of bank and speeds never used in practice: a new standard thermal appears to be required. 2. The present method of handicapping for ballast is illogical. The whole handicapping system needs a complete reappraisal.

WINCH ACCIDENTS

Dear Editor,

I share with many the concern at the recent increase in winch related accidents. None of the authors of the articles in the last issue seemed to be aware of the fundamental principle of winch launching that a glider rises under the action of three forces, the weight, the cable tension and the wing lift. As the wing lift equals the resultant of the weight and cable tension, all we can control to adjust the sailplane's rate of climb is the cable tension by lowering or raising the glider's nose or opening or closing the winch engine's throttle.

A winch is a constant tension device not a constant power device as Howard Torode wrote, p31, (I hope he didn't mean it). As launching speeds are set by the certification authorities, the only way to increase launch heights is by increasing the cable tension – more horse power and the high powered winch.

A high cable tension will raise a glider at a steep angle. Weak links do not help at all. A winch that puts 200hp or more on the cable can exert a cable tension which is in excess of the weak link breaking load. The sailplane may be going up at 60° when the weak link fails or the glider stalls, so no wonder the Club Libelle mentioned in Bill Scull's article in the December issue, p302, crashed.

I do not accept that such accidents are necessarily pilot error. Their source can be too much power and poor design of the launching system. Murphy's Law will ensure that these accidents will continue until we calibrate winches for max cable tension and arrange for the winch power output to be adjusted within the winch to suit the weight of the sailplane on each launch as the weak link is now.

The BGA Technical Committee ignores this matter at our peril.

CHRIS RIDDELL, *Harrogate, N Yorks*

Howard Torode, BGA Technical Committee chairman, replies: Weak links will always be vital provided one accepts that any launch failure is more recoverable than a major in-flight structural failure. Weak link strengths allowable on all sailplane types are regularly reviewed by the BGA CTO. Dr Peter Moss (RMCS) and the CTO have recently researched cable tension measurement. We would be most interested to see the deployment of a closed loop tension controller, but consider this a non trivial task, with significant reservations. The setting of such a device would still require human interpretation so a weak link would remain a necessary safeguard.

MOTOR GLIDER CONTROVERSY

Dear Editor,

Barney Toulson has misunderstood the main thrust of my argument (see the December issue, p291). If the motor glider is as useful as he says it is, and I do not question the point, then people will queue up to fly it without the compulsion to do so.

Encouraging rather than compelling pilots to fly it would avoid offending those who, for whatever reason, cannot or will not get involved in power flying. It would avoid setting an ugly precedent in an era when bureaucracy and regulation is in the ascendant. Flying the motor glider has become the only part of the operation which is compulsory, and it will rebound to the disadvantage of all of us.

I have bought this matter to the public arena precisely because it involves this fundamental constitutional issue: Are glider pilots to become subordinate to power pilots, with all that entails in terms of individual expense and bureaucratic control, whatever the "advantages" and however much worse it might be? The gliding movement has fundamental differences with the power boys, and while I am sure that we will continue to co-operate to the advantage of all concerned, glider pilots ignore the implications at their peril.

Oh, and yes, I do take my demotion personally, and I rather like the flat earth theory.

KEITH J. NURCOMBE, *Rugby, Warks*

IMPACT ABSORBING CUSHIONS

Dear Editor,

Despite the BGA recommended practice (RP33) that gliders should be fitted with impact absorbing cushions, many people are still reluctant to use them. The BGA Women's Working Group safety survey (sent to all CFIs) found that objections to the cushions included expense, problems with fitting so that controls will not jam, losing the cushions, inconvenience for tall pilots and degradation of the material.

Taking these topics individually:-

1. Expense. About the same as one aerotow! Not such a great outlay in return for protection against spinal injury.

2. Fitting. Where's the problem? The material is easy to cut to shape with a sharp knife. A cover is required to protect against wear and UV light. Suggestions for attaching cushions: (a) Press studs – glue half to seat with Araldite, and sew other half to cushion cover. (b) Velcro – glue half to seat with impact adhesive and sew other half to cushion cover. Use two strips together if accurate location is difficult. (c) Sew cotton tape to cushion cover and tie to seat or glider frame. The cushions must be removable – they can absorb water.

3. Losing the cushions. As they should always be in the glider except when the pilot's height disallows, loss is unlikely. Employing a super-smart cover with a large "do not remove" label and the glider's registration works wonders.

4. Inconvenience for tall pilots. Try a ½in thick cushion, it's better than nothing.

5. Degradation. If properly covered, the foam shouldn't suffer from wear.

Further *S&G* articles:- "Reducing Spinal Injuries", Tony Segal, February 1985, p12; "Pilot Safety", Tony Segal, June 1986, p128 and "Are You Sitting Comfortably", Peter Disdale, June 1985, p132.

MEG STARK, *BGA Women's Working Group*

SPONSORSHIP FOR WOMEN'S EUROPEANS 1993

Dear Editor,

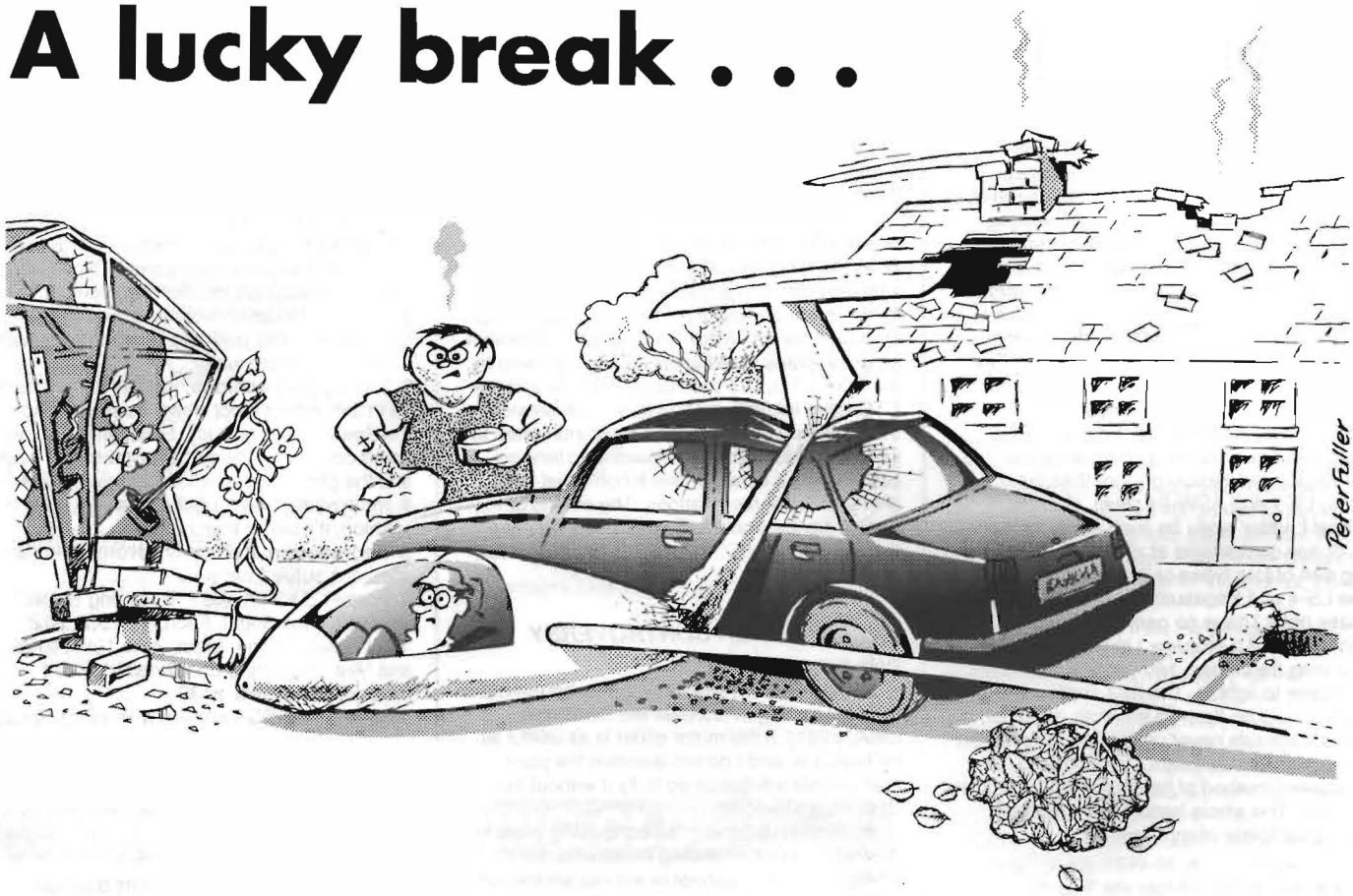
In the last two years there has been an increasing involvement at all levels of women in British gliding. For a few, there have been splendid opportunities to compete not only in BGA National and Regional Competitions, but also in the Women's European Competitions in Russia and at Husbands Bosworth last year. "Women in Gliding" (WIG) has also organised weekends at different UK clubs to provide a well co-ordinated, friendly environment in which to learn about different aspects of gliding.

I have spoken to many women at different clubs, large and small, and have had varying responses to these opportunities. Of course we have all learnt to glide in a male environment, and competed with the best of them. We certainly do not want to change that! However, that does not mean that we should not organise flying opportunities to give us extra experience in different environments, otherwise not available to us.

Flying in the Women's Europeans is a unique occasion to experience a top level international competition long before competing in the World Championships! Karina Hodgson, the youngest competitor at Husbands Bosworth in 1991, will fly in the Standard Class Nationals, the Junior Nationals and the Lasham Regionals this year. I do not believe anyone could deny that for Karina, the opportunity to fly the Women's Europeans in Czechoslovakia in 1993 at 23 years of age would provide experience quite different to that gained only by competing in British competitions.

The 1993 Women's European Competition will be in late July and early August 1993 in western Czechoslovakia. We are looking for sponsors so that we can send our best team of six pilots. If you know of friends or family who work for companies who may help us with ➡

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sponsorship, please write to me at the address below. The experience of the British World Championships team is that sponsorship comes mostly not from what you know, but **who**!!

We hope, if we are successful, that this will become a more general search for sponsors for gliding and for the World teams as well as the Europeans.

GILLIAN SPRECKLEY, *Oak Cottage, 106 High St, Tatsworth, Oxon OX9 4AS*

PLATYPUS CAUSES ANGUISH

Dear Editor,

I, for one, have long thought the Platypus column the most amusing thing in *S&G*, and have been delighted that Platypus has not really retired at all: (probably just a publicity stunt, as practised by tennis players etc).

However, I have been caused considerable anguish by the December column, p296, where Platypus writes that the Grunau Baby has the vilest controls of any glider he has flown with the exception of the Nimbus 3.

I happen to be the proud . . . no, pride is out; the *contented* owner of one and a bit gliders (both of which I love dearly, which I gather is as it should be). They happen to be a Grunau Baby (the one) and a Nimbus 3 (the bit): you can see what my judgment is like.

Until I read the column I genuinely thought the Grunau had delightful controls. Obviously I am now full of doubt, and must fly it again at the earliest opportunity to try and re-educate myself. Or perhaps I shouldn't, for fear of certain disillusion.

While I might admit under the influence of a lot of drink that the Nimbus controls aren't quite perfect, I did think that they were worth living with to get that wonderful performance. (My God; suppose I'm wrong about the performance, too?)

Clearly, any future enjoyment in either of these gliders is a remote possibility now I have learned the naked truth about them. But what am I to do? If I were to discard them, now that something better has come along, I would be falling into the same trap as all those hard-nosed competition types. Anyway, have you seen the *price* of a Nimbus 4? (damn it, I'm showing my avarice now).

DISGUSTED *(well, a bit miffed, anyway), Tunbridge Wells*

AN ASPIRING GLIDER PILOT?

Dear Editor,

On a recent visit to the new Sainsbury wing of the National Gallery my eye was caught by Piero della Francesca's "Baptism of Christ", painted in the 1440s as an altar piece for an abbey in Piero's native Umbrian town of Sansepolcro.

The brilliant blue sky above the Christ child is filled with magnificent, creamy lenticular clouds. A white dove with outstretched wings – presumably symbolising the Holy Spirit – seems well established in laminar lift.

Was Piero a frustrated aviatior? Few of his contemporaries seem to have observed cloud structures so carefully. (Leonardo da Vinci was not yet born). I wonder if any other readers have noticed similar meteorological pecularities in great works of art.

Incidentally, Sansepolcro is about 50 miles south-east of Florence in the Upper Tiber valey. From my 1:1000 000 map, it would seem to be surrounded by hills rising to about 4500ft which would generate wave in the prevailing north-westerly.

MAX BISHOP, *Oxted, Surrey*

BGA INSTRUCTORS' MANUAL

Dear Editor,

In the February issue, p54, you gave us a sneak preview of the long awaited **BGA Instructors' Manual** which, we are told, stems from the labours of a working party – and it certainly shows!

The style and format of the chapter "Wire Launching" is less than impressive; its pearls are hidden in a mass of verbosity and repetition. There are, for example, no less than four sub headings "Launch Failures". Reference to "Trainees" is not exactly endearing; where have all the student and pupil pilots gone? In my opinion the sample of the proposed new manual lacks effective editorial control.

Regarding style and format, the current **Laws and Rules for Glider Pilots** and **Flying Training in Gliders** (by Ann and Lorne Welch) provide a reasonably harmonious pattern which might have been considered. It would be nice to have a common standard! Perhaps we could have just updated **Flying Training in Gliders** – it's quite a good book!

I raise one point abut technical content with some trepidation, as each flight begins with a ground run, followed by take-off and initial climb, full climb and release, I always believed that, likewise, instruction should be in that order. However, I must admit that the initial part of a launch does seem somewhat abbreviated with a van Gelder winch!

Finally may I suggest that the new manual should be A4 and loose leaved, held in a reasonably durable plastic ring binder, and presented in three parts:

1. **BGA Instructors' Manual.**
2. **Laws and Rules for Glider Pilots.**
3. Local rules and procedures, as issued by each gliding club.

PETER FOREMAN, *Hatfield, Herts*

(In fairness to the Instructors' Manual, it is produced in a far more lively style than was shown in S&G. *We had to condense it to fit the available space. Ed)*

DYNAMIC SOARING THEORY

Dear Editor,

It is about time the dynamic soaring theory applied to the albatross was finally laid to rest, a theory which encouraged D. L. Hadley to write his article in the December issue, p339. Far from using any wind gradient effect, these birds use the rising air lifted by large advancing waves, gaining their airspeed in the wave trough which enables them to climb before diving into another trough.

The principle is very similar to a very efficient form of surfboarding, where the speed relative to the water and to the air close above it can be increased by traversing along as well as in front of the wave. The term "surf soaring" has been used to describe the technique. Perhaps the nautical branch of the hang gliding fraternity might like to give it a go, providing they remember to use a glider with a good speed characteristic and are prepared to get their feet wet!

For further reading, I suggest that D. L. Hadley turns to my article in the December 1971 issue, p459, which gives a fuller description of surf-soaring.

The potential of dynamic soaring has been grossly overrated, and the amount of vertical movement of air within the wind gradient region which creates ground level gusting is probably of greater significance than any gradient effect on its own.

CHRIS HUGHES, *Nympsfield*



David Goodison

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SOME THOUGHTS ON TURBO OPERATIONS

Terry Holloway points out some of the hazards

Paddy Hogg was killed last May 12 when the Turbo Ventus glider he was flying spun and crashed during the final stages of a field landing. The turbo engine was extended, but not operating, airbrakes were out, undercarriage was down and flaps were set to landing. The Inquiry determined that the primary cause of the accident was that under pressure the pilot allowed the airspeed to decay and the aircraft to enter a spin. The major contributory cause of distraction was undoubtedly that of the failure of the engine to start, but the Inquiry also highlighted possible contributory causes which included:

1. Attempting to start the engine too low.
2. The suggestion that the expected pre-stall warning buffet may have been masked by turbulent airflow from the extended engine.

This tragic accident highlighted a number of hazards associated with the operation of turbo gliders and this short article outlines some thoughts from both the engineering and operations points of view which are common to turbo gliders, self-launching gliders and gliders fitted with an auxiliary engine. The purpose of this article is not to discuss the merits or demerits of turbo gliders compared with conventional gliders, but simply to state quite clearly some of the hazards which are associated with them.

Engineering aspects

At first sight, the basic engine installations appear uncomplicated and seem to be simple mechanically as well as reliable; most turbos have proven two-stroke engines with transistorised ignition and operate on a petrol/oil mix of fuel. The reality is that these engines which operate at high rpm require careful and proper routine servicing in order to maintain their condition, and hence reliability.

Under extremes of temperature, engines not in tiptop condition are prone to starting failures on at least the first attempt, and an incorrect fuel/oil mix will also affect engine condition and starting. A rich oil mixture will lead to plug fouling and an excessive build up of carbon. In contrast a weak oil mixture will cause the engine to run hot, which will lead to premature burning of spark plugs, pistons and cylinder walls; in extreme cases, the high temperatures can degrade lubricating oil and cause a breakdown and failure of engine mechanical components.

Additionally, a recent *Flight Safety Bulletin* highlighted the possibility of hard wax deposits forming in two-stroke fuel if synthetic and mineral oils are mixed. This particular wax, unlike wax in diesel fuel which dissolves with a return to normal temperatures, requires the application of high direct heat. **Thus fuel quality is crucial.** Similarly, water ingress through fuel tank vents will also prevent motor operation, as will a tank vacuum if blanked off vents are not opened prior to flight.

Clearly maintenance policies and daily inspections need to vary from glider to glider, but the message common to all motorised gliders is that the engine will not provide 100% reliability, as advertised, unless properly maintained. It follows that it is vital for starting or running difficulties to be reported, noted, investigated and remedied promptly; that is before the next flight.

Operating considerations

There is no doubt that turbo and self-launching gliders provide a greater degree of flexibility than conventional gliders. The experience of many owners, clubs and groups operating them is that there is a significant increase in utilisation in terms of cross-country kilometres flown, and a greater confidence to leave the circuit on marginal days which enables lift to be found that would not otherwise be sought. However, it is important at the outset to expose a basic philosophy. A motorised glider, whether self-launching or self-sustaining, only provides the means of extending cross-country flying on marginal days, and also acts as a more economical form of recovery home than an aerotow or a trailer retrieve. **It is not a low level escape mechanism from a failing weak thermal at 500ft, and if that is your philosophy then it's only a matter of time . . .!**

Typically, a speed of around 70kt+ is required for a windmill start, which will incur a height loss in excess of 200ft – assuming a first time start. The informed view is that the turbo needs to be either running, or stowed away, after an abortive start by 1000ft. The latter case providing an adequate margin for a conventional field landing.

A very experienced competent pilot

Before doze[illegible] experts" and experienced pilots reach for [illegible]ens to howl "quite unnecessary", the fact is that Paddy Hogg was a very experienced power, glider, motor glider and turbo glider pilot, as well as a highly competent "scratching" pilot who could utilise the smallest amounts of lift. He is no longer with us.

The handling characteristics of a self-launching/sustaining glider is also markedly different with the engine out but off when compared with the engine out and running, and the "clean glider" situations. The expected pre-stall buffet is effectively masked in many gliders, and the spin entry and initial rate of rotation have been demonstrated to be more vigorous than the normal sample. Additionally, the rate of descent can convert the glide performance of, for example, a Ventus to something similar to a K-8. The significant point here is that an attitude change – often fairly pronounced – is necessary to prevent speed decaying.

A further point worth making is that pilot workload to start the majority of turbo motors is high and typically comprises:

a. Master Switch on.
b. Engine out.
c. Fuel on.
d. Prime.
e. Ignition on.
f. Decompression applied.
g. Accelerate to start engine.
h. Let go decompressor.

Additionally, the retraction process in the event of a failed start is slow and in a number of examples requires one hand to be occupied for up to 5sec depressing the engine lower switch. It is vital for the start/retraction processes to be simplified and simple circuitry should permit the introduction of a "single turn of the key" operation. This of course is a matter for glider manu-

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Terry, a Group Captain, is the director of operations for the RAFGSA and a member of the BGA Executive Committee. His considerable flying experience (almost 5000hrs) ranges from gliders (including turbo and motor gliders) and light aircraft to military jets. Terry started gliding in 1961 at the RAFGSA Centre at Bicester where he still instructs and is a tug pilot.

facturers, but it is important for our voices and lobby to be heard. Otherwise nothing will change.

Lastly, caution needs to be exercised with self-launching gliders in high winds and turbulent conditions. The glider will become airborne at a low speed just above the stall and, typically, acceleration to a safe climbing speed which matches or exceeds the calculated safe approach speed will take around 5 to 7sec from take-off. During this acceleration phase of flight, the glider is prone to the effects of wind gust and wind shear. Additionally, there is an established pilot tendency to weathercock in crosswinds in order to maintain track, but the application of correcting rudder at low speeds just above the stall is not advisable! In both instances, it is vital for acceleration to a safe speed to be made at low level in ground effect, and if a crosswind take-off is essential, for the effects of drift to be accepted until a safe speed is attained.

Summary

1. Be precise over fuel/oil mix and always use the same type of oil.
2. Take particular care over daily inspections. Pay special attention to fuel tank vents and, if possible, engine starting.
3. Subject engines to proper and regular servicing in accordance with recommended practices. Remember, ignition systems and spark plugs need special attention.
4. Practise engine starts in fail-safe situations.
5. Report and remedy engine defects prior to the next flight.
6. Be aware of the degraded glider performance when the engine is extended but not operating.
7. Beware of climbing at speeds on the wrong side of the drag curve.

SEALING MOTOR GLIDER ENGINES

With self-sustainers now allowed to set motor glider records Ian Strachan, of the Lasham Gliding Society, describes his simple back-up method of sealing the engine

This year, self-sustaining motor gliders such as Schempp's Turbo series, will be eligible to set motor glider records. Previously these were restricted to self-launching motor gliders only. Self-sustainers have, of course, always been eligible for badge flights. In all these cases it must be proved that the motor was not run during the claimed flight performance. During the flight, the motor may be capable of operation but if the pilot uses it, the performance is then invalid for any claims under IGC or BGA rules.

Normally this is shown by fitting a special engine recorder, in IGC rules called the "Means of propulsion recorder", which is a more precise term indicating that the thing that matters is not so much the engine itself but the propulsive device which is normally the propeller. For claims to succeed, this recorder must be shown to be working properly, and must show no use of engine during the claimed performance.

Usually this is a modified barograph, so matching any use of propulsion with time and height on the flight. However, not all motor gliders have such a recorder, and even if they have, the recorder may become unserviceable. One fault I have experienced is stray wiggly amps from radio transmissions causing spurious indications on the recorder, thus possibly invalidating its propulsion trace. A simple back-up method is therefore a good idea, and one I have used (approved by the BGA) is shown in the following photos.



The engine bay doors are temporarily held open by a solid object, in this case a plastic water bottle. A loop of gummed paper tape is then fitted round the actuating rods of the two engine bay doors. This is stuck together and signed, timed and dated across the join by an OO as for a barograph. At the end of the flight, an OO certifies that the tape is intact; whereas if the pilot falls out of the sky during the flight and wishes to use the engine, he can do so.



This photo shows the tape being broken as the engine pylon is erected, in this case after flight when the OO has already seen that the tape is intact. In the air, the light paper tape will simply blow away and not constitute a fire hazard. It's cheap and cheerful, it works, is easy for the pilot to apply at the launch point and, if intact after landing, is proof the pylon has not been erected. The method can also be used with pylon-mounted self-launchers, as long as the pilot is content to take a glider launch and not use the engine. This might be because the Means of Propulsion recorder is either not fitted or is unserviceable, or because there is a defect in the engine which makes it not prudent to use it for launching, but OK for starting at height to save the pilot from a field landing, maybe far from home.

JUMP OR BUMP

Part 3

In this last of three articles by Tony Segal on pilot safety he discusses baling out

Mid air collision and the subsequent escape of the pilot from the glider cockpit is a very emotional subject. Before he can use his parachute, the pilot has to get clear of his glider. Professor Dr-Ing Wolf Röger of the Technical College, Aachen, has analysed German accident figures and carried out experiments on the factors affecting successful escape from the cockpit.

Damage to the glider. Serious damage to the gliders involved the fuselage being broken into two, damage to part of the wing or damage to part of the tail. Damage of this severity was followed by a total loss of control and a very high rate of descent. The glider either entered a vertical dive, a spiral dive, or rotated around one or more of the three glider axes. The time between collision and ground impact was very short. The pilot experienced *g* loads that in some cases helped him escape, and in others prevented escape.

Pilot's psychological state. Following a mid air collision with subsequent complete loss of control, the pilot must bale out immediately. The pilot will be highly aroused, with impairment of his thinking ability and memory. A standardised emergency system is therefore of great importance.

Fact and figures. Wolf Röger has prepared a full report analysing all the mid air accidents in Germany from 1975 to 1988. From this report I have extracted the information that is relevant to the present discussion.

There were 34 mid air accidents, involving 58 gliders. Six of these gliders were two-seaters. Many of the accidents were between two gliders that collided while circling in thermals.

Of the total of 64 aircrew involved, 36 survived and 28 died. Thirty-two were known to have tried to jettison their canopy and bale out. (In some cases there were no witnesses and no evidence as to whether an attempt was made to jettison the canopy.) Of the 32 pilots who attempted to bale out, 19 lived and 13 died. This gives a success rate of 60%. This can be compared with the 90% success rate in military aircraft. Military aircraft have ejection seats, of course, but their escape envelope is far more stringent than that of gliders.

The height at which an escape was attempted had a great effect on the chance of survival. Most of the accidents occurred below 4000ft (1200m). Below 4000ft there were many accidents in which the pilot was killed because the time was too short to jettison the canopy and leave the cockpit. Above 4000ft, there was only one such fatal accident.

The lowest height at which aircrew survived an attempted escape was 650ft (200m). This involved a two-seater glider equipped with automatic parachutes operated by a static line. Without an automatic parachute, the lowest height at which anyone survived was 1600ft (500m). Clearly, this is a cause for great concern.

In four accidents, the pilots had difficulty operating the 3-lever canopy jettison system. The percentage of pilots killed in gliders equipped with a 3-lever system was higher than for those equipped with a 1 or 2-lever system.

Canopy jettisoning systems. These systems vary greatly in different glider types, as the following list shows:

Shape. Some systems used operating levers, some used knobs.

Situation. The control could be above, on, or below the instrument panel. It could be on the right or the left side of the canopy, or the cockpit wall.

Number. 1-, 2-, or 3-lever systems may be found.

Operation. This may be one or two handed. The levers may need to be pulled or pushed. Unbelievably, in one 2-lever system, one lever must be pulled and one pushed!

Instrument panels. In the case of a fixed instrument panel passing between the cockpit walls, the pilot will have to draw up his legs before he can bale out.

With a mushroom shaped panel, in the centre line of the cockpit, the pilot can easily swing his legs over the panel when escaping. This clearly is the preferable shape.

A further problem is that the cockpit sill may contain protruding pins or levers that may hamper rapid escape.

Experimental studies – factors affecting escape time. An LS-4 cockpit was used in this study, which involved 25 pilots aged between 20 and 60 years. In the experiments, the time taken to jettison the canopy and open the seat harness was measured.

Number of levers.
A 1-lever system took 1⅝sec.
A 2-lever system took 1¾sec.
A 3-lever system took 2½sec.

Canopy. If this was pulled clear by the airstream, and the canopy did not have to be pushed clear by the pilot, 1sec was saved.

Pilot's age. This had no effect on the time taken to release the canopy and seat harness.

Time taken to leave the cockpit. In the next experiment, the time taken to leave the cockpit after release of the seat harness was measured. The time was recorded under two conditions, under 1*g* and under 1½*g*. The condition of 1½*g* was simulated by attaching lead weights to the pilot's body.

A well trained, fit young pilot – at 1*g*: 2.6sec.
– at 1½*g*: 3.5sec.
A pilot over 40 years – at 1*g*: 4.5sec.
– at 1½*g*: 7.2sec

Some older pilots were unable to get out of the cockpit at all under conditions of 1½*g*.

Instrument panel. Only fit young pilots were involved in this study. The time taken to leave the cockpit after release of the seat harness was measured.

With no instrument panel – 2.4sec.
Mushroom type panel – not tested.
Fixed panel across the cockpit wall – 3.4sec. (The pilot had to bend and then withdraw his legs.)

Height of the cockpit wall. This test also used fit young pilots. The time taken to leave the cockpit after release of the seat harness was as follows.

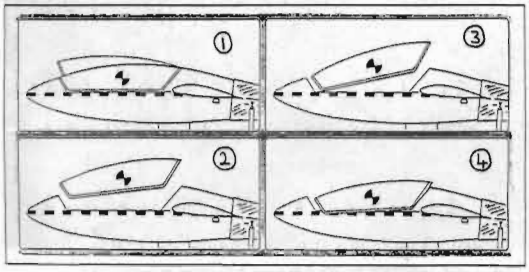
Low cockpit wall – 8½in (22cms) – 2.7sec.
High cockpit wall – 20½in (52cms) – 4.5sec.
(Presumably, these are heights above the seat pan.)

Experimental studies – behaviour of the canopy following release. Two series of tests were carried out by Wolf Röger. One used a wind tunnel. In the other, a glider fuselage was mounted on the roof rack of a powerful car which was driven at speed down a runway. A chase car filmed the behaviour of the canopy. A forward opening canopy was used.

With the canopy closed, but the canopy release open, the aerodynamic forces resulted in the canopy experiencing a nose down moment. As a result, the canopy was pressed firmly down on to the fuselage. If side-slip was used, the canopy lifted off the fuselage, but at a risk of striking the pilot or getting caught by the instrument panel.

With the canopy opened slightly, by less than 6cms, a sequence of four events occurred.
The front of the canopy lifted up off the fuselage.
Owing to the nose down moment, the rear of the canopy then lifted off the fuselage.
Due to a tangential force, the whole canopy then moved forward.
Finally, the canopy pressed down firmly on the cockpit, preventing exit of the pilot.

With the forward opening between the front of the canopy and the fuselage greater than 6cms,



Film sequence with the front of the canopy lifted by less than 6cms.

the effect of the aerodynamic forces on the canopy changed. The canopy lifted off the fuselage, and moved backwards. If the rear of the canopy was attached to the fuselage by a hinge that disengaged at a canopy angle of between 30° to 40°, the canopy then flew off clear of the pilot and the tailplane. Wolf Röger suggested that for a successful escape, with the canopy hinge fitted, the pilot should raise the front of the canopy to the full extent of his outstretched arms.

In the absence of these measures, the canopy frequently struck the pilot and the tail of the glider.

A point of practical importance shown by the tests was that if the cockpit ventilation was open, and the clear vision panel closed, the pressure inside the cockpit was increased, so assisting the jettisoning of the canopy.

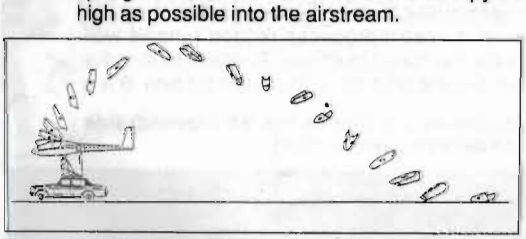
RECOMMENDATIONS

To increase the likelihood of successful escape of the pilot from the cockpit in an emergency, I suggest the following features should be incorporated in new glider designs.

The cockpit sill should be as low and as long as possible, consistent of course with the strength and crashworthiness of the fuselage. The cockpit sill should be free of protruding pins and levers.

The instrument panel should be of the mushroom type, situated on the centre line of the fuselage. Alternately, it could be replaced entirely by a Head Up Display.

The canopy should be attached at its rear end to the fuselage by a hinge that disengages at an angle of 30° to 40°. When the emergency release is operated, a system of gas filled struts or springs should raise the front of the canopy as high as possible into the airstream.



Jettisoning the canopy with a hinge at the rear of the canopy. The canopy is flying clear of the pilot and tailplane.

The emergency activating handle should be situated between the pilot's legs, as in military aircraft. This position should be standardised in all gliders. In this position, it will be easy for the pilot to reach the handle under conditions of *g* loading. The handle should require a double action, to prevent inadvertent operation.

On operation of the handle, the canopy should release. After a short time delay (to allow the canopy to clear the cockpit), the seat harness should automatically release, possibly at the attachment point of the harness to the fuselage. The pilot would then be free to roll out over the cockpit sill and escape from the glider.

Further research. Wolf Röger has commenced a study as to the value and practical problems involved in the lowering of the entire glider by parachute in an emergency. ■

OVERSEAS NEWS

Please send news and exchange copies of journals to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, England

LESZNO, POLAND

A new competition especially for British pilots is being run at Leszno, home of the Polish National Gliding Training Centre, during the first two weeks of June. Called the White Eagle Championships, it aims to give contest experience, fun and lots of flying, using Leszno's fleet.

Everything will be ready for you and retrieves organised so you don't need to bring extra crew members from Britain.

If you have a Silver badge with 200-250hrs and would like to compete but spend all your time in the queue for a club glider, then think about flying at Leszno this summer. For more details contact Duncan Erskine, tel 073084 238 (also fax).

* * *

There are more opportunities to fly in competitions at Leszno this season, thanks to Andre Volant who has organised a Jantar Standard Comp from May 31-June 14 as a complete package. All you need to take is your luggage. The cost, $1790, includes the loan of a glider to accommodation and food.

He has also arranged for two to three UK pilots to take part in the Polish Standard Class Nationals from May 16-30.

But it is vital to contact Andre at 1238 Shelter Creek Lane, San Bruno, California 94066, USA, tel 415 589 9027 from 3-7pm GMT or weekends, fax 415 872 1156 at any time.

GLIDING AT THE TOP

Last summer Hans-Werner Grosse, the renowned German record-breaker, took the Schleswig-Holstein Prime Minister, Björn Engholm, for an extended cross-country flight around Lubeck and Kiel in his ASH-25. Herr Engholm is strongly tipped as a future Chancellor of Germany, so it is to be hoped that he enjoyed his trip.

Another distinguished politician, former French Prime Minister and presidential hopeful Michel Rocard has also been gliding again. He first learned to fly gliders during his national service, and was the obvious man to invite to open the new Advanced Training Centre at St Auban on January 17. Not content with merely cutting the ribbon, M. Rocard stayed the whole weekend at the Centre (stopping overnight in the new accommodation block) and re-soloed in the Centre's Marianne on Sunday afternoon. A major coup for the French Gliding Federation!

Perhaps John Jeffries might take John Major on one of his trips to Wales (see Platypus in last issue, p12).

FROM UVALDE

After the World Championships, Uli Gmelin borrowed Klaus Holighaus's Nimbus 4 and flew two 1000km tasks from Uvalde – certainly a site with potential.

FIRST 1000KM O/R IN THE ALPS

Last year saw the first 1000km O/R in the Alps, flown by Karl Bräuer from Turnau with a TP at Oberalpsee. Most Alpine 1000kms are flown as flat triangles.

(Translations by Max Bishop.)

GLIDING IN KENYA

After many false starts by individual enthusiasts it now seems that a seven day week operation is just about to be established at Mweiga 160km north of Nairobi. Peter and Petra Allmendinger have taken over Richard Pollard's equipment and, together with a ground engineer and private owners based in Nairobi, are now welcoming pilots from Europe. The K-13, Swallow, T-21 and three glass-fibre Standard Class gliders are still available.

Whilst the winch gives launches to about 1200ft, a more powerful version is under construction and there are plans for aerotowing. Soaring conditions are good through most of the year and magnificent in January, February and March. Peter will probably be offering a package holiday deal including air fare and game park visits as well as soaring. Contact him at the Gliding Club for Kenya, PO Box 926, Nyere, Kenya, tel 171-2748. – *Max Bacon.*

GLIDING IN ZIMBABWE

Earlier in the year, the Harare-based gliding club moved to Sunny Side Strip near Concession about 60km north of Harare. The site already has offices and a hangar but a proper clubhouse and more hangarage are yet to be completed. As well as several private owner sailplanes, the club operates a Super Cub, a Blanik and Swallow. The low tow position is used and tug signals are the opposite to those used in the UK – rudder waggling for emergency release and wing waggling for check airbrakes!

The best soaring season is in the European autumn and the next competitions are in October. Overseas pilots are welcome, particularly if they bring a sailplane to sell in Zimbabwe.

For more information contact Captain Gus Tattersall, 14237 Straker Avenue, Gun Hill, Harare, Zimbabwe, tel 263 4 723675. – *Max Bacon.* ■



(A) Cloud tendrils along a convergence zone.



(B) Print showing a large cu with a step in the base marking new inflow. The upper part is old cloud mass, the bright part is the new cell growing above the step. (Fig 4 shows the main features.)

SKYWATCH – A Beginners Guide to Some Clouds

Part 2

TOM BRADBURY

Part 1 described simple thermals and clouds while this article deals with more complicated patterns and suggests some useful signs of lift

Single and multicell clouds

The first puff of cu in the morning is often formed from a solitary thermal which just managed to reach the condensation level. The original thermal may only have a life of ten minutes from start to finish. These puffs of cloud are often dead within a minute and vanish within two or three minutes. Even a large single cell cumulus has a short life, probably not more than fifteen minutes. Once the cloud has formed it may persist twice as long but unless it is refreshed by the arrival of more active cells the lift soon dies out.

Later in the day the majority of cumulus clouds are formed from several cells (bubbles,columns etc.) Some follow up the same path as the original bubble but others rise on either side and combine to form a wider cloud.

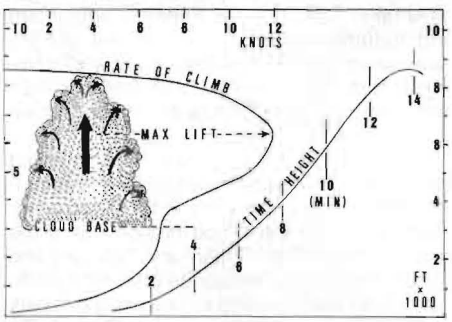


Fig 1

Fig 1 shows calculated rates of climb (the left hand curve) and a time/height curve for a very large single bubble. After cloud has formed the rate of climb shows a big increase reaching a max of about 12kt in the upper half. The time/height curve shows the max lift occurred just after a 10min ascent. This bubble stopped rising just before 14min had elapsed. These figures are for one particular set of lapse rates and temperatures. By altering the initial conditions one can find a whole series of different curves. The results are broadly similar for quite a range of starting values.

Fig 2 shows six outlines of a growing cloud with the time/height curves for five successive bubbles following up to boost the original one. Each added more mass to the cloud so that it grew both upwards and sideways. Most bubbles tend to turn away from the vertical as they lose energy. In some cases one may be able to see part of the cloud edge turn downwards and begin to descend.

Looking for lift under cu

One can fly a long way looking for lift under a large multi-celled cumulus. Even though it has a good looking flat base and a well domed top the lift only enters over a small area. Thermals feeding the cloud do not all follow the same track and the flat base does not decay the instant the lift ceases. Whiskery bits (tendrils) below the main base are one sign of lift and a step in the cloudbase is another. The best lift is usually found very close to, but not actually in, the tendrils or step.

Tendrils

The longest tendrils appear when two airmasses converge as at a sea breeze front. Fig 3 shows A, a cross-section of a sea breeze front with cool moist air coming in from the left. One does not see thermal bubbles in this damp air; when it rises it produces ragged tendrils well below the main cloudbase. Bubbles form in the warmer and drier air on the landward side. B is a

Below: (C) A close up of a step in a smaller cloud.

(D) Clouds growing on the left (upwind) side and decaying on the right.







(E) Sheared off tops of cu-nim. The cloud rose into a jet stream and successive bubbles were sheared off by the strong wind aloft.



(F). Hook cloud just above the haze layer. The wind was blowing from left to right and increased above the cloud top. Strong sink under the right hand end.





G and H. Cloud streets.

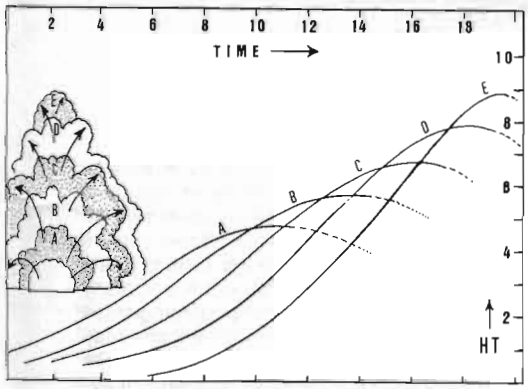


Fig 2

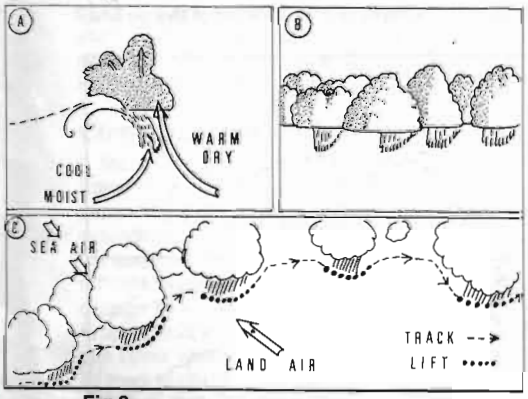


Fig 3

sketch looking at a convergence line with patchy tendrils beneath. C shows a plan view of a track along a sea breeze front. It is not always a continuous straight line; more often it is a series of clouds with tendrils beneath. The pecked line shows a winding route following the lift. Heavy dots show where the main lift was found.

Photo A was taken from the warm side of a convergence zone. The lift was found very close to the tendrils; the photo was taken from further out.

Tendrils often occur under clouds which have nothing to do with sea breezes. If you approach a big cloud from several miles away you may see small tendrils hanging from the cloudbase. One needs to look for these whiskery bits long before reaching the cloud. At a distance they may be silhouetted against brighter objects but they are much harder to see when looking up towards the grey base.

The tendrils frequently (but not invariably) mark the edge of strong lift. The best lift is usually a short distance away. Tight circles which graze the tendrils seem to give the best rate of climb. If the tendrils stretch for some distance horizontally you may do best by flying along the line making tight turns either end. If you find sink try the other side.

Steps in cloudbase

Occasionally the level cloudbase is interrupted by a step. The best lift is almost always close to the step and under the higher base. One reason for the step may be that two airmasses, one warmer and drier than the other, have joined to set off a cloud. The warm dry air usually produces the larger plumes or bubbles of lift. On the dry side the thermal rises higher before forming cloud. The lower cloudbase may also give some lift but it is usually much weaker. Do not waste time circling in weak lift if the base steps up near by. Head for the higher base.

Photo B shows a cloud consisting of an old upper part, a new and brighter cell growing below with a dark flat base and a step rather hidden in the shadow.

Photo C shows a close up of a step under a smaller cloud. Steps come in a wide range of sizes; the most impressive occur under cu-nim. The Americans sometimes use the term "pedestal clouds" for the stepped down section under a thunder cloud.

Large variations in cloudbase occur when weak cu starts to rise out of a damp valley while the hills alongside set off stronger and much drier thermals. In some extreme cases the tops of the

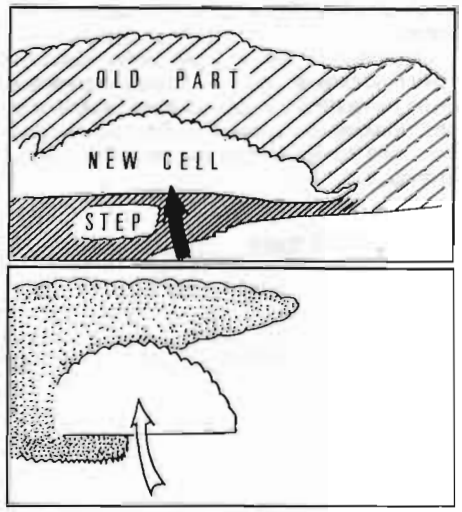


Fig 4

valley cu are level with the base of the hill cu. Valley cu are rarely much use at this stage. They may look acceptable but are dismally devoid of lift. Later in the day when the two cloud systems meet to form a single cloud one may see the step marking the change in lift.

It is generally true that the higher the cloudbase the stronger the lift. Like most rules in Met there are exceptions which are mentioned later on. When heading from one cu to the next you may run through a strong blue thermal. These are usually worth investigating. Quite often the lift is much better than under older cu and the new cloud (when it forms) has a higher base.

Successive cloud cells

Some clouds grow on the upwind side and decay at the other end. Fig 5 shows a series of cells which developed over the Cotswold edge (about 800ft asl) and grew as they travelled down wind. A shows the original cell. B through to E show how each cell rises to a peak and eventu- ➡

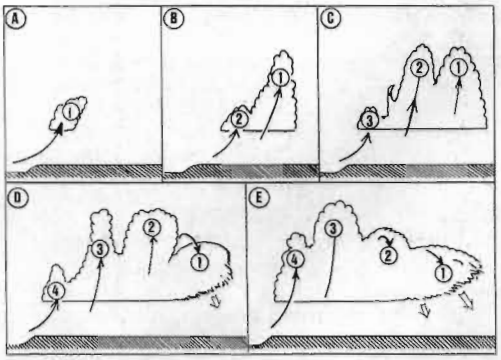


Fig 5

ally collapses near the downwind end. The diagram shows only four cells but long lived cloud banks are built out of many more. Photo D shows a shorter lived example. The wind was blowing from left to right, cells formed on the left and died on the right. On days like this it pays to head for the upwind end of each cloud and keep well clear of the sink near the downwind end. Topographical features are not essential for starting a cumulus line. Some grow very well over the ocean.

One often finds that nearly all the cumulus have their best lift under a particular side of the cloud for much of the day. The windward end is often the best end to head for; if it happens to be the sunny side too there is an even better chance of finding lift there.

Sheared off tops

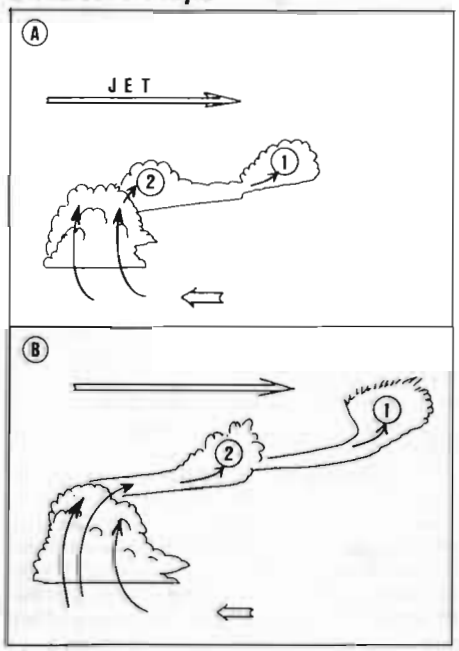


Fig 6

Fig 6 and Photo E show an extreme example of what can happen when the tops of cumuli push up into a much stronger wind aloft. As the bubble loses momentum the jet stream whisks it off, still bubbling weakly, and carries it downstream. The same effect may often be seen with lesser cumuli in smaller wind shears. The sheared off section maintains its domed top and for some time there is a flattish base too. This is one case where the higher cloudbase is not the one to head for first. The lift beneath it has usually been cut off. Look for the main cloud mass from which these cells have been detached. The lift should still be there under the more solid part.

Wind shear and cloud hooks

Thermals often rise into a stable layer which slows them down and eventually kills all lift. Inversions are powerful thermal stoppers and there are often layers where the wind changes too. The wind shear above an inversion distorts thermals which rise into it. A strongly rising thermal may have its top bent over into a hook like shape. Photo E is an example, unfortunately rather blurred because it was taken with a short focus lens from too far away. The hook is usually very short lived but the best lift is nearly always below the upward pointing part of the hook. Avoid the area where the point of the hook starts to turn down. That is where the sink develops.

Hooks show you where wind shear has been concentrated. Little backward curling hooks sometimes appear (very briefly) on the upwind side of a growing cumulus. These hooklets show local shear produced at the boundary between fast rising cloud and slow moving air outside. It can be a sign that there is strong lift just inside the cloud.

Hoops

Occasionally, when a small cloud has produced a hook, the main body of the cloud evaporates leaving just the remnant looking like a croquet hoop. These strange formations rarely last long. If you pretend you are a croquet ball and go through the hoop nothing much seems to be going on. All the energy has been exhausted by that stage.

Pileus

Fig 7, A, B, and C shows the formation of a pileus cloud. Pileus means a cap and these clouds look like little lenticular caps. They first appear above the top of a growing cumulus. A large rising bubble may behave like a barge with blunt bows pushing some of the air ahead of it. The lift above a bubble is normally very weak so that fact that pileus forms at all with such weak lift means that the air was already very moist before thermals began. Powerful cu can grow straight up through the pileus which is left behind as a collar round the cloud.

Pileus is a warning of possible spread out. It suggests that the air is so damp aloft that cloud amounts may become ⅞ later on. Cu tops take much longer to evaporate when surrounded by damp air; with slow evaporation much of the ground remains under shadow and the good thermals are then much further apart.

Wave like effect of pileus

Pileus may be evidence of weak wave like lift just outside the growing cumulus. Even when there there is no visible pileus one can occasionally experience very smooth lift in clear air alongside a growing cu-nim. A line of heavy cu

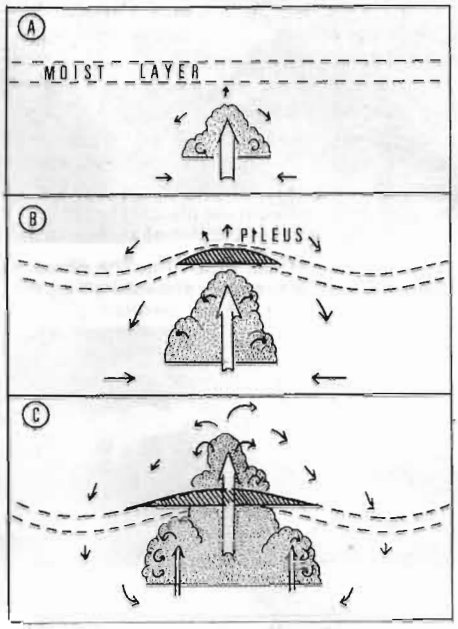


Fig 7

may also produce a similar effect.

Lift alongside big cu lines

On most occasions one only finds lift under or inside a line of big cu. The clear air outside is usually sinking but there are days when the convergence produces very weak lift just outside the cloud. The lift is apt to be too weak to give a worthwhile climb but it does allow one to go many miles into wind without circling, keeping close beside the cloud. On rare occasions one may even be able to go over the top. This kind of lift is deceptively like a lee wave, but since it extends many miles into wind the wave is probably due to the growth and expansion of the cu line.

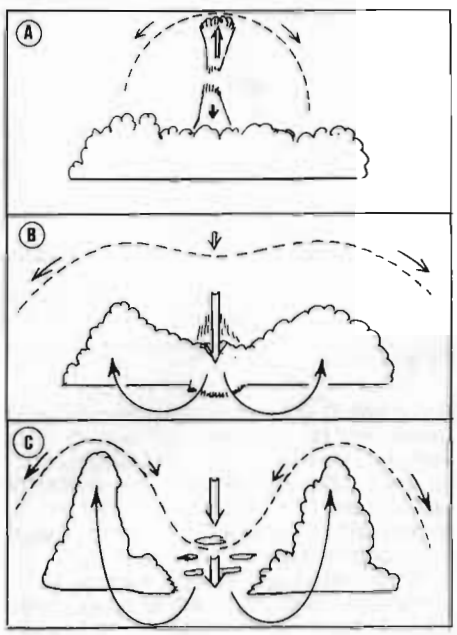


Fig 8

One usually has to fly very close to the cloud to keep in this weak lift. Pilots in a hurry may not notice it at all.

Cloud collapse and rebuild

There are some days when the air aloft is very unstable but also very dry. One or two cloud cells then shoot upwards with extra speed, so fast that they break off from the main body of cloud. The detached bubble evaporates quickly in the dry air. Fig 8 shows three stages in the process. A is the break off of a bubble. The pecked line marks the expanding wave produced by this rocket like ascent. Rapid evaporation in the dry air soon dissolves the detached bubble making the air much colder. Then the whole column falls back producing holes and sometimes a wide gap in the underlying cu. The wave effect spreads outward (B) and new cells start to grow on either side of the gap (C).

Castellanus

This word just means turreted, like the popular idea of a castle. The term can be used for cloud turrets which rise very fast out of a cumulus as in Fig 8A. Castellanus clouds do not necessarily have any connection with the ground. The lift may be started by high level convergence and boosted by the extra energy released when clouds form. If so there is no lift beneath them. Ordinary cu have invisible roots formed by thermals coming off the ground. Castellanus may not have any roots. During a hot spell in summer little puffs of castellanus sometimes appear at 10 to 15000ft. These little puffs are called "floccus". They are a reliable indication of thunderstorms within 24 hours. Few people are fooled when they see these tiny puffs. They look far too high to be due to thermals. When they come from Europe across a cool sea it is obvious they cannot have thermals underneath.

I have found castellanus confusing when the base is 6000-8000ft and the clouds look substantial. I have wasted aerotows below such clouds only to find the air at 2000-3000ft totally inert for many miles.

Cumulus lines and streets

Many cumulus clouds tend to form up in lines. Some lines may be an isolated phenomenon, caused by a group of mountains or a peninsula extending into wind, but an orographic source is not essential. Lines of cu also form over the sea. If these broaden out downwind and end up in clumps of stratocu they are not true streets. Proper cloud streets form a regular pattern which can cover vast areas with evenly spaced parallel rows of cloud.

These streets are formed when there is fresh convection under a well marked inversion. Streets can develop in cloudless conditions too.

When there are streets the airflow develops a helical pattern. The air goes up under the clouds, spreads out sideways under the inversion and dips down in the gaps. At low level there is an inflow towards the street to complete the circulation. The air is also moving downwind so the motion forms a helix. The important thing is that a complete circulation develops. This makes cloud streets a fairly long lived phenomena; some extend hundreds of miles.

Cloud streets are aligned parallel to the wind at cloudbase; the spacing is about three times the depth of convection. Thus with 5000ft tops the streets will usually be about three miles apart (sometimes a bit less). The gap is kept clear by the sink between cloud lines, sink which is distressingly strong. One usually needs to cross gaps as fast as possible and at right angles to the lines.

Change of spacing by suppression of some streets

If the depth of convection increases cloud tops go higher and the spacing has to alter. This occurs not by the streets fanning out but by suppression of some streets and strengthening of those remaining.

Streets are splendid for making progress into strong winds but one usually has to jump across to another street to keep on track or avoid controlled airspace. Watch that you do not head across to the downwind end of a dying street. Choose an unbroken street to cross to. If suppression is taking place the circulation is changing, going higher under the growing street and descending further out into the clear lanes. As the sink spreads out it kills off intermediate streets.

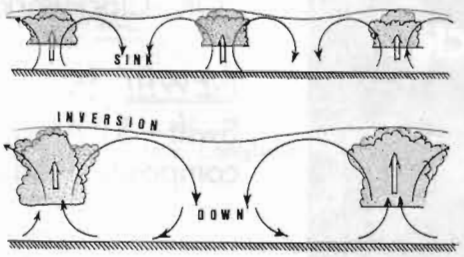


Fig 9

Fig 9 shows a cross-section with three streets forming part of a well developed circulation giving lift under the clouds and continuous sink between the streets. The lower diagram shows what happens when the inversion rises. The circulation widens and the middle line becomes squashed by the outward spreading region of sink from either side. Fig 10 shows a 3-D sketch of the process.

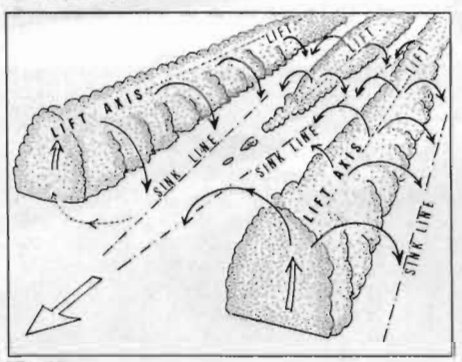


Fig 10

The downwind end of a street may lie under this widening region of sink. If you go across at this point there may be only sink under the cloud street. It is heart breaking to have to work miles upwind through miserable brokens bits of decaying lift to reach the active part of the street.

Satellite pictures show that a stage is reached when the inversion is too high for streets. This can happen in a short distance. Cumulus streets forming near the west coast of Wales and Cornwall can be broken up when the air goes over high ground which sets off shower clouds.

Wave suppression of streets

When the wind speed increases with height it is common to have lee waves at right angles to the cloud streets. The waves often occur in air too dry for any lenticulars to appear. Where the wave flow is going up the streets below become stronger and the cloud line may widen too. In wave sink the streets may stop working or even decay. Thus one can find great variations in lift when tracking up a cloud street on a wave day.

MISCELLANEOUS SIGNS OF ACTIVITY

Colour changes

When vigorous thermals first push through the condensation level the cloud droplets are very small and very numerous. They reflect the sun strongly so the fresh new clouds look clean and bright. After a time droplets coalesce, they grow larger but less numerous and reflect less light. The older clouds begin to look a bit grimy in comparison to the new cells. Off white clouds are apt to have lost most if not all their lift. However, their appearance also depends on the angle of the sun.

Problems of perception

After flying for a long time in the same direction one becomes used to heading for a particular part of the clouds where there is nearly always good lift. Rounding a turning point alters the appearance of clouds and may spoil the ability to go straight to the best lift.

Cardboard cutouts

Flying down sun it is easy to be fooled by a bright looking cumulus. Arriving underneath one finds the cloud has no depth to it; it is little better than a bit of stage scenery, only convincing when viewed from the auditorium. Looking into sun one can pick out these fakes because they look too transparent.

Fretwork clouds

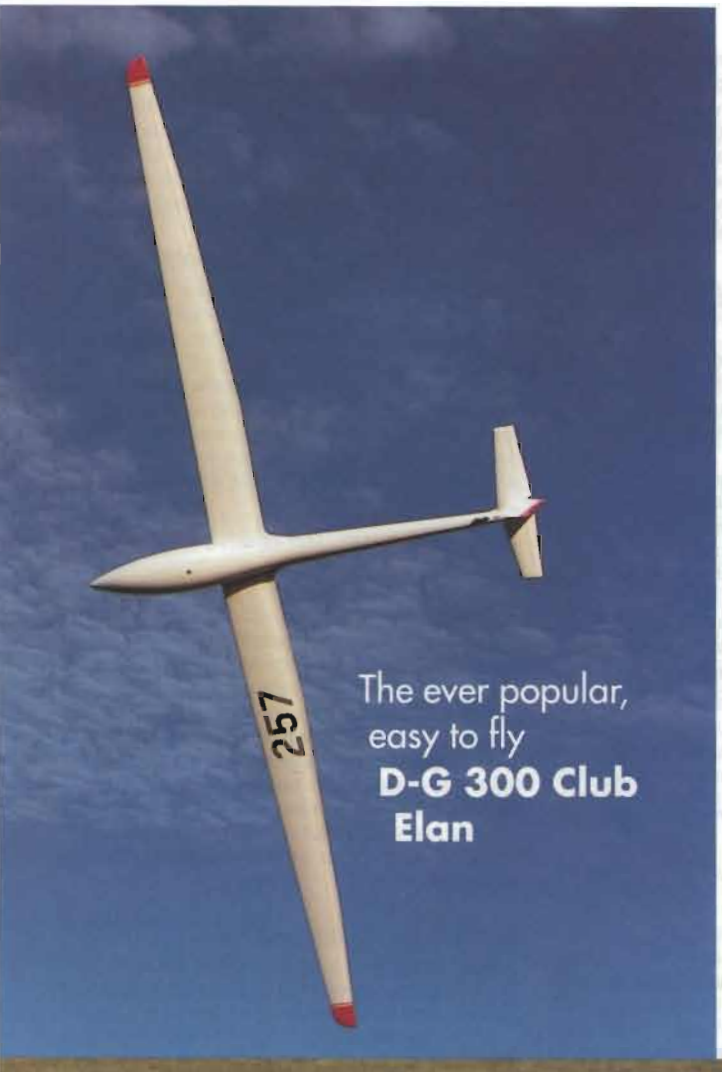
When cumulus clumps start to decay the rot may start internally; from a short way off they still present a respectable front. The trouble may start from the collapse of a turret which shot up too high and evaporated, or it may be some much smaller feature. On some days very small holes form because the entrained dry air has begun to evaporate the middle of the cloud. Evaporation produces cooling and sink. Sink sets off more evaporation and the cloud begins to fall to bits. Watch for the shadow on the ground. If it starts to look like a piece of fretwork steer well clear. The whole cloud is ready to dissolve into a region of sink. It may still be worth flying round the perimeter to see if the central sink has triggered off some peripheral lift.

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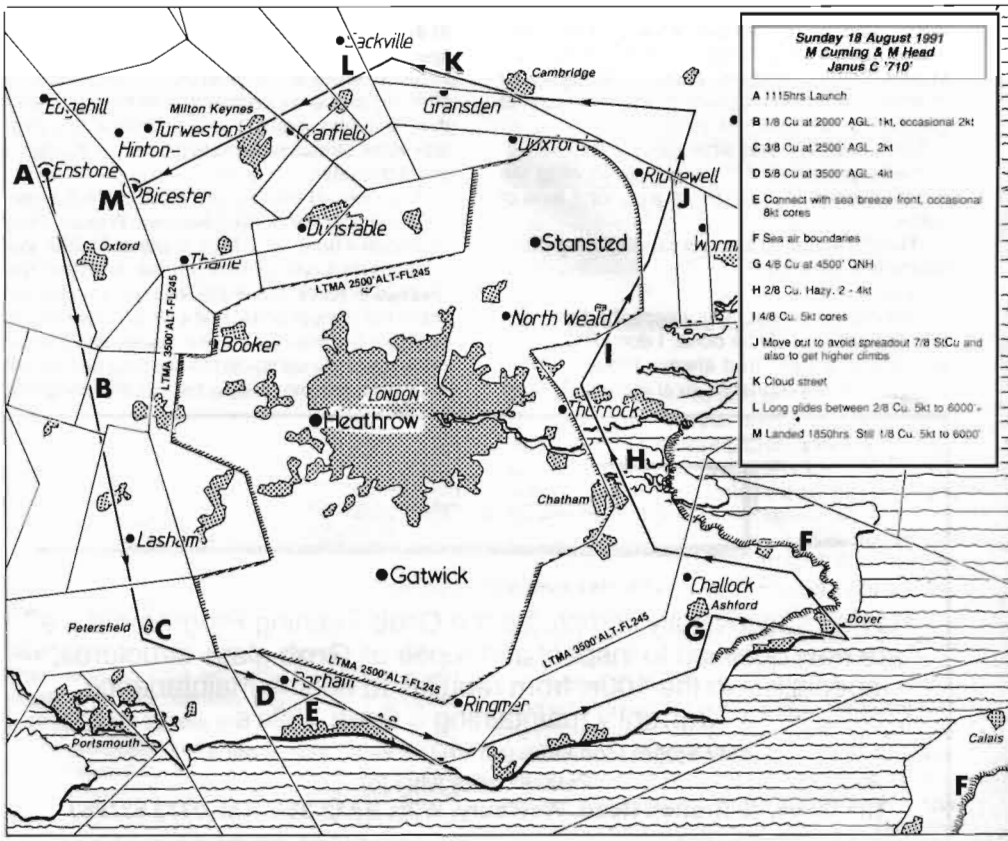
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MERRI'S PROGRESS

How We Didn't Get To France





A map by Steve Longland illustrates the flight.

There are good days and bad days in gliding. The bad days can range from yet another rainy Saturday fettling in the hangar to another boomer when every one gets around except for you. The good days have a range as well. A good day can be a mediocre day saved by an extraordinarily fine landing in difficult conditions, or a really meritorious trip – the longest 300km on record, but all done with the cloudbase at 2000ft. On the last day of the Open Nationals last August, I was able to enjoy a good day.

I must make it plain right now that I was there as talking ballast because we loaned our Janus (No. 710) to Mike Cuming for the Comps.

We got a phone call late the night before from Mike. He had decided that as the Met looked promising he would duck out of the Comps and set a 750km instead. Was I interested? What a silly question! I spent the rest of the night writing out a check list for Derek as to the care and feeding of Isobel during my absence, and thinking about the prospect of such a flight. Having had no sleep, and only a cup of coffee, I felt ready for anything the next morning, which was just as well, for as we drove up to Enstone, complete with Izzy, some baby food, push chair, and large dog, more news awaited.

Mike had decided that as there was a gentle breeze from the north-west, a Channel crossing was on. Not just any Channel crossing mind you, but a heroic Channel crossing with 750k to complete on the other side! With visions of landing at Annemasse in France, and visiting my friends in Geneva just across the border, I waited as Izzy had her nap while Derek raced home to collect my passport, the dog bouncing around like an overgrown balloon on stilts in the back.

Forty-five minutes later, passport, map, drink and change of clothes stowed, Derek enlightened as to the care and feeding of Izzy for the next day's anticipated lengthy retrieve, we were ready. Plans for a north of the LTMA crossing had been hastily dropped, and a southern departure point (Dover) substituted. As we towed out of Enstone, I scribbled TPs and lines on my map.

Before I proceed with the technical, gliding bit, I should note that I was still breast-feeding Izzy a few times a day, and had never, since she had been born, been apart from her for longer than four hours. This trip was a real wrench at this point, but fell into the category, most emphatically, of a glider pilot's gotta do what a glider pilot's gotta do! I did not hesitate! Right, enough of the gory details of family life, on with the good bits.

Our first TP was Petersfield. We had flown just ahead of the developing cu's so our time to the south coast wasn't all that hot. Time was of the essence as we had a long way to go. Along the coast, however, we encountered a meteorological phenomenon which I had never seen before: a sea breeze front. Just to the north of the front, the cu's were popping well, and, really, we had a choice as to whether to soar the thermals or the front. We opted for the latter and made very good time indeed, belting along it on our way to Kent. While the cu's were well developed, our climbs weren't all that good, averaging about 2-3kt, so the choice was an obvious one considering it was about noon, and we anticipated a lengthy trip across the Channel into the deepest parts of France.

Soaring a sea breeze front is very like soaring along a ridge, and I thought it was quite exciting. I wondered how you knew when you were too close in, and not getting the best out of it, and soon found out – there's sink on the other side of that lift, though not with the sort of turbulence you'd expect from the back side of a ridge. Mike, very kindly, gave me a go and it was like magic. I do wish that we got them up north!

The whole idea of this leg was so thrilling, though to you southerners it won't be all that interesting; I had never been so far south in a glider, and had certainly never had such a view of the coast. It was superb. Just imagine Brighton from the air! We were about a mile inland from the Southdown's ridge which I reckon put us about four miles from the coast. Mike knew this part of the country very well, and was giving me a running commentary about sites and fields as we passed. But there was better to come!

On to our second TP, Ashford, in Kent, and we discovered the limitations of 710's radio in trying to report our progress. We also discovered the limitations of the horizons as we debated the potentials of cloud climbs: that sea breeze front was causing us problems. We needed to get far enough inland in France to hit the thermals – we reckoned about five miles. The sea breeze front was pushing the thermals too far inland our side for us to connect with the French cu's. With our height we could have made Calais and landed, but gone no farther.

I can't vouch for Mike's feelings, but it was undoubtedly the most frustrating moment in gliding that I had ever experienced! Even if the horizons had been working properly, the UK cu's didn't really have enough vertical development to have made a difference. If I had had a teddy bear, it ➡

would have gone right out of the cockpit – Izzy would have had nothing on me in the tantrum stakes. Still, I gritted my teeth and thought that at least I could look forward to another crack at that front as we returned home.

Mike, however, had other ideas:

"Let's go north!" This was said in what we Americans would describe as a go-for-it tone of voice.

"North", I replied somewhat doubting that I had heard correctly.

"Yes, north".

Feeling somewhat faint, I consulted my map and realised it could be done. I don't know if I'm alone in this, but I had always thought of the LTMA as an impregnable, ever-increasing body of airspace, and because of this had never inspected it at all closely other than (as a good and virtuous glider pilot) to avoid it. The LTMA is, after all, on the western side, like the late Berlin Wall. But, hey, look at this – a corridor! And hey, look at the stratus building to the north – but more about this later.

If you look at your half mil map, there is a corridor running north *via* Billericay, Witham, and Rivenhall where the LTMA starts at 3500ft. We encountered 6kt of sink as we crossed the Thames estuary, the worst we had seen for the entire trip. I must admit that I caught my breath, because the various smoke stacks and the silt of the marshes combined to create a picture out of Dante's Inferno. I hope I'm not offending any Essex men or women, but I really didn't want to land there! Mike persevered, and we soon caught some lift. In fact it was on this leg that we had our best climb, a meteoric 5kt on the averager, up near Rivenhall.

The rest of the leg was uneventful, except that I was starting to feel quite tired – which I realised now was due to my usual trick of not drinking anything. Mike must have been a bit tired as well, because we both mistook Newmarket for Cambridge! We turned west and realised, when we saw Cambridge that we had been "temporarily unsure of our position", but that we had been on the right track. Our decision then was an obvious one – we flew north of Cambridge. While the southerly path was most direct, the sky look well clagged. Just to the north of Cambridge there was a lovely street which took us to the west of Bedford. The climbs were nothing to write home about, but they were consistent, and we made excellent time – rather like that sea breeze front down south.

My overwhelming feeling was one of astonishment

We could have made it to Bicester in a straight glide from Milton Keynes, but topped up to the north of Steeple Claydon. My overwhelming feeling on that final glide was one of astonishment at our (I do include myself in this, though I needn't have been there) achievement. I couldn't believe it – it was wonderful.

Now, I learned a lot, and I'd like to share some of it with you. First, when it doesn't seem as though you're getting as much out of a thermal as you might, tighten the radius of your turn. I know this may seem obvious, and I don't mean adjust your turn to every fluctuation of lift – though this may also be appropriate – just tighten it. I had been used to making constant adjustments with a Standard Class glider, but found this technique quite wearing in the Janus. Mike uses the phrase "turn tighter" almost as a golden rule, and it jolly well worked. If it doesn't work, then the thermal is probably a flat one, and that's that. Maybe!

Second, I was reminded that being "temporarily unsure of your position" is not a situation deserving of panic.

Third, I learned to stop getting so wound up about 300km. I don't know what it's like at your club, but there can be quite a tense atmosphere on our grid as we all contemplate the skies and our maps. Well, this trip wasn't what was meant to be a few times over, but we enjoyed ourselves enormously, did something which to my knowledge was unique, covered 535km and flew for 7½hrs. I saw parts of the country many people never see by air and came to realise just what is possible in a glider.

Fourth, take advantage of the day. If we had stuck to the competition task we would never have had so much fun, or flown such a special task (my apologies to you fearless competitors).

PS. It was super seeing Isobel again after so long apart. On this subject, if you know any one who is having a baby soon, wing tape is the best thing I've found to seal disposable nappies and would make a wonderful present. Enough said, happy flying.

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TAIL FEATHERS

In the last century some fellow made a respectable – or rather, a sleazy – income – by writing to dozens of women, their names picked at random, saying "Dear Madam, Your secret is known to me. Unless etc etc". Eventually some lady of impeccable reputation and a totally clear conscience (a rarity, it seems, in view of the time that it took and money he collected) put the police on to him, and his squalid little game was up. That, by the way, is the first and proper meaning of blackmail. What hacks today commonly call blackmail is usually extortion. So if the editor of this organ tried to persuade me to get my copy in on time and to the right length (one thing the hacks that I am so rude about always manage to do) by hiding my wing bolts until my article arrived, that would be extortion, not blackmail.



That would be extortion.

The management of this organ have indeed used all sorts of tricks to get me to produce some copy – everything except bribery, that is, there being no allocation for bribes in the BGA's budget. They would use blackmail if they could, but that, as I have said, only works when the victim is threatened with the exposure of some guilty secret of which he is ashamed – very difficult to use on someone who has no shame. (Or is it that I have an impeccable reputation and a totally clear conscience? Take your choice.) Extortion is foiled by savage dogs guarding the trailer. So the editor's most frequent appeal is to vanity. "Everything you say is read by everybody in gliding, and your advice is holy writ. People hang on your lips." That doubtless explains why I mumble so much. Anyway, vain though I am, this piece of blatant flattery is pathetic nonsense. If people do read, or more likely skim, what I write, they say "He's only the resident buffoon. This is the never-to-be-taken-seriously column, as a relief from the Bill Sculls and Barry Rolfes. There is not one word of hard advice or penetrating wisdom in it."

Solid proof of this dismissive attitude to my outpourings was when I saw some pictures of a comprehensively broken glider a couple of years ago, and read the account of how it had happened. What I read made my teeth grind. Only a few months before I had sounded off about the folly of would-be glider-owners (WBGOs) who insist on flying a machine before they buy it, and the even more abject folly of would-be ex-owners (WBEOs) in agreeing to allow some stranger to stagger around an unfamiliar circuit with their life savings, usually after a quite inadequate briefing as to what lever does what. If D Piggott Esq (or someone like D. Piggott Esq, except that there is nobody like him) says that the Schnurpfli 4B is a safe and sensible glider, then I'll take his word for it and learn to like it once I've bought it. If he says it has the handling characteristics of a



Learn to like it.

Starfighter crossed with a supermarket trolley, then I won't touch it, whatever the L/D per pound sterling. I'm not normally deferential to superior authority, but I make an exception in this case. In the particular sad case in question a WBGO was allowed by a WBEO to try out some perfectly straightforward glider, and the WBGO had managed to run out of height, speed, control and ideas in a patch of scrub about a half mile from the site. One could say that the WBGO and the WBEO deserved each other.

However, for those people who, despite not being professional glider-fliers, believe that they will gain deep insights about a machine's performance, handling, freedom from vices etc etc in the course of a ten minute flip, I offer this form which I have just devised:

I, Fred Nurk (WBGO) hereby hand to Alf Baskett (WBEO) a banker's draft representing the full purchase price of the Rhönflieger 3, BGA number xxxx, prior to aviating in same. If following the approval flight, I decide not to keep the aforesaid aircraft, the WBEO is obliged to repurchase the machine, if undamaged, at the identical price. Arrangements have been made with Lloyds underwriters Messrs Rytoff & Rytoff that inasmuchas the aircraft is my exclusive property for the duration of the flight, any insurance claim arising is my responsibility, including excess, loss of no claims bonus etc etc.

You could get a sharp lawyer to knock that little notion into proper legal shape, no problem. It would doubtless reduce the demands for trial flights by WBGOs but that is the whole idea.

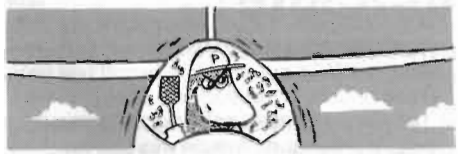
Suspicious afterthought

Perhaps the WBEO whose glider was destroyed was not so dumb as I thought. He may well be now the happy owner of a spanking new ship – and without getting so much as a scratch on him. So it is possible that he had read my homily and laid his plans accordingly. Good Grief! Why don't I get out the black ink and mail him a note?

Dear Sir,

Your secret is known to me. Unless etc etc"

Demented fellow passengers



Zooming around the cockpit.

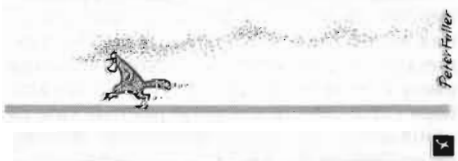
Gliding in Australia in January has many joys – chief among which is that one is not in Britain – but also a few, well, bugs. If you do not succeed in the immediate pre-take-off ritual of chasing out the flies with your hat before closing the canopy, then you have half a dozen absolutely demented fellow passengers zooming around the cockpit for the next five hours. If you get up to 10000ft the colder air makes them rather more docile, but if you are desperately trying to centre at 500ft over some featureless waste with not a habitation or a road in sight, that is for the flies the ideal moment to force you to land so that they can get out and walk home and tell all their friends about their nightmare journey. They suddenly feel thirsty and make for the only source of moisture, the sweat that, what with the heat and the pressing circumstances, is pouring down your cheeks. They acquire a keen curiosity about the geography of your nostrils and ears. They get wedged between your bifocals and the clip-on polaroids and block your view of the airspeed indicator, vario and the ever-nearing featureless waste.

A pot of honey to keep them happy

I have thought of fly-paper to trap them, a pot of honey to keep them happy, or a lethal blast from a flyspray to zap their central nervous systems, but with my robust airmanship every loose object in the cockpit except flies would end up on the fly-paper, and gobs of honey would smear the canopy; and in the confines of a small cockpit I would worry about the effect of biochemical warfare on my own central nervous system, whatever disclaimers they print on the can.

I have just this very second, seated at the Word Mangler II, thought of a solution: a venturi device that is connected to the outside airflow with a hose, so that you can suck the little blighters up and squirt them out of the clear vision panel. Pure genius.

Damn! The wretched creatures have splattered themselves all over my leading edge. Featureless wastes, here I come. It'll be a long walk in 100°F – and millions of flies . . .



Order your bonsai grass seed by April 1. Specify which grade – lawn, airfield etc and cast aside the mower. Contact H. Johns, c/o Aston Down.

S & G CLASSIC

CHOSEN BY PLATYPUS

In 1951 practically everything worth having in post-war austerity Britain was still rationed or unavailable or prohibited: clothes, food, heat, newsprint, sex – you name it, you couldn't get it. Lucky Brits with American friends occasionally received food parcels – instant Christmas. Glider pilots were subsisting on pre-war sailplanes and copies of pre-war sailplanes, launched on clapped-out war surplus balloon winches. Everything was second-hand and khaki. There were very few pilots that had as many as 500 cross-country statute miles (all of 16 Silver distances, for Heaven's sake) in their logbooks. I should guess that such giants of soaring skill and experience could at that time be counted on a careless butcher's hand – except that meat was so scarce that butchers were never careless. Everything looked pinched and mean and dreary. The club newsletters and *S&G* reflect the apparent stagnation of the time. Yes, people were learning to fly better; new wing aerofoils and materials were being experimented with, but nothing much of this showed under the drab surface of 1951.

Just imagine the impact of Dick Johnson's howldunit on half-starved British pilots, sitting around a feebly-glowing lump of coke in some wind battered Nissen hut, blowing on their chapped hands, and dreaming of someday going downwind in the Olympia, *provided* they got off the *$%@ Prefect, *provided* they got off the *&%$ Grunau Baby, *provided* they ever persuaded the %$£@ Tutor to stay airborne. Dick's story was not just a food parcel, it was a whacking great hamper – well, to be realistic it was more like getting a sight and a smell of a whacking great hamper, which for some was doubtless torment, but for the positive minded a thrilling promise of what they might all do some day. (Background music, please, Madame Editor, as Judy Garland belts out "Somewhere, Over the Rainbow" and tears run down the cheeks of the most hardened tug pilot.)

"From the altitude now in hand (13000ft) I could glide close to 100 miles without further help . . ." I remember reading that for the first time, and nearly chewing through my balaclava helmet with excitement and envy.

However, there was something else very special about this flight, which our romantics would have liked rather less. The systematic way in which Johnson tabulated every one of his climbs, corrected for altitude variations to estimate his true rate of climb and achieved groundspeed, the way he optimised his speed-to-fly and in every respect anticipated the modern £4000 computer – all this science anticipated contest and record flying as it was to be in the 1970s and 1980s. But then one flaw the romantics suffer from is the belief that technique drives out art and beauty and emotion, which is silly. Did Dick enjoy that flight or didn't he?

INTERNATIONAL DISTANCE RECORD

Last summer during the 17th National Contest I made three rather successful flights from Grand Prairie to various points in West Texas and of course I was quite impressed with the thermal velocity and high cloudbase that I found there. My final flight of the meet was to a goal at Odessa, Texas, where Jack Stafford, the donor of its goal prize, resided. Odessa looked a wonderful place from which to record distance flying. Pop Krohne spent some time there just after the National and his reports and his flights in his "Comet" L-K confirmed what I had seen.

I should have stayed there that year with "Pop," but my ship, the RJ-5, was then too new and needed a good deal of work and modification to get it in shape for this kind of flying. By working most of the year and carrying on systematic flight tests, we at Mississippi State College were able to increase the glide ratio from 31 to close to 40 and thus be in a position to seriously attempt to exceed the long-standing Russian distance record.



At first I thought that Shelly Charles, with his Weihe, and I were going to be the only ones on this expedition, but I soon found that many others also planned to come, which made it better yet.

Pat Mulloy with his Schweizer 1-23 and I arrived there on July 24, and we both made a local survey flight the following day to familiarise ourselves with the area.

Now began the serious task of waiting and watching the weather for the right day that would be good enough to go 500 miles. Unfortunately we had no weather maps available and had only information from teletype reports available by telephone from near-by Midland Airport.

July 27 looked promising, so I set out as early as possible. Taking off at 1045hrs was a little early, as the air was smooth above 2000ft. I released at 2800ft anyway and had to descend to 1800ft before lift was encountered. The thermals quickly grew stronger and I was on my way. However, by noon the little cumuli, which started to form at 11am, had turned into occasional cumulo-nimbus. This made endless detours necessary and of course slowed down my progress. However, it was a thrilling flight and I did end up 403 miles away, near Johnson, Kansas.

Although I was rather happy with this flight, it was to exceed the 465 miles International Distance Record that I was there – especially since the Russian girl had made it from a tow to some twenty-odd thousand feet of altitude. This we did not feel was entirely sporting.

Since on the days that followed the weather was not what I needed, I did not fly the RJ-5 but acted as tow plane pilot for the many others who had arrived in the mean time.

On August 3, the weather improved markedly and cumuli formed early, at 9am. The cloudbase was low, starting out at only two or three thousand above the terrain but increasing during the day. I feared that the thunderstorms would form with the air as moist as that, but very few did.

Most of the pilots took off that day for a try at their Gold and Diamond distance legs. Since there was a shortage of retrieving drivers, my driver, Joan Brouillette, went after Joe Irvine and I chased off after Shelly Charles. The day was better than I had anticipated, and it was after midnight before I got to Shelly, who landed 348 miles away – almost to Colorado. This completed his Diamond C – No. 2 for the USA. Joe went 290 miles.

There was no chance of my getting back to Odessa in time to fly the next day, so we slept in a hotel and enjoyed a leisurely trip back afterwards. That day, the 4th, was a very good soaring day. The cloudbase was higher, a decent tailwind prevailed, and the dust devils were in sight everywhere. There was little doubt in my mind that my sailplane could have exceeded the 465 miles that day, and for a while I regretted having left my post at Odessa.

These things seem to have a way of working out for the better and now I am certainly glad that I did take the time to get Shelly back, as the following day, the 5th, was better yet. Had I not

gone with Shelly, I would have flown on the 4th and not been back for the 5th – the best we had.

Now the air was even drier and the south wind improved in velocity. This was my idea of cross-country weather and I joyfully set about to go. Texas Soaring Association's grand old president, and temporarily broken-down soaring pilot, E. J. Reeves, took the controls of the Stearman and made the tow at 1016hrs. We knew it was too early for thermals, but we planned to level off at 2000ft above the airport and release when the thermals started popping. By the time we got to 1400ft. I realised that we didn't turn on the barograph, so down I went for a new start. The second time we took off at 1029hrs found a thermal, and released at 2300ft above the airport or 5300ft asl.

This thermal took me slowly at 1m/sec to 6400ft asl, where it weakened. Downwind the next weak thermal went to 7000. Downwind again approached the area where cumuli were starting to form and the thermals started to get stronger and higher. Average climb in the next one was 330ft/min up to 9600ft.

Now that conditions were better, I increased the indicated airspeed from 65mph to 75mph in accordance with that indicated most efficient by my cruising speed chart. This chart is merely the curve of best cruise speed vs the thermal average rate of climb, which is calculated using the flight polar of the sailplane and assuming an average downdraught between thermals.

From now on the going was good – just hopping from one small cumulus to another. Every half hour, if I could remember to do it, I marked my position and time on the maps so that we could later analyse the trip. The accompanying table gives these check points in the first column, the time in the second, the distance and altitude in the third and fourth. In the fifth column I have corrected the arrival time for the altitude that I had when over the point, using an average rate of climb to 400ft/min and correcting back to take-off altitude. This gives the time that one would arrive if he did not spend more time climbing but merely arrived there at 2990ft asl. Using this, one can get the true cruising speed.

At the first check point a bit north and east of Andrews the speed turned out to be a glorious 67.8mph, so I was quite encouraged.

At 1245hrs I arrived over Lubbock with 11000ft asl still doing almost as good. From there on north, almost to Amarillo, the cumuli no longer existed, but extended north far to the west of me and not quite so far to the east. Here was a serious decision to make: detour east or west to stay with the cumuli, or take my choice on making the next 100 miles in the clear air. Since time was extremely valuable (a mile a minute at least), I decided to stay on course if I was going as far as I intended. Also I could see several dust devils ahead, so it couldn't be too bad there. Sure enough the thermals were still good, averaging about 450ft/min all the way.

In order to get better tail winds I decided not to climb very high

The upper-air wind report received that morning showed good south wind velocities up to 8000ft asl and then decreasing considerably. Therefore in order to get better tailwinds I decided not to climb very high, but try to stay in the layer of air with the best winds. Also, as usual, I would pass up a thermal if it couldn't give a 350ft/min rate of climb or better.

This worked well until my luck ran out south of Amarillo. I found myself down to 1800ft above the ground and only zero sink available. This was costing me and I knew it. There was one small dust devil to my left about two miles, but I did not go there but kept on downwind hoping to save time. 1600ft – that darn ground looked awfully close – what a sad ending to my 500 mile flight this would make! By the time I saw another dust devil two miles upwind, I was ready for anything and turned around to get it. When I arrived there only 1400 precious feet of altitude was left, but I was going up in the weak lift.

That cured me on the low altitude flying and I stayed high after that. The ground speed dropped to a mere 36.5mph between Canyon and there: I was determined not to let that happen again. Also here at Amarillo the wind had shifted to the south-west, so I decided to change my course for the maximum distance. My goal, Colby, Kansas, which is 527 miles straight north of Odessa, had to be abandoned, but it did not matter much if I could beat the Russians.

Ground speed picked up nicely to 82.7mph from Amarillo to Borger. It was here that one of my best thermals was found over a carbon plant. It averaged 620ft/min to 12400ft asl.

Now I increased the cruising speed to 80mph indicated, which when corrected for altitude gave me about 92mph plus a tailwind of about 25mph. At 1605hrs I arrived over the Texas-Oklahoma border and soon thereafter reached 13000ft asl, at the cloudbase on several occasions. I pulled the nose of RJ-5 up into the base just high enough to read an even 13000ft and then pushed it back down to 80mph and went quickly on my way.

To me the next part of the flight now was the most critical. I was about 365 miles out, and from the altitude now on hand I could glide close to 100 miles without further help, if I slowed down to the speed at which best glide ratio is obtained (50mph). It seemed sort of silly to go that slow because the chances were I would find more lift – it wasn't late yet. Therefore I decided to use a compromise speed of 65mph until I had that 465 miles safely in hand.

There still were some thermals but they were decidedly weaker so I moved along more cautiously now. When the Kansas border came by (1650hrs) I was working anything that could make the variometer read 1m/sec. I now had almost 12000ft near Ashland, Kansas, but there was not much between me and some beautiful large cumuli west of Kinsley, which was 50 miles away. I shifted to high L/D cruise and painfully waited until I got there. By utilising one weak thermal I got there with 9000ft and was very pleased to find 1m/sec lift at my end of this long line of large cumuli that appeared to be a weak squall line or front.

I climbed slowly to 11400ft, and should have stayed there and climbed to the cloudbase, but I had visions of cruising along at a fearful clip under the beautiful cloud street until dark and not having to circle at all. If I had been there an hour earlier this might have happened, but it didn't. Outside of three spots of zero sink there was nothing, and I soon realised that my journey was drawing to an end.

I now slowed down to 50mph and while holding a downwind course I started some calculations as to where I was going to land. At 1758 the final glide started. Even at this altitude my ➡

Place	*Time*	*Distance from previous point (miles)*	*Altitude (ft)*	*Corrected time (see text)*	*Time from previous point (min)*	*Speed from previous point (mph)*
Release	1029	–	2990	–	–	–
Odessa	1037	–	5300	1031	–	–
N. Andrews	1120	35	10 230	1102	31	67.8
Cedar L	1149	30	11 180	1129	27	66.7
E. Brownfield	1208	27	8520	1154	25	64.8
Lubbock	1245	32	11 000	1225	31	62.0
E. Canyon	0208	97	7480	0157	92	63.3
E. Amarillo	0230	14	6960	0220	23	36.5
Borger	0305	40	9570	0249	29	82.7
S. Farnsworth	0344	48	10 350	0326	37	77.8
Perryton	0355	13	8930	0340	14	55.6
S. Elmwood	0415	20	10 500	0356	16	75.0
S. W. Gate	0445	28	12 100	0422	26	64.6
S. Asland	0505	28	11 900	0443	21	80.0
Bluff Cr	0515	15	10 080	0457	14	64.3
W. Mullinville	0544	20	10 020	0525	28	42.8
S. E. Larned	0615	49	9530	0559	34	86.4
Geneseo	0655	50	4900	0650	51	58.8
Sky Village Airport	0718	29	1270	0721	31	56.1
Landing	0721	–	–	–	–	–
–	–	*Total* 575	–	–	8.83 *hours*	*Average* 65.2

sink was less than 2ft/sec and I had my 40:1 glide ratio working for all it was worth.

At 1815 I had 9530ft asl Salina, Kansas, was directly on course, but its closest airport was 79 miles away still and it was 1270ft asl. This gave me 8260ft in which to cover the 79 miles; a minimum glide ratio of 50.5 was necessary to get there for a downwind landing. I wasn't too optimistic about it but kept on course anyway.

At 1755 I arrived over Geneseo, Kansas, with 4900 asl and 29 miles to go. Now a minimum glide ratio of 42.2 was all that was necessary, so I was going to make it after all. At 1918hrs I arrived at Sky Village Airport, Salina, Kansas, with even 1000ft to spare, and decided this would be a good place to stop. What with the tail wind, the RJ-5 had actually glided at a 57.5 ratio for the last 79 miles.

The maps showed the flight to be 575 miles by my route or 545 miles in a straight line – Happy Day!

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LEARN TO GLIDE IN A WEEK...

Mike Cuming originally drafted the first half of the article last year but became carried away with the idea. The final piece was tacked on in late January and by the time this issue comes out he will be putting his ideas into practice

Many clubs offer holiday courses at some stage during the summer months and the traditional route to becoming a glider pilot has been to attend such a course or simply to join a club and train on an *ad hoc* basis at weekends.

This training method is agreeable and club members are generally very friendly and helpful (they have to be since gliding is such a team effort!), however it is quite slow and very time-consuming. And all too often the results are disappointing. I always did have a sneaking feeling that the average BGA club course was unsatisfactory, either by being poor value or – more usually – by setting disappointingly low goals for the trainees.

Before I get into too much trouble I suppose I should acknowledge that many come on a "holiday course" more for a "holiday" than for a "course", and if this is what they are happy with then good for them and I hope they have a nice time. But what about the people who primarily want to learn to fly and don't – just yet – want to learn how to keep the log, mend the winch, or hang about on the ground. Such people can find it very difficult indeed to get past the first few hurdles in gliding.

Even the best of the professional clubs will not often expect to get the trainee to solo standard in just a week, and the pure club route will generally take six months or more of weekend attendance. This is not because their standards are poor (ahem...let's be honest – sometimes their standards are poor!) but simply because they do not offer enough flying time. Club flying is usually limited to two or three launches per day per member, and "professional" course training usually revolves around an instructor to *ab-initio* ratio of five (which means they are only learning to fly for one fifth of the time at best).

An honest assessment of the real costs is a bit embarrassing too. A typical newcomer might attend a week's course (£300) then join the club (joining fee £50-ish – sometimes waived – subscription £150 on average) and take a further 30 launches over the next three months (£100 including soaring fees) to go solo: total £600 plus one week and the best part of 12 weekend days. Professional clubs will cost a bit more than this and all-aerotow will be about double. There are, of course, examples where this is not true, *eg* the Angus club which is the cheapest club in the UK although regrettably they don't run courses.

Further training (to Bronze or Silver badge or better) is generally conspicuous by its absence, even – disappointingly – at the larger clubs, although here also the amount of learned material can often be condensed into about a week. Many club pilots will take a year of intermittent weekend launching to accumulate 20hrs of P1 time at the early solo stage. However, this same amount is achievable in a single week of "course" flying and coupled with a systematic training environment, such a concentration of effort can add – in effect – much more than a year's worth of training. The BGA courses which occasionally attract rave reviews in *S&G* are successful because of this very effect.

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The airfield is at Hinton-in-the-Hedges which is near Banbury. It is just over an hour from both London and Birmingham and about 20 minutes from Oxford, Milton Keynes or Northampton.

FURTHER INFORMATION
The Gliding Centre,
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071-706 2434 (live girls during office hours, answerphone at other times)

course – usually at Bicester, the RAFGSA Centre, and undergo a mixture of aerotowing and motor gliding in syndicates of about four per instructor. About one-third or more go solo during the course and no they are **not** taught to fly by numbers.

I have been lucky enough to help on several of these courses over the last two years; they are great fun and I should say that the standard of solo pilots is if anything higher than would normally be expected at BGA clubs. The flying is intensive but not pressured, the syllabus is absolutely standard and the main reason for such good results is the diligent concentration on the course objective – learning to glide.

Let's not get carried away

There are plenty of circumstances when going solo in a single week is not possible: it may just be too windy, or the reasons may be more complex than that. Even I will admit this much: but that doesn't mean we shouldn't try.

Summary

The amount of flying that trainees get is almost always unsatisfactorily low. This is because clubs are either too inefficient or too greedy to give an appropriate daily quota of flying time – or because they haven't yet realised that this is the 1990s and "customer service" matters. The sooner we appreciate that the clubbiness of post-solo gliding can best be complemented by effective and swift pre-solo training, the better.

Such an approach could quite possibly generate greater success in retaining new club members, might be quite good fun, and seems like a good forward-thinking approach. I therefore advocate the greater use of training courses and the adoption of a philosophy along the lines of "Learn to glide in a week...and why not?"

What am I going to do about it?

You may well ask: after all it's not very fair of me to moan about everyone else if they can't fight back. So what I shall do is this? I shall endeavour to run the perfect gliding training organisation. Towards this end, I have shamelessly pinched all the best ideas that I have picked up over the last few years and the recipe is as follows:

Take one nice quiet friendly airfield in a super soaring location (in my case Hinton-in-the-Hedges, home of the weekend Aquila GC, tel No. 0295 811056. Add a small number of courses to taste – some beginners-to-solo courses, some solo-to-Bronze badge courses and a dash of spicy single-seater task setting and badge racing (in the 50km to 500km range). Wait for the sun to shine and begin...

The course content for pre-solo training will be very much like the RAFSGA courses but without the dreadful disadvantage of being limited to servicemen. The instructors will be a big factor so I'll limit those to the most experienced and current pilots – current on cross-country too because that's where we're going sooner or later.

We'll use nice quiet powerful efficient winches (I like winches) which with decent cable and weak links should launch us to 1500ft or more every time, and we'll need a motor glider and some tugs because they can be very handy although they do cost a bit. The training fleet will be average club machines like K-7s and K-13s and the single-seaters will have to be numerous to keep all the new solo pilots satisfied.

The instructors will have an easy time with no more than three pupils

A professional winch driver will more than pay for himself if he can keep the launch rate up when exhausted club members can't. The instructors will have an easy time because each one will have no more than three pupils, but the trainees will be busy since they might be doing ten launches a day. The prices will be fixed although the amount of flying will be unlimited and little things like tea and coffee will be free because all those little extras really annoy me.

I expect to get at least a third of the total beginners up to solo standard in just one week, and am hoping for a success rate of 50% or more – and no they won't fly by numbers. One further week should get them pretty much up to Bronze badge standard.

I hope that a significant number of my pupils will be "part-trained-already-but-thinking-of-packing-it-in-because-of-the-lack-of-progress" and that I can save them from making the terrible mistake of giving up gliding too soon.

Sceptics are welcome to send for a brochure* although I've already sent one for each club noticeboard; alternatively you can watch the pages of *S&G* for progress reports

Postscript: One of the BGA and Sports Council objectives is to encourage more young people, women and other under-represented groups into gliding. Some clubs pay lip-service to this aim and a few actually do a lot towards it. One of my schemes, which I hope other clubs will follow, is to run a waiting list of students, etc, who can have unsold course places on a standby basis (about a week's notice) at cost price.

This means that unused launch capacity will be used up (admittedly at no cost to myself) and a lucky few of the target groups can be taught to fly very cheaply indeed – although from the current rate of bookings there won't be so very many spare places. Anyone who would like to be added to the waiting list for such standby places is invited to write to me (care of the BGA) and explain why they should go to the top of the list; I will reply to all who write.

*See the advertisements in this issue and the *S&G Yearbook*.

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TERRY HURLEY

WEAR TO FLY

Why are we the odd men out? Why are we ignored by the world of high-fashion, shunned by couturiers, neglected by *Vogue* – left to wander like sartorial lepers in our wilderness of cast-offs and hand-me-downs?

Why is it only us?

After all, cricketers have been properly provided for since the days of Dr Grace; joggers since America began the pursuit of personal immortality along the hazardous sidewalks of Manhattan; and climbers since television decided that the chairbound, cholesterol-packed public derived inspiration from images of panting idealists insecurely buckled to windswept heaps of granite.

What I'm getting worked up about is the availability of appropriate clothing for the sport we follow. Neat, light, practical, drip-dry, no-crumple, washday-miracle type of clothing. Not the unco-ordinated pickings of the rag-bag that you see draped around the average glider pilot.

It is precisely because no purpose-made clothing for gliding exists that when a pilot clads himself for flight he reveals himself more blatantly than if he stood nude in a pink spotlight on the stage of the Raymond Revuebar. Every garment that he dons links him to some previous, but dead, passion. There are pilots in golfing jackets; in motor-cycling suits of that oily black material which flies stick to; in formerly-trendy skiing outfits; quilted fishing waistcoats; sailing smocks; and anoraks colourfully but inaccurately lettered to imply that the wearer possesses a Ferrari or some similarly uninsurable form of locomotion. We display our past for all to examine – the forgotten history of those days before we learned to fly – days when we had money, tidy gardens and families who remembered our names.

In addition to draping himself with some form of jacket it is also usual for glider pilots to cover their nether regions. Visitors to airfields should note that an uncovered nether region denotes either an absent-minded pilot, who should, as a matter of prudence, be avoided, or an amorous pilot. The same advice applies.

In practice, however, most pilots wear jeans. This is due to the combined factors of poverty plus the secret urge of the British to dress in uniform. Jeans were originally an American work garment but they have been so transformed by stylists that they are no longer any use for work nor for keeping out the searching winds of winter. From September to May glider pilots shiver and stamp their feet for warmth. Cavemen were generally better equipped for the European winter, though unlike us they lacked shoes, which must have curbed any really vigorous stamping.

Even at the peak of a typical English summer, when constant rain has reduced the airfield to a passable facsimile of the Great Okeefenokee Swamp, the glider pilot does not go barefoot like his ancestors. No! He displays almost as much ingenuity in his selection of footwear as he does in his outer garments.

Athletic trainers, which are a sort of high-tech plimsoll, are the current favourite – odd in a sport which is conducted from a seated position. And when did you last see someone actually break into a run on the field? To the bar at opening time – possibly. The trainers you find on gliding feet, however, are not the same refined species as those favoured by joggers. Ours are a sort of Foreign Legion of trainers – worn, battered items that have seen life and knocked around a bit – trainers with a murky past.

"During the highest of high summers, we venture out in sandals . . ."

For much of the year, however, necessity dictates that our footwear should be solidly functional. Wellie boots, Derry boots, workshoes with steel toe-caps (splendid for trampling on rudder pedals and showing the Bocian who's boss), flying boots (who does he think he is – the Red Baron?), baseball boots and even riding boots (perhaps he is the Red Baron?) – we wear them all, each of us following some individual path to True Belief About Boots. Very occasionally, and only during the highest of high summers, we venture out in sandals – Jesus boots, as the more religious pilot likes to think of them. Naturally we wear these over our woolly socks. One is British, after all, and not some near-naked frog-eating barbarian!

Incidentally, those thin white things sticking out above the sandals are our legs. But this article is concerned with clothing, so that's enough about naked flesh – we don't want to over-excite the ladies.

Ladies!

Here am I, fulminating at maximum volume in a typically male chauvinistic manner, and completely ignoring the women who fly. Sorry, ladies, You, of course, take far more trouble over your appearance than we men and, even from a distance, a lady glider pilot is conspicuous by virtue of her smart apparel.

Or is she?

On reflection I recall dumpy forms muffled in shapeless anoraks and padded ski suits that resemble Monsieur Bibendum of Michelin fame rather than Amy Johnson, and in their full winter rig cuddling the girls is about as much fun as wrestling with seals.

Things improve in summer once the girls peel off their mukluks and ear muffs to emerge like butterflies, transformed and almost unrecognis-

able in shorts and T-shirts. In the torrid heat of the midsummer sun unaccustomed passions can be inflamed by the spectacle of such lightly clad creatures so that marriage, and other less formal variations on that theme, are proposed by impetuous young men who until then had believed that beauty was synonymous with glass-fibre. Little do they realise that they are treading the path that leads only to double flying fees and the ownership of an uncut semi-detached lawn.

But if our clothes are eccentric and our footwear odd, our hats are something special. This is where the pilot's genius for improvisation coupled with an inborn talent for looking a total Wally come into full flower.

Where hats are concerned anything goes, except the sombrero and the busby (NB Booker may be different). Caps are okay, berets acceptable, fishing hats come into the category of previous dead passions, and bobble hats have usually been knitted by the devoted Love of Your Life so there's no alternative but to wear the damn things, though they are really more suited to keeping teapots warm than the balding scalp of the Standard British Pilot.

By themselves the hats would be bad enough, but few pilots possess sufficient strength of character to resist the desire to gild the lily and their treasured old sun hats become encrusted with the totems of their clubs and cabals as luridly as any New York Jet's leather jacket. And even pundits, men of vast experience and almost superhuman finesse – as they have often told me – have been known to throw a temper tantrum at the launch point because they were unable to find their "lucky" hat. That same evening in the pub superstition is forgotten as they brag at length of their consummate soaring skills!

When I began to write this piece it was with the intention of persuading you to see yourselves as others see you – in particular the air-inexperienced member of the public who thinks a go in a glider might be fun, but who finds himself confronted by a motley crowd apparently outfitted by courtesy of some jumble sale, or zip-fastened into tattered overalls – ex-RAF, ex-Luftwaffe, ex-all the armies of a troubled world – and each one eager for flight at the punter's expense. How can we expect anyone in his right mind to part with his hard-earned daily bread to put his life in the hands of such a mob of the fashion-unconscious?

But I don't suppose you'll pay any attention to my concern about our public image. Glider pilots have no shame.

But – the thought strikes me – suppose for a moment it's my attitude that's wrong? Perhaps this cheerful scruffiness and lack of affectation are some of the more attractive traits of people who fly for fun? Maybe flying itself gives an extra dimension to their lives which eliminates any urge for superfluous vanities?

I remember once seeing a black and white photograph of a young woman climbing into the open cockpit of a small, old-fashioned glider. She was wearing a light summer frock. It may have been her only summer frock. There were no coloured-keyed overalls, no sponsor's logo, no advertising propaganda, no razzamatazz. All that was to come later. But in the beginning Hanna Reitsch went as she was.

SILVER BADGE – IN UTERO!

My first flight was as P3, making my mother, Alison, P2 and forcing her to admit her increasing weight to the P1! However, that same day I was soon flying confidently as P2, although soaring in mid-February proved elusive. I did manage a couple of wave flights later in February and thus began my short career as a soaring pilot.

March saw my first experience of thermals and by April, when my mother, father and I went for some flying down at Bidford-on-Avon, I was thermalling competently in the K-8. Of course with mother as P1, our joint thermalling ability seemed to improve with her ability to travel round in circles without parting company with her last meal, this being something not always possible in the preceeding three months.

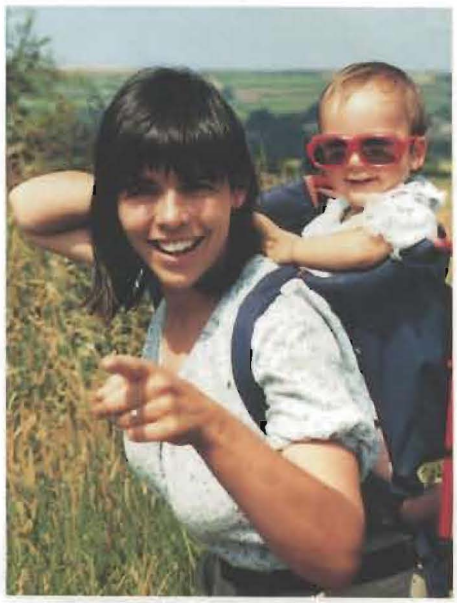
To return to Bidford: I spent a pleasant day's local soaring on Tuesday, April 12. The following day I awoke to a beautiful morning promising perfect soaring conditions. Father, ever encouraging, raised mother's blood pressure by suggesting a Silver distance flight. Refusing to listen to mother's objections, father arranged for the use of the Bidford K-8, and a thorough, confidence boasting brief was given by Dick Bavin.

The usual problems were overcome and soon father was strapping mother and me in

The usual problems of no tape for the barograph etc were overcome, and soon father was strapping mother and me in. The flight is barely worthy of description – it was so easy. The lowest point was 1800ft which had mother contemplating the enormous crop-free fields below and had me thinking "good grief, she's picking fields at three times the height father does!". However, we were soon back to cloudbase and within no time (1hr 17min to be exact) Shobdon Airfield appeared with its runway looking like Gatwick Airport compared to Camphill.

Almost more exciting than completing my Silver distance at such a tender age, was the aerotow home. Mother and I settled into the back of the tug and handed the K-8 over to father for the tug home. After all, we had done our bit but I still had two Silver legs to complete and time was running out.

I continued flying for another four weeks or so before my next big day arrived. I experienced several novel experiences, such as flying P3 with mother and father, and I coped admirably with a failed launch on one of father's winch training days.



Georgina with her mother, Alison.

May 21 was the day. A lovely thermic day with everyone going mad and declaring huge triangles, and numerous gliders trundling to the north-east launch point. We declared 5hrs and joined the queue. After a lengthy wait, we took off, and after sinking to 800ft nearly came straight back in. However, once we connected, the thermals were excellent and our highest climb took us to 4300ft which bagged my Silver height. Now if only we could stretch the flight to 5hrs!

The last half hour was agony but we just managed to hang on to complete all three Silver legs. My mother had been enduring another kind of agony, and immediately squatted down behind the tail on landing.

My soaring career ended in June when mother grounded me. It would take a special event to beat the achievement of my Silver badge and that event happened on August 15. I was born! Of course I'm now grounded for many years, but nothing delights me more than to hear the up and coming young pilots bragging in the bar about their latest flights, hoping to impress less experienced pilots. What can they say when told that I, at 26 weeks, am better qualified than they are?

JOHN STALEY & MIKE CUMING

GET OFF MY LAND

This is the first of a series of agricu synchronisation with the crops the fieldsman and is visible in several regular contributor to *S&G*. Both au



1a. Winter barley in early April.



1b. Winter barley in late March/early April with discolouration due to frost damage. Just landable.



3. Winter barley in mid to late May.



4.↑ Winter wheat in early April.

The purpose of this series is to describe the fields and crops, along with their approximate timings and values. The business of actually landing in the fields is dealt with elsewhere.

The prefix "winter" implies that the crop is planted in the autumn and is therefore lying in the soil all winter, ready to grow in response to sunshine, temperature, day length or some combination of these. This thermal accumulation process is often referred to as the T-sum and variations in the T-sum account for most of the differences in crop timing across the UK. The timings given in the text are, unless stated otherwise, appropriate to sea level southern England. About one week needs to be added for northern England, two weeks for Scotland and a bit more for high ground.

The crops which concern us up to the end of May (*ie* this issue of *S&G*) are winter barley, winter wheat, oil seed rape, winter beans and grass.

Summary

By April-May it is 300km weather at last – and 500km if we're lucky! Early April colours are mostly brown with a hint of green and plenty of places to land, if perhaps muddy. But over the next eight weeks much of the brown will turn to dark green until – just before the first silage cut in mid May – the field choice is quite poor in many areas.



8. Silage cut and being carted to a clamp in late May.

The crop values will enable you to estimate the damage you might cause if you land in a field of crop. If you do end up in crop and are reasonably careful in removing the glider, without taking the trailer into the field, then you will at the very worst flatten a tenth of an acre of crop. And even a thoughtless and irresponsible retrieve is very unlikely to ruin more than a third of an acre.

Winter barley

This slightly ragged-looking crop is planted in September and harvested in mid to late July.

5.↓ Winter wheat (in the foreground) at the end of May.



7. Oil seed rape flowers in late May.



9. Late May with cut sil other (pasture) fields a blotchy effect.





2. Winter barley in mid April. Notice the mid-stem extension.

ultural articles which will appear in emselves. John is an agricultural of the photographs. Mike is a uthors fly LS-4s from Bicester



Photos 1(a) and (b) show very early April growth – still comfortably landable without damage to glider or crop. Photo 2 shows "mid-stem extension" in mid to late April; the crop is now 2ft tall and is likely to cause a groundloop, especially if wet and heavy. By late May (photo 3) the crop is 3ft tall,coming into ear and likely to be "lodging" (*ie* becoming tangled and obscuring the tramlines), especially if the farmer has been a little inept with the fertiliser. The colour is quite light green until the ears form in late May.

Winter barley is worth about £110/ton to the farmer and on average produces about 2½ tons per acre; a gross yield to the farmer of perhaps £275/acre.

lage in the main field. Note the ridge and furrow in all the nd the inadequately grazed field in the foreground with a





10. Round bale silage in mid to late May.



11. Grass cut in July for hay to be turned, dried, baled and then carted away. Wheat is in th foreground.

Winter wheat

Planted in October, harvested in August. Very similar to barley in appearance but slightly darker in colour and about two weeks later all round. By early April (photo 4) there is an almost complete carpet of green with just a hint of brown visible, especially in the tramlines. Landings can easily be made without mishap until late April but thereafter the height and weight of the crop increases rapidly; this is marked by the colour beginning to lighten. Wheat fields remain characteristically almost billiard-table flat until well into June so the tramlines remain clearly visible (photo 5).

Growing costs are similar to barley at about £100/acre but the value is greater at £130/ton and the yield is much higher at up to 4 tons/acre. At £450 or so per acre wheat is a much more valuable crop than barley.

Oil seed rape

Planted in August/September it takes 11 months to grow (harvested in July, for the hard of thinking!). Not landable after New Year. The field surface is usually flat beneath the crop but fertiliser is applied in February when the ground is often wet so the tramlines can be very exaggerated. Early growth is driven by the T-sum and so the timing depends a lot on the spring weather, rather than location.

By late April the plants are waist high (photo 6) and tough although K-8s and other high wing gliders have been known to land even in tall rape with minimal damage apart from hay fever for the pilot from the overpowering mustardy pollen. The foliage is a darkish olive green and the flowers (from early May onwards – see photo 7) are a vivid mustard yellow. Note that the crop on the edges of the fields you see from the roadside is shorter and sparser – like most crops – than mid-field, owing to bird grazing. The yellow flowers begin as a light dusting and become quite u mistakable from mid May until late June (se also photos 12 and 13).

The value of the crop itself is lowish at £15 £200/acre but farmers collect a guaranteed su sidy (of £155/acre in 1992) on top of that, whi is why they grow it.

Winter beans

These are ploughed in in November leaving rough surface into which gliders would be like to sink. We didn't get any useful pictures (sorry but during April and May the colour is very da green (like potatoes): individual stems are ju

6.↓ John in an oil seed rape field in la April/early May.





12. Two late May landscapes. Light green = pasture; dark green = uncut grass; brown/green = cut silage grass; yellow = rape.



13. Pale yellow/green = cut silage; emerald = pasture (note ridge and farrow in the large field between the wingtip and rape); dark green = uncut grass, barley or wheat; vivid yellow = rape. Photos: Mike Cuming.

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visible from the air with some brown soil visible beneath.

Beans are not acceptable for field landings because even in April the stems are a foot high and quite tough. The value is about £160/ton which means that each acre is worth about £300 to the farmer.

Grass (silage/hay/pasture)

Grass is grown to feed animals and is green. The animals can either eat it where it grows (pasture) or have it cut and stored to eat later (take-away!). If the grass is cut before heading then it grows again and can be cropped twice or sometimes three times per year: silage. If it is allowed to head then there is usually just one crop: hay.

The same field may be in continuous use for grass production, or it may be sown in September. Either way, by early April the grass is ankle high but still perfectly landable. Thereafter the risk of groundlooping increases with the height and weight of the crop – fast. By early May it reaches about 18in or so. Grass looks very like wheat until mid May, except it is more tussocky.

The first silage cut is taken on May 7 (plus or minus a day or so) in extreme southern England at sea level, and as late as the end of May in northern England. The precise date varies with location and latitude, and depends on day length and altitude; any given field will be cut on approximately the same day each year. Subsequent silage cuts take place at about six week intervals (photos 8, 9, 10).

Can cause a really spectacular groundloop

Hay is cut once only (occasionally twice) per year, usually in the second week of Wimbledon fortnight – if the weather is dry! The hay lies in heavy swathes in the sun to dry (photo 11) and these can cause a really spectacular groundloop if a wing drops. Soon after that the hay is baled and removed.

Grass fields which have just been cut are a very pale yellowy green and can look a little like rape flowers from a distance. Cut grass fields are perfect for landing in for several weeks after cutting until the next crop begins to get tall.

Permanent pasture will almost certainly have stock in it during the critical field selection periods (late May and late June/early July) since grazing fields are in short supply as the grass nears harvest time.

Even tall grass is unlikely to be significantly damaged by a landing glider and in any event it is worth only £50/acre at best. However, permanent pasture is often permanent because it is ridge-and-furrow (see photo 9 especially) which is very likely to damage the glider.

All other crops are "spring" crops and are more or less brown until the end of May. They can be landed on until then without harm and their June/July characteristics will be dealt with in the next issue.

Finally, photos 12 and 13 are typical Midlands end-of-May landscapes, showing fields that are bad and a few fields that are good to land on.

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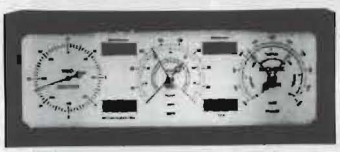
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RICHARD CLARK

SOUTH AFRICAN NATIONALS

Or how an *ab-initio's* taste of competition flying has changed his attitude to gliding

Delaneyville, Migdol, Schweizer Reneke and Bloemhof, Christiana sounds a bit like the roll-call at prep-school doesn't it? Since I have flown over them or turned at their grain sites or rail and road junctions, to me and the 50 or so other pilots who flew in the South African National Gliding Championships this Christmas they are all happy memories.

In a hired K-21 Mike Driver and I would spend nearly every day dolphining along from thermal to thermal thoroughly enjoying the best conditions I have ever experienced. It was all there, bursting uplift: struggling through blue holes, screaming round in tight thermals over dust devils whipping up the desert dust and then the thrill of a final glide for 50km or so.

Before I went out to South Africa I have done what lots of people do – pottering round the club field with 20min here and 40min there. Only minutes as solo and a few hours of gliding experience. If I wasn't flying at Dunstable or Halton there was always the companionship on the ground and I was quite happy with that. But now I have tasted honey and there is no going back. I know the thrill of competition flying. The seductive tension of waking up and looking at the sky, reading the Met briefing, waiting for your Class task and then marking up your charts. Thinking about how you will juggle height and speed, weighing up the options whilst you walk the glider wingtip out to the start grid.

Vryburg airfield is about 280 miles SW of Johannesburg. My maps told me it was 4022ft asl with 16° 30' W deviation. What I didn't know was that it would be 35°C by 10am under a clear blue sky with cumulus popping at 11am on the dot. The countryside was as burnt as the beige of my desert boots, but the view – when is the last time you could see a horizon over 100 miles away? The air was dry and clean and just bubbling with lift.

For a fortnight before Christmas we flew a task every day of between 250 and 350km. Launching by aerotow at 11.30 sharp to 2000ft

we stooged and climbed to 7000ft agl waiting for our Sports Class gate to open. Then around 12.30 having got a feel for the day's conditions we would make a start. Tactics being all, we might feign a start or wait and let someone else make a run and let them mark our first thermal for us.

Being inexperienced at gliding everything was exciting for me and co-ordination all too often went out of the window. But after a while I was able to fly fast and on course, feel the surge of lift, sense which way to turn and after a quick look out, bank sharply into 60°-70° turns and enjoy the steady thrill of centring in the boisterous narrow thermals coming off the dry red ground below – we were even joined by eagles off our wingtips.

For the first time in my life I was enjoying flying rather than being thrilled by getting away with flying which I expect other new boys often felt too.

The competition started after Christmas Day with six contest days. By now I was well rehearsed at everything to do with racing a glider from boiling the water to drink during the flight, mending the canopy, parking up, de-rigging and rigging or simple points like remembering your grid number or to load our turning point cameras.

If we were not flying then we were enjoying the hospitality of the crews drawn from all over the world with endless barbeques under the stars and a cool beer or six.

I wish I could give the usual *S&G* high standard of technical detail but for me our final result of 5th in our Class of ten says it all – we did well.

Leading results:- Open Class Champion, Alain Mazalerat; 15 Metre Class, Lourens Goudriaan; Standard Class Dieter Heiriss.

NEVER TOO LATE

"Wrinkles rule" in the USA. The Old Timers Soaring Club in Cypress has among its active members, regularly flying the club's Schweizers, Blanik and Std Jantar, John Cwynar (70), Harry Irwine (73), Leonard Verger (77), Joe Stasneck (79) and John Bender (84). Ensuring that youthful exuberance does not get out of hand is club CFI Jim Miller (74). An example to us all!

FIRST SOLO AT TALGARTH



Two years ago, one child in the backpack, the four year-old complaining bitterly and my wife in oh so unsuitable shoes, I found myself in Wales at the top of Hay Bluff. A swarthy man of indeterminate age stamped into view. "Lovely day!" I gasped as the little white stuff drifted across the glorious sky, "...for gliding", he chipped in.

And thus I discovered the Black Mountains GC at Talgarth. "I won't be long", I said as two days later I set off from the holiday cottage – without the family. Twenty minutes drive up that beautiful wooded steeply climbing, valley hugging road and there, dominated by a forbidding and lengthy mountain ridge, I found a leaking clubhouse – and sheep! Yes there were gliders too.

In ten days I moved from air experience to club member. My wife, Josepha, who had just finished celebrating curtailing my pot-holing on the grounds that my growing family wished to see me also grow older, groaned inwardly. But I was totally sold.

I completely underestimated how difficult it was going to be. For weeks I floundered around the sky like a drunken duck. At one moment I was flying an F16, the next I was bobbing like the Margate big-dipper... I was useless.

"Don't worry", said Gerry, "this is a difficult site." True but not relevant to my incompetence. Naively I had though that a lapsed PPL gained 25 years previously would help. It didn't.

I had never understood "sink" before. Now I did. Clouds used to be avoided – now they were hunted, Mountains used to be feared – now they were worshipped. And I made every mistake in the book: too little rudder, poor speed control, crab-flying etc. Yet through this the club members and instructors – Gerry, John Derek etc etc – soldiered on. I fear now to hazard what they thought then.

One must fly regularly to make progress. I found it difficult to slither away from the family. Back in London, it was even more difficult. The third child arrived with the sleepless nights and had I even had time to fly, I would not have stayed awake. I found that my regular returns to Talgarth brought me back to a relatively safe level of incompetence – but no more. My first solo was a long way off and I took up the suggestion to go to Lasham and do regular wire circuits.

I had already done two full courses at Talgarth, but now I knew that I would never first solo there without more dedicated instruction. I signed up for the course at Whitsun but hadn't allowed for the Talgarth weather. But when we did fly, I seemed to be getting better.

So to August and two years on. Back at the cottage, I did a deal with the family. I would do anything with them for a week to be left alone for a week. The first Monday dawned. A gentle westerly just stirred the top of the ridge. "I'm back" – I said to Gerry. Instructor and student still managed to squeeze together in the same aircraft. Forty five minutes later the first flight of the day was back on the ground.

"You can go again," said Gerry – "I'm off for a coffee." Slowly, very very slowly it dawned on me what he had said.

Not so many do their first solo at Talgarth. But by the end of the week I had flown solo six times with flight times from 20 to 90min in conditions varying from dead calm to thoroughly breezy. I had soloed after 70 flights and 40hrs. Apart from a dozen or so circuits at Booker and Lasham it was all Talgarth.

And what have I learnt? That it isn't easy, that a friendly club is so important and that the mountains are a great place to fly. Thank you Talgarth.

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1992 S&G YEARBOOK

By the time you have this issue the 1992 *S&G* Yearbook will be in its final stages and with you by early April, ready for the season.

It is packed with necessary information from records to the latest on airspace and in addition has masses of articles. Tom Bradbury will tell you how to recognise the wave days while Graham McAndrew will explain how to exploit the lift. Platypus will lighten the mood before you tackle major articles on all you need to know and more about parachutes. And that's for starters . . .

Many of your favourite contributors have written for us on a myriad of subjects.

Either order your copy from the BGA at £3, plus 45p p&p or make sure your club have a stock. Last year we found the Yearbook was popular with visitors having trial instruction flights.

ARE YOU FULLY INSURED?

It seems not everybody is aware that many insurance policies for private motor vehicles exclude cover if that vehicle is driven on to an airfield. If in any doubt about this study your small print carefully or raise the matter with your insurer – if you need a fresh insurer then I suggest you contact one of the specialist brokers who advertise in this magazine.

* * *

Under Operational Regulations of the BGA all gliders must be covered by third party insurance and all two-seater gliders shall additionally be covered by second seat insurance for at least a minimum amount which shall be decided from time to time by the BGA Executive Committee.

At their meeting in January the BGA Executive decided to raise the amount of mandatory cover to £500 000 for all gliders, to take effect at their next insurance renewal date. This action recognises the size of awards being made in the courts today and whilst the mandatory minimum is now to be set at £500 000 it would be our recommendation that one million pounds of cover be considered.

Barry Rolfe, *BGA Administrator*

LLEWENI PARC WINS AEROTOW APPEAL

The Glyndwr Soaring Ckub has won its appeal against the planning restriction by the local authority barring aerotowing and motor gliders at Lleweni Parc, Denbigh. Motor gliders and suitably silenced tugs are now permitted.

Rodney Witter, the director, says the appeal procedure was expensive and time consuming and they are happy to make papers and files available through the BGA to other clubs with similar problems.

JUNIOR NATIONALS

The Junior Nationals will be held at RAF Halton from August 21-29. This competition is subsidised by the Sports Council with free entry and a number of free aerotows.

If you aren't over 25 years-old this year and expect to have a Silver badge by the August 21, you are eligible. Application forms are from the BGA office and entries must be in by April 31.

BGA ACCIDENT SUMMARY

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

Ref Number	Glider Type	BGA No	Damage	Date Time	Place	Pilot/Crew	Age	Injury	Hr
81(a)	K-6CR	2309	S	21.07.91 1700	Nr Long Mynd		31	N	359
After a cross-country flight of over 3hrs the pilot decided to local soar and got below the level of the home ridge. He chose a field near the base of the ridge and made several S turns before arriving on his base leg. He was too fast and too high and then groundlooped the glider while trying to land diagonally across the field.									
82	ASW-15B	3121	M	20.06.91 1400	Nr Qualnton		33	N	64
After a satisfactory landing in an empty pasture field the pilot left the glider unattended while he organised a retrieve. He returned to find cattle from an adjacent field had damaged the glider.									
83	PIK 20D	2271	S	10.07.91 1645	Leighton Buzzard		40	N	79
While local soaring the pilot had to make a field landing. In an area of cropped fields he chose a sports field and landed, into wind, across three rugby pitches. The wing hit a rugby post and sheared off at the main spar.									
84	PA18-180	TUG G-BEVA	3rd Party	07.07.91	Dunstable		25	N	820pwr
As the tug pilot came in to land he noticed another tug ahead so radioed that he would land to his left. However, as he flared he realised his landing run was being cut off by the other tug and a landed glider. He abandoned the landing and went around, dropping the rope which damaged a parked glider.									
85	K-13	2294	M	07.07.91 1700	Challock		37	M	550
						P2	39	N	300
On an instructor check flight P1 was acting as an early solo pilot during a cable break at about 100ft. He put the nose down and opened the brakes. Unfortunantly this placed P2 in a situation he couldn't recover from.									
86	Olympia 2B	544	S	20.07.91 1852	Morridge		64	N	84
While making a hangar landing the pilot allowed the speed to drop as he tried to reach his aiming point. At about 100ft he selected full airbrakes and the glider landed heavily, tail first on the edge of a road. The fuselage broke just in front of the tailplane.									
87	K-14	M/G G-BSIY	M	29.06.91 1330	Brentor		62	N	683 +5630pwr
During take-off the motor glider hit a series of bumps making it bounce and the propeller hit the ground. The pilot thought it might have helped if he had braced his stick arm to prevent control movements as he hit the bumps, or held the stick back more to keep the nose up. In addition the tyre was found to be rather flat.									
88	Carman	2485	S	04.08.91 1600	Keevil		63	N	1481
During the winch launch the glider yawed slightly to the left as the tip was released. It then yawed to the right and the tip caught in the long grass. Still turning, the glider dropped back on to the ground from about 1ft and the fuselage broke behind the wing.									
89	Glasflügel 604	2585	M	28.07.91	Sutton Bank		45	N	2280
After a competition final glide the pilot had insufficient height to fly a circuit and was forced to make a heavy downwind landing ending in a ground-loop. A straight in approach would have been possible.									
90	Pilatus B-4	1839	SM	28.07.91 1630	Nr Darton		27	N	81
During the pilot's first competition, conditions started to weaken and he tried to stay airborne over what he considered to be a suitable field. At 300ft he decided to land, flew a cramped circuit, found he was too close so attempted to go around then had to land in an adjacent field. He landed fast and had to groundloop to avoid a fence.									
91	Blanik	-	S	30.06.91 1900	Sackville		36	N	152
After a normal take-off the winch engine failed when the glider was at 100ft. The nose was lowered then a slight right turn was initiated to avoid trees. This, combined with the effect of the wind gradient, lead to a heavy wing down landing.									
92	Kestrel 21	2470	S	20.07.91 1300	Sackville		68	N	2205
The pilot agreed to start the take-off run in the undershoot area because of obstructions at the far end of the runway. Soon after the start of roll the wing caught a clump of thistles and swung the glider into a car which had been parked at the normal launch point.									
93	Ventus CT	3395	M	28.07.91 1825	Henley		38	N	700
The pilot found he was too low while on a final glide after a competition flight. Crossing an area known to have poor fields he circled in zero sink while he looked for a field in the poor visibility. Although the landing was made into wind the field sloped downhill and so the glider ran into a barbed wire fence.									
94	K-13	1611	S?	02.08.91 1010	Perranporth		68	N	1000
						P2	19	N	0
The student was at the stage of flying the complete circuit with prompts from P1. Landings from earlier flights had been well up the runway so P1 suggested more use of the airbrakes. During the apparently normal approach P1 allowed the student to get too low and then at the threshold the glider's nose was raised, hitting the tail on a bush.									
95	K-13	1523	M	04.07.91 2040	Old Sarum		44	N	180
						P2	30	N	0
On an air experience evening P1 was trying to spot land near the control van to speed up the turn around. To do this he made a shallow approach over crop to land across the airfield. However, the wind strengthened and as the glider was turned into wind, a wingtip caught in the crop causing a groundloop.									
96	K-13	1536	M	25.07.91 1145	Nympsfield		35	N	1657
						P2	0	N	116
After soaring about 100ft above the ridge P2 decided to land at the hill top site. P1 allowed the glider to drift back behind the ridge before taking control and had insufficient height to make a normal circuit. Instead of landing downwind or at the bottom of the ridge, P1 made a low final turn during which the wingtip hit the ground.									
97	LS-3A	2668	W/O	08.08.91 1820	Nr Crick		62	M	1895
The pilot was found unconscious in a field. It appears that he had hit cables which crossed the end of the field. Damage indicates that the cables hit the canopy then the pilot before stopping the glider which then rotated before crashing inverted. The pilot had changed fields and had not seen the cables due to trees on the approach to the field.									
98	K-6CR	3247	S?	16.07.91 1938	Mirebau, France		27	N	38
On a club expedition the normally cautious pilot decided to attempt his 50km cross-country despite the blue day. He had to chose a field to land in									

but found it had two sets of cables across it. At 800ft he saw another field but due to the stress of his first field landing, workload and a poorly placed ASI, he overshot and groundlooped into a fence.

99	K-7	1979	M	04.08.91 1750	Lyveden	66	N	2

After a slightly high approach the pilot rounded out mid way down the runway then noticed that his right wing was rather close to a parked tractor, so eased back to clear it. The glider stalled then landed heavily on the nose skid. The high workload and slow reactions of the early solo pilot were thought to be factors.

100	Bocian 1E	1668	M	03.08.91 1809	Condor	49	N	47

After a normal recovery from a practice spin entered at 1100ft the pilot heard a loud bang and found that both rudder pedals had moved fully forward. With no rudder control and in a shallow left turn the pilot lowered the nose and used the airbrakes to land in a barley field. An oversize crimp on the rudder cable had failed.

101	K-7	1979	M	09.06.91	Lyveden	26	N	215
					P2	64	N	0

The glider's wing dropped during the initial stages of the winch launch and P1 did not react in time to prevent it touching the ground. It continued to drop as the glider became airborne with 20-30° of bank. P1 released and levelled the wings but the glider landed with drift, tearing the skid off.

102	Pirat	3314	S	17.08.91 1600	Condor	63	S	36

The initial stages of the winch launch appeared normal until at between 50 and 75ft the cable went slack. The pilot lowered the nose but not far enough and the glider descended rapidly to made a very heavy landing. The pilot's back was injured but not as badly as may have been the case without the energy absorbing cushion.

103	Blanik L23	-	M	13.08.91	Marchington	0	–	–

During a daily inspection it was noticed that the nose hook was ¼in out of line and the front bulkhead was damaged. It was thought the nose hook had hit the ground or an object during hard breaking which had pushed the hook in. Ground clearance is only 2in when the front bump stop is on the ground.

104	K-8	2167	M3	09.08.91 1725	Nr Sutton Bank	58	N	82

After a wave flight the pilot made for a cloud gap over the airfield but this closed. Finding another he descended through it to find he was too far downwind and so chose a large field. He intended to aim well into the field to avoid power cables across the approach end but found severe sink and had to try to fly under them. The canopy hit them.

105	Kestrel	1857	M	30.06.91 1300	Tannadice	38	N	1000

After leaving the airfield in calm conditions the pilot had to make a field landing. He misjudged the strengthening onshore wind and touched down in the undershoot field, hitting the fence as he tried to bounce the glider into the desired field.

106	K-13	2169	M	18.08.91	Usk	29	N	?
					P2	56	M	0

P1 pulled a simulated cable break at about 50ft but failed to take over quickly enough when P2 responded too slowly. The glider stalled and landed heavily, damaging the skid support tubes and the wing trailing edge.

107	SHK	1578	M	17.08.91 1510	Lyveden	55	N	233

The pilot misjudged the wind strength and undershot into a rough area of the airfield. The glider hit a ridge and collapsed the undercarriage bulkhead.

108	Pilatus B-4	1809	M	01.08.91 1515	Priors Marston	32	M	47

Finding no lift on a Silver distance attempt the pilot decided to land in a playing field while still quite high. It was only as he got lower that he noticed telegraph wires across the approach, but considered the field still large enough. He cleared the wire but could not stop before hitting the boundary fence.

109	SZD Junior	-	M	16.06.91	North Hill	47	N	182

The pilot was signalling "too fast" on the winch launch when the cable broke. He decided not to land ahead, S turned but misjudged the effect of the wind gradient and belly flopped on to the ground. He could have flown further across the airfield into a flatter area.

110	Nimbus 2B	2657	M?	08.08.91	Sleap	58	N	552

During the take-off run the tail skid hit a pot hole and was torn off. He was informed by radio and decided to land on the only grass available, a narrow strip alongside the runway. After a normal touchdown the wingtip caught in the standing crop beside the strip causing a groundloop.

BGA TP LIST

The 1992 BGA list of TPs was issued to clubs at the AGM on February 22. The edition consists of a main document and a separate alphabetical index, and is formed from the March 1991 edition plus the amendments 1 (April 26 1991), 2 (June 12 1991) and 3 (February 16 1992). A total of 469 TPs are listed for England and Wales, and 112 for Scotland.

Additional copies may be had for the cost of postage either *via* the BGA, or direct from the TP co-ordinator c/o Lasham or at Bentworth Hall (West Wing), Bentworth, Alton, Hants GU34 5LA, tel/fax 0420 64195. These are in hard copy or on 3.5 or 5.25in floppy disc in PC Word Perfect 5.1 format. Word Perfect will also convert to other formats; most systems will read the basic ASCII format. If you want other than WP51, please say the exact system that you require, *eg* ASCII, Word 5.0, 5.5 etc. Postage for hard copy is 49p, normal letter rate for discs. To reduce the possibility of viruses, send new unformatted discs; the co-ordinator regularly runs a virus checker. If you prefer, a disc can be provided on request for £1 plus postage (I suggest a coin taped to your letter with a sae), but please state both the disc size and capacity (*eg* 3.5/1.4Mb, 720Kb, etc) required for your machine.

Flight declarations. The Comps Committee will allow declarations which use just the BGA TP Computer Codes (trigraphs), but the edition and amendment state of the BGA TP list used must be stated. An approved BGA declaration form has been sent to all clubs and is included with any hard copies or discs of the TP list.

TP changes for 1992. Be warned that, in amendment list 3, as a result of feedback in 1991, the following TPs have been altered (*ie* they now have different grid references): ABE, BAS, BLD, BRF, CAM, CCF, COL, CVN, ENS, GOR, HER, HON, HTY, LED, LEZ, LLD, LON, PPL, PRS, RUT, SCL, SHB, SHS, SKE, SUD, TIS, TRO, UPW, WAN, WOB. It is now hoped ➡

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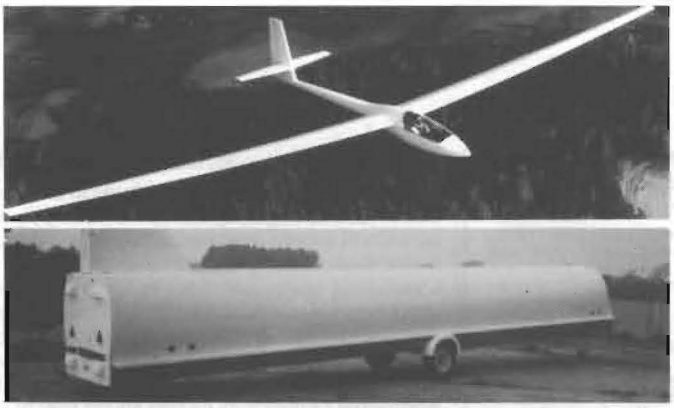
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112	Vega	2467	M	23.07.91 1630	Nr Gap, France	55	N	835

The pilot was returning to the airfield after mountain soaring when he found his path blocked by a thunderstorm. Turning away he was forced to make a field landing ahead of the rain. He landed across wind and in rain and the glider ran across the far ditch and groundlooped in the next field.

113	PIK 20E	M/G G-OCAT	M	14.07.91 1300	Burn	42	N	84+154 pwr

The pilot was attempting to land short on the runway to avoid a departing combination further along. At about 3ft above the runway he opened the airbrakes fully and the glider drop heavily on to the undercarriage which collapsed.

114	K-13	-	N	22.06.91 1455	Challock	44 P2 0	N N	273 0

At about 50ft on the winch launch the cable back released so the pilot landed ahead normally. The winch cable had caught up in the aerotow rope that was attached to the Pawnee tug. The rope tightened, pulled back off the glider and then moved the tug's tail sideways, damaging the hook assembly.

115	K-8	2718	W/O	20.08.91 1400	Woodchurch, Kent	29	N	21

On her first cross-country the pilot had to make a field landing. Her previously chosen field was out of reach so she had to choose a small ploughed field with trees and wires on the approach. In the circuit she saw it sloped downhill. After sideslipping, the speed built up and the glider bounced and had to be groundloop to halt it.

116	Pilatus B-4 & K-13	2189	M	28.07.91 1530	Camphill	28	N	56

After attempting unsuccessfully to soar, the pilot became rather low but still attempted to fly a normal circuit rather than land directly. He entered the circuit behind a K-13 and flew an elongated base leg to position to the right of the K-13. The glider bounced on landing and weathercocked into the K-13's wing.

117	Std Cirrus	3376	S	02.08.91 1420	Deopham, Norfolk	33	N	130

The pilot decided to make a field landing on part of a disused airfield. On final approach he saw a pile of rocks 200 yards down the concrete so tried to skim over the sugar beet field in the undershoot and land on the edge of the concrete. However, he misjudged his height, landed short, then hit the concrete lip damaging the glider.

118	Kestrel 19	1689	S?	18.08.91	Eaglescott	46	N	88

During the initial stages of the aerotow the pilot held the flap level to change settings as speed allowed. At about 30kt a side gust lifted the right wing and the left tip dragged in the long grass beside the runway. The pilot could not reach the release in time to stop the glider being dragged sideways causing substantial damage to the gear.

119	K-8B	3434	M	18.09.91	Challock	40	N	51

The pilot carried out his pre-flight checks but did not notice the canopy catch was not fully pressed home. During the winch launch he signalled "too fast" at about 500ft and the canopy flew open. He released the cable and landed without further incident.

120	Cirrus & Twin Astir	3463	M	08.08.91 1310	Nr Portmoak	54	N	300

The two gliders were soaring in good ridge lift when the single-seater appears to have struck the tail wheel and rudder of the two-seater with his right wing. Both gliders landed safely with only minor damage. It seems the two-seater may have been in the other's blind spot. (Visibility at the time was excellent.)

121	K-21	–	M	15.07.91 1820	Sutton Bank	57 P2 13	N N	417 0

After an approach in strong gusty conditions the glider bounced. P1 allowed the nose to drop and the glider landed heavily on the nose wheel causing a split in the underside of the fuselage.

122	T-21	1000	M	31.08.91 1715	Gamston	53 P2 18	N N	1186 –

After the final turn a bang was heard and the stick came very free with no aileron and little elevator control. The glider dived, then reduced evelator control was returned as the broken control tube between the sticks cleared the stick. By using the secondary effect of the rudder a safe landing was made, just avoiding a potentially serious accident

123	Astir CS 77 (Incident only)	–	N	–.07.91 1158	–	42	N	211

Following a winch launch the pilot found the glider would not respond to forward stick and almost stalled as it left the cable. By using full trim and leaning forward he could only make 45kt and just managed to land safely. Tape on the elevator had lifted across the full width and acted as a spoiler. Tape bubbles were seen before take-off.

124	K-8 & Astir CS	–	S	20.07.91 1500	Lasham	26	N	5

Several gliders were circling in a good thermal. The K-8 pilot was turning tightly while the glass gliders were flying wider circles. The K-8 appears to have turned across the path of the Astir and hit the latter's tail with its wingtip. The K-8 lost its wingtip but both gliders landed safely.

126	LS-7	3585	S	23.07.91 1730	Nr Banbury	37	N	300

While on a cross-country the pilot saw another glider had landed in a field and so, while searching for lift and other fields, kept this as his first choice. Having to land, he flew a circuit to land on the diagonal which the other glider had used. After landing he turned away from the other and in doing so touched a wingtip and groundlooped.

127	Std Libelle	3780	M	11.07.91 1630	Lasham	44	N	150

During the pilot's fourth flight on type he failed to latch the canopy correctly. At 400ft on the winch launch the canopy detatched hitting the tailplane. The glider was landed without further damage.

128	Ventus B	2968	S?	16.07.91 1815	Hungerford	34	N	1074

After attempting to soar in weak thermals the pilot chose to land in a small cut hay field with bales in it. In order to stop in the short length available he had to initiate a groundloop which damaged the glider. Another pilot soaring at 800ft with a perfectly good field in sight saw this glider join well below and land in the miniscule field.

129	LAK-12	3717	S?	15.08.91 1233	Dunstable	47	N	1006

On the pilot's first flight on type she started in negative flap then looked down to change setting as the speed built up. The glider started to weathercock with one wing on the ground and after trying to correct this she tried to release. By this time the glider was about 6ft up and it sank heavily into the ground while rotating.

130	Pegasus	3737	M	18.08.91 1435	Halton	42	N	400+

On a cross-country the pilot had to land at another airfield. After a normal circuit and fully held off landing the glider settled on to its belly as the undercarriage retracted. This apparently had not been locked fully down and the undercarriage warning was known to have been unserviceable.

131	ASW-15	3105	M	18.08.91 1200	Dunstable	31	N	39

During the aerotow the pilot became out of position and, in attempting to regain position, allowed a bow to develop in the rope. The cable back released but by the time the pilot realised this he could not land ahead and so turned right and landed in a corn field.

S=Serious; W/O=Write-off; M=Minor; N=Nil

that the list is "stable" and, in future, changes will only be made if there are very strong reasons. New points can, of course, always be added to fill in any gaps, and some clubs have not yet notified an exact point to be used as a measuring datum for their sites and so are quoted to less accuracy than the other TPs.

Use of trigraphs. If you have a different TP system to the BGA one, please do not use a BGA trigraph for a different point (even for small differences); this could cause awful confusion and lead to mistakes in calculations and invalid declarations; if you use additional points to the BGA ones, please send the details to the co-ordinator and they will appear in the next amendment to the BGA system if they fulfil the BGA guidelines.

Distance calculation programmes. Three task setting and distance calculation programmes that use the BGA Trigraphs have been advertised for general sale in *S&G*; these are, in alphabetical order, Crabb X-C Tasksetter at £39.95 (Tel 0455 220 899), Pro-Glide Taskmaster V3.20 at £49.95 (Tel 0234 766 352), and Specialist Systems TPCALC at £17.63 (Tel 0276 33 706). Naturally no opinion is offered on their relative merits; market forces prevail!

TP briefing sheets – The London GC have for sale A4 size briefing sheets in colour (or B&W) for about 200 of the TPs; see the last issue, p308. Lasham is also building up a data base of A3 size briefing sheets in colour with two photos and two map scales on each sheet, and will sell B&W photocopies in A3 and also reduced to A4; colour may be available later.

Ian Strachan, *BGA Competitions and Awards Committee TP co-ordinator*

INTER-UNIVERSITY TASK WEEK

This year it will be hosted by the Nottingham Polytechnic GC at Saltby Airfield, home of Buckminster GC, from July 19-25. For further details contact J.M.C.Bassett, Nottingham Polytechnic Gliding Club, Byron House, Shakespeare St, Nottingham NG1 4GH, tel 0602 476725, fax 0602 413107.

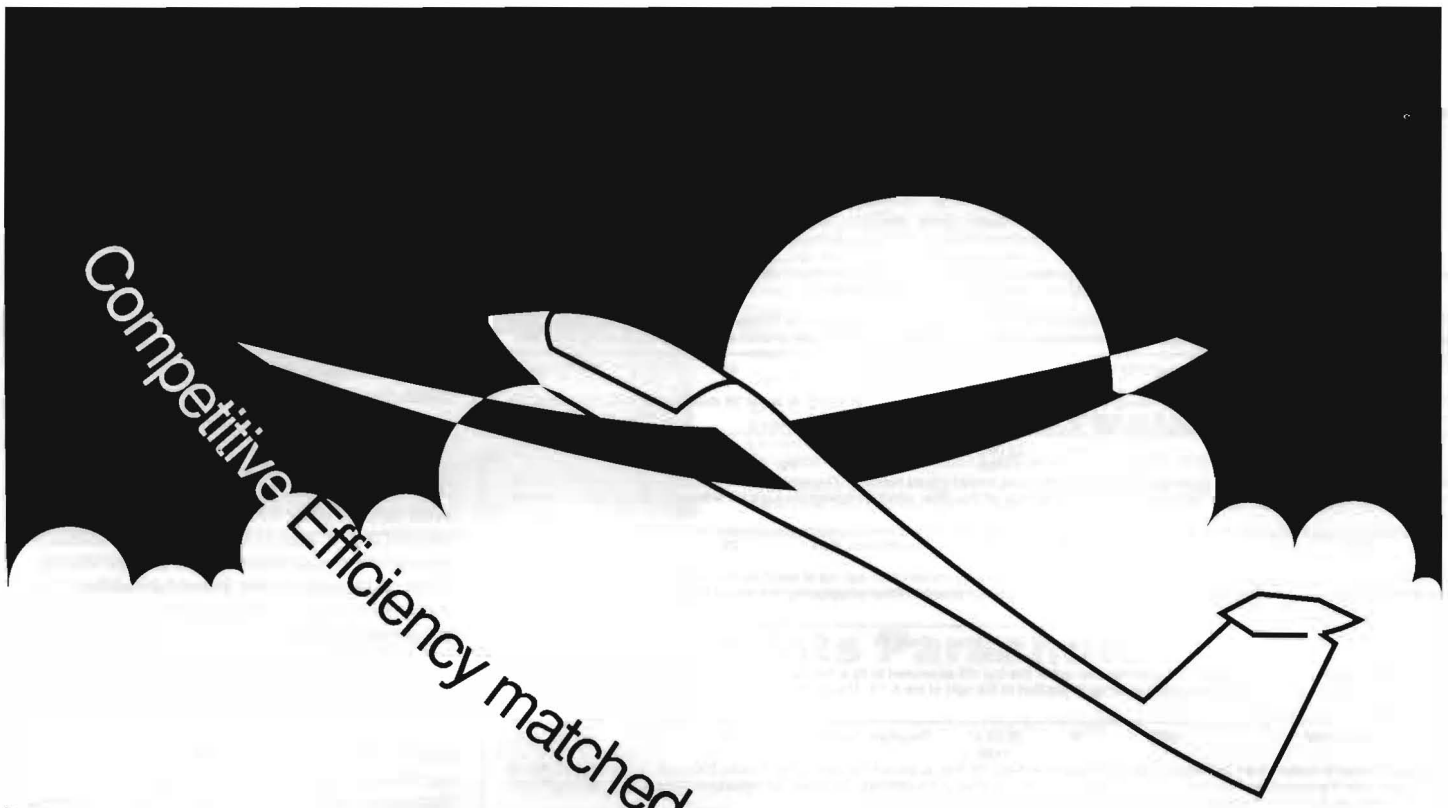
OVERSEAS NATIONALS

There have been some misunderstandings about the reasons and requirements for the Overseas Nationals. I hope this will set the record straight even if it doesn't accord to everyone's beliefs.

As happened two years ago, there will be a National level competition held overseas this year - at Issoudun, France, from May 31 to June 7, directed by Gillian and Brian Spreckley.

The concept of the Overseas Nationals was seriously considered several years ago after a seemingly endless stream of poor British summers caused considerable discontent amongst competition pilots. The RAFGSA had run one Class of the Inter-Services Regionals at Roanne, France from 1987 with some considerable success and intended holding a similar competition in 1990.

On the basis of a reasonable majority of Nationals' pilots being in favour of an Overseas National level competition, and with the ➡



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RAFGSA willing to run it at a known site, 1990 saw the first Overseas Nationals.

To open the field as wide as possible, although the requirements to gain entry and the rating gained from it were equal to those of other Nationals, there was no defined limit on the glider type and scoring was handicapped. Hence the objectives of flying at Na tionals level in the better weather of France in an unrestricted type of glider were met.

Although Roanne was a good competition with six days, there was a feeling it was not an ideal location with less than ideal weathe r. So when, in keeping with the wishes of many competition pilots, it was decided to repeat the competition, we looked for a different site.

The future of the Overseas Nationals will depend on the views of this year's competitors, but subject to no major change of policy , we intend to hold it every other year.

Ted Richards, *BGA Competitions and Awards Committee chairman*

GLIDING FOR THE YOUNG

Young British pilots are again invited to join the subsidised gliding courses run by the German Aero Club's youth organisation for 16 to 25 year-olds at Hirzenhain, near Marburg. If you would like more details, write to *S&G* enclosing a sae.

OBITUARY

ANDREW JAMES THORBURN



Andrew, our president and a founder member of the Scottish Gliding Union in 1938, died on February 4 at the age of 81. A native of Kirkcaldy, he started his long gliding career in 1935 when he would travel every weekend to Sutton Bank. Somewhere around 1937 he thought it was time that Scotland came into the gliding world seriously and he and a few other hardy souls started flying from the top of Bishop Hill – a significant choice as it dominates Portmoak – and on its lower slopes he eventually built his retirement home.

After war service in the RAF he returned to teaching his beloved art in Kirkcaldy and in every spare moment worked tirelessly in setting up the SGU. As its CFI he supervised its immediate post-war activities at Old Balado Airfield. In 1956, when they had to leave Balado, Andrew was instrumental in acquiring a small strip of scrubby ground near the SE corner of Loch Leven and then, through far-seeing business acumen and persistence, proceeded to add adjoining land to produce what became his pride and joy – the present Portmoak airfield.

Andrew's enthusiasm and leadership rubbed off on all he came in contact with, and he was always to be found where the work was dirtiest and heaviest. His flying was an example to everyone and, as an instructor and pilot, he did much to exploit and show the way flying should go at Portmoak.

Not for nothing will he be remembered as the father of the SGU – an accolade truly earned.
JIM O'DONNELL

BETTY AND PAT BEATTY

Betty and Pat Beatty were tragically killed in a road accident on December 21 when on their way to the South African Nationals where Pat and two of their children, Sue and Robert, were to compete. Pat was nearly 72 and Betty two years' younger.

Born in the Eastern Transvaal, Pat fell in love with aircraft at an early age. He studied aeronautical engineering at Cranfield before joining



Betty and Pat

the RAF in the war and becoming a Sqd Ldr.

He first appeared in the Spring 1952 issue of S&G after a remarkable performance in the SA Nationals, flying a Grunau Baby he had built. His partnership with Fritz Johl saw the birth of the famous BJ series of sailplanes.

Glider development was never a profit making scheme. Pat was essentially a research and development man, always seeking new techniques in his quest for perfection. The BJ2 hit the news a few years later when it established a number of world speed records. With its extensive Fowler flaps, it was the first successful variable geometry sailplane.

The BJ3 was the first in the series to use glass-fibre, but combined with metal main spar and wing root fittings (a wing design concept Pat remained faithful to from then on). It was followed by the BJ4 which was the only one of the series to see limited production with two being sent to the 1976 World Championships in Texas.

Fritz's move to Namibia ended the partnership but Pat continued the series, each containing ingenious features, and was working on the BJ9.

Pat, whose competition number was 1, was a National Champion and a national and world record holder. He was one of the two South Africans at the 1954 World Championships at Camphill, flying a Skylark 1. He was also keen on sailing and represented South Africa in the Little America's Cup in the mid 1970s with his own designed C Class catamaran fitted with an airfoil strongly resembling a glider wing.

Pat was a modest, warm hearted person, always ready to hand out praise while being self-effacing about his own achievements. Betty (nee Rowell) was born in Britain and raised in Rhodesia. During the war she was in SA where she joined the WAAF and became involved with the Met Office, taking daily Met flights as an observer up to 15 000ft over Cape Town, for which she was awarded the MBE . On her last Met flight she made an unauthorised parachute jump from the Harvard.

Her Met experience undoubtedly led to her discovering standing wave put up by Table mountain while a member of the Cape GC. She met Pat in 1952 at the SA Nationals where she set two National records flying a Minimoa.

She then worked at the Penguin Flying School at Gatwick, studied for her commercial licence and in 1954 flew almost 6000 miles to Rhodesia in a single engine Auster Aiglet with her friend, Dorothy Alton.

Their marriage was a union of like-minded enthusiasts. Pat proposed after only three meetings but it was a happy marriage resulting in a devoted family of three children who have ➡

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all made names for themselves as glider pilots, Sue recently breaking three women' s world speed records including the 750km.

Our heartfelt sympathies go to Robert, Paul and Sue.

MICHAEL HUNT

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1991
369	Innes, D. S.	Lasham	29.3
370	Lysakowski, E. R.	Lasham	17.9
371	Rice, P.E.	Essex & Suffolk	18.8

DIAMOND DISTANCE

No.	Name	Club	1991
1/555	Strathern, M.	Bristol & Glos	18.8
1/556	Randle, Jane	Cotswold	26.8
1/557	Greenhill, D. J.	Bristol & Glos	18.8
1/558	Rice, P. E.	Essex & Suffolk	18.8
1/559	Murray, P. S.	ex Clevelands (in Australia)	6.12

DIAMOND GOAL

No.	Name	Club	1991
2/2010	Wakem, M. P.	Midland (in Australia)	4.4
2/2011	Johnston, J. A.	RAE Bedford	18.8
2/2012	Warn, A.	London	26.8
2/2013	Greenhill, D. J.	Bristol & Glos	18.8
2/2014	Moxon, M. C.	Oxford	18.8
2/2015	Hoare, N.	London	26.8
2/2016	Middleton, H. B. E.	London	14.7
2/2017	Davidson, J. W. L.	Deeside	28.4
2/2018	Cannon, P. C.	Lasham	26.8
2/2019	Stevens, C. W.	Wolds (in France)	2.8
2/2020	Smithers, C. R.	Cambridge Univ (in France)	14.8
2/2021	Kaye, L. J.	Herefordshire	18.8
2/2022	Evans, I. M.	South Wales	18.8
2/2023	Shuttleworth, P.	Midland	18.8
2/2024	McLean, P.	Fenland	8.8
2/2025	Murray, P.S .	ex Clevelands (in Australia)	5.12
2/2026	Hayes, M. C.	Avon	8.8
2/2027	Watson, M. J.	Norfolk	18.8

DIAMOND HEIGHT

No.	Name	Club	1991
3/1039	Middleton, R. J.	SGU	19.10
3/1040	Innes, D. S.	Lasham	29.3
3/1041	Dickson, M. W.	Two Rivers (in France)	20.3
3/1042	Oliver, A. D.	614 VGS	20.8
3/1043	Lysakowski, E. R.	Lasham	17.9
3/1044	Lynch-Jennings, N.	Glyndwr	16.10
3/1045	Slater, S. W.	Trent Valley	28.9.90
3/1046	Larnbe, A.	Culdrose	17.9
3/1047	Best, G. A.	Culdrose	19.9
3/1048	Weir, N. A.	Cranwell	3.10
3/1049	Garrity, A. J.	Four Counties	16.10
3/1050	Francis, D. P.	Bicester	16.10
3/1051	Moore, P. J.	Portsmouth Naval	16.10
3/1052	Watt, J. A.	Booker	16.10
3/1053	Clark, N. A.	Portsmouth Naval	16.10
3/1054	Walker, Jill	Lasham	16.10
3/1055	Hill, Susan	Southdown	16.10
3/1056	Wood, J. M.	Blackpool & Fylde	16.10
3/1057	Clark, A.	Portsmouth Naval	16.10
3/1058	Sear, D. W.	London	17.9
3/1059	Baker, A. A.	Lasham	20.9
3/1060	Kitchen, P.	Bannerdown	1.11
3/1061	Fack, R. J. H.	Midland	1.11

(All but two were flown from Aboyne.)

GOLD BADGE

No.	Name	Club	1991
1575	Johnston, J. A.	RAE Bedford	16.8
1576	Whipp, E.	Yorkshire	4.10
1577	Janzso, J.	Kent	6.10
1578	Lingham, I. N.	Booker	5.10
1579	Greenhill, D. J.	Bristol & Glos	18.8
1580	Law, C. S. D.	Avon	11.10
1581	Hoare, N.	London	26.8
1582	Middleton, H. B. E.	London	14.7
1583	Garrity, A. J.	Four Counties	16.10
1584	Kaye, L. J.	Herefordshire	18.8
1585	Watt, J. A.	Booker	16.10
1586	Cronk, R. J.	London	7.9
1587	Hill, Susan	Southdown	16.10
1588	Clark, A.	Portsmouth Naval	16.10
1589	Jeans, H. B. D.	Devon & Somerset	12.12
1590	Shuttleworth, P.	Midland	18.8
1591	Hinder, G. J.	Lasham	23.10
1592	McLean, P.	Fenland	8.8

GOLD DISTANCE

Name	Club	1991
Waken, M. P.	Midland	4.3
Johnston, J. A.	RAE Bedford	18.8
Warn, A.	London	26.8
Greenhill, D. J.	Bristol & Glos	18.8
Moxon, M. .	Oxford	18.8
Hoare, N.	London	26.8
Middleton, H. B. E.	London	14.7
Cannon, P. C.	Lasham	26.8
Stevens, C. W.	Wolds (in France)	2.8
Smithers, C. R.	Cambridge Univ	14.8
Kaye, L.J .	Herefordshire	18.8
Evans, I. M.	South Wales	18.8
Shuttleworth, P.	Midland	18.8
McLean, P.	Fenland	8.8
Murray, P. S.	ex Clevelands (in Australia)	5.12
Hayes, M. C.	Avon	8.8
Watson, M. J.	Norfolk	18.8

GOLD HEIGHT

Name	Club	1991
Johnston, J. A.	RAE Bedford	16.9
Hazlehurst, P. C.	London	13.9
D'Arcy, J. F.	Lasham	17.9
Boswell, G. I.	London	19.9
Hill, Kathy	Lasham	19.9
Baker, A. A.	Lasham	20.9
Whipp, E.	Yorkshire	4.10
Janzso, J.	Kent	6.10
Lovett, J. B.	Thruxton	3.10
Brown, D. B.	Blackpool & Fylde	9.7
Pigden, M. R.	Lasham	17.9
Lingham, I. N.	Booker	5.10
Tournier, J.	Booker	6.10
Caton, J. L.	Lasham	14.9
Chernecki, E. A.	Booker	5.10
Law, C. S. D.	Avon	11.10
Clark, D. J.	Kent	6.10
Hardwick, Marjorie	Booker	16.10
Adams, R. C.	Culdrose	22.9
Egan, K. P.	Culdrose	23.9
Dennett, M. I.	Yorkshire	4.10
Shaw, Shaunne	Cornish	16.10
Shaw, J. S.	Cornish	16.10
Garrity, A. J.	Four Counties	16.10
Moore, P. J.	Portsmouth Naval	16.10
Brown, P. D.	Portsmouth Naval	16.10
Watt, J. A.	Booker	16.10
Cronk, R. J.	London	7.9
Decloux, Ariane	Cambridge Univ (in France)	2.10
Fisher, N. J.	Lasham	4.10
Binnie, G. J.	Phoenix	14.10
Hill, Susan	Southdown	16.10
Edwards, T. R.	Portsmouth Naval	16.10
Clark, A.	Portsmouth Naval	16.10
Green, J. F.	SGU	19.10
Jeans, H. B. D.	Devon & Somerset (in USA)	12.12
Sear, D. W.	London	17.9
Cooke, A. J.	Heron	23.10
Clark, Yvonne	Portsmouth Naval	23.10
Hinder, G. J.	Lasham	23.10
James, J. P.	Cornish	1.11
Ashton, I.	Blackpool & Fylde	16.10
Pirie, D. S.	Deeside	27.7
Ross, K. W.	Oxfordshire SF	2.11
Walton, K. R.	Portsmouth Naval	16.10
Byrne, Kathleen	SGU	19.10
Screen, K.J.	Midland	1.11

SILVER BADGE

No.	Name	Club	1991
8824	Armstrong, S. F.	South Wales	18.8
8825	Hughes, M. E.	Coventry	1.9
8826	Ashworth, C.	Cotswold	25.8
8827	Lysakowska, Karen	Lasham	31.8
8828	Oliver, M.	Booker	20.9
8829	Pigden, M. R.	Lasham	17.9
8830	Smith, D. A.	Bath & Wilts	27.8
8831	Munro, D. N.	Norfolk	26.8
8832	McWilliam, J. A.	Ulster	30.8
8833	Stanley, P. A.	Midland	17.8
8834	Mellor, P. G.	Booker	3.8
8835	Mellins, G. A.	Booker	26.8
8836	Kroner, S. N.	Aquila	4.10
8837	Brownlow, P. N.	Sackville	18.9

UK CROSS-COUNTRY DIPLOMA

Complete

Name	Club	1991
Emck, A. J.	Lasham	25.8
Benson, M. J.	Lasham	26.8
Allan, J. C.	Bicester	20.9

Part 1

Name	Club	1991
Bunniss, P. C.	Bristol & Glos	25.8
Joosse, C. A.	Kestrel	26.8
Owen, D. T.	Dorset	4.8
Pettitt, A. J.	Shalborune	18.8
Clark, Yvonne	Portsmouth Naval	19.9
Lamb, D. E.	Booker	26.8
Maddison, J. B.	Newark & Notts	26.8
Hughes, Denise	Midland	15.9
Vincent, C.	Avon	19.9
Coughlan, J. R.	Anglia	20.9
Stanley, P. A.	Midland	8.8

Part 2

Name	Club	1991
Hanks, R.	Bristol & Glos	20.8
Benson, M. J.	Lasham	26.8

SERENGETI SUNGLASSES

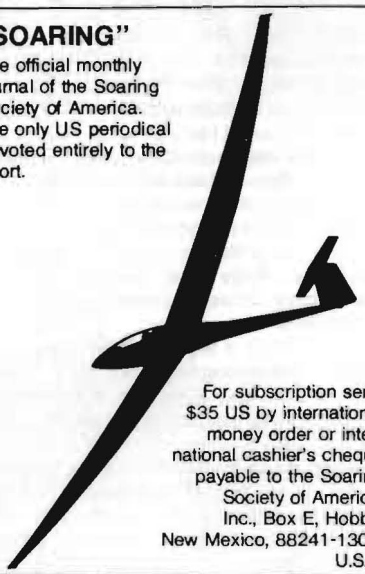
Several glider pilots have been testing the Serengeti Drivers sunglasses and finding them good at picking out cloud formations, spotting distant aircraft and identifying landmarks.

They have ground and polished photochromic lenses to automatically adjust to changing light conditions and spectral control filters to take out 95% of blue light wavelengths. This is said to give sharper images, reducing blur while leaving colours true to life. As they react to any changes of light, they let you see the relatively dim instrument panel while reducing glare from the sun.

They are on sale at leading opticians at £89.95 and are made by Corning Optics.

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CLUB NEWS

Copy and photographs for the June-July issue should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 0223 247725, fax 0223 413793, to arrive not later than April 7 and for the August-September issue to arrive not later than June 9.

GILLIAN BRYCE-SMITH
February 12

ANGLIA (RAF Wattisham)
Congratulations to "Mouse" Ackroyd and Gwyn Thomas on their Gold heights at Clevelands GC during Christmas and to Gwyn's wife Carol on going solo; also to John Baker, Andy Hill and Jim Coughlan (AEI ratings) and to Richard Maisonpierre on becoming a full Cat. We have started to re-cover our K-13 as part of its refurbishment.
J.R.C.

AQUILA (Hinton in the Hedges)
Our BGA safety presentation was extremely well attended, very thought provoking and interesting.

Our 25th birthday party was a great success with everyone receiving a bound history of the club.

After much development our new VARI-EZE tug will be in operation when this issue appears.
D.McI.

AVON (Bidford)
On New Year's Day Barry Meeks, Richard Palmer and John Scott were cruising around at 13 000ft in wave while the Portmoak wave expedition were sitting on the ground in wind and rain, but we thank Portmoak for their hospitality.

The dinner-dance went well and congratulations to the trophy winners.

Dave Bland and Simon Adlard join the staff as course instructors with Phil Butt as the tug pilot.
C.T.

BANNERDOWN (RAF HUllavington)
At the AGM our new CFI, Chris Terry, was welcomed 25 years after his first glider flight at Colerne. Keith Eamden was thanked for his leadership over the last five years.

In a safe and successful year we had ten solos, four Bronze badges, two Silver badges and two Diamonds, the last by Phil Kitchen who gained his height at Aboyne. Trophies were presented to Harry Narain, Lisa Gouldesborough, Brian Logan, Andy Millar, Bob Brain and Andy Smart. Jackie O'Fee received a gift for her culinary delights.

Due mainly to a sensible new pricing structure, we are in a good financial state but the season is clouded by the closure of Hullavington. We are looking at three possible sites to the north.

Garry Isles went solo on Christmas Day; Paul Griffiths has his AEI rating and John Hull his full Cat. We have swapped our Astir 77 for a K-8, which makes for easier conversions from the K-13.
D.C.F.



John Thompson, Burn GC, who, at 78 years-old, had his 1000th flight.

BICESTER (RAFGSA Centre)
Many flying days have been lost through low cloud and rain, but the AGM went well with trophies going to Davy Rae, Harry Chappel and Mike Bennet.

Congratulations to our new solo pilots – too many to mention. Sadly Shane, the faithful "duty dog", has died.
C.A.D.

BLACK MOUNTAINS (Talgarth)
On New Year's day Tony Burton set a new club record with a climb of 29 500ft to 31 500ft in wave and five days later climbed 20 000ft to 23 500ft. Indeed the whole of January was good with at least one wave day and an average of four soaring days a per week, climbs in excess of 10 000ft being not uncommon and a monthly average of 2hrs/launch.

February started well with five soaring days in the first week, three in wave!

We have our first ever task week from May 2-10. Entries are limited so book early.
D.U.

BOOKER (Wycombe Air Park)
Linda Maggs and Paul Woodland, both from the BBC group, have gone solo. Some 30 members enjoyed winch launching during a week's expedition to Bicester.



David Robinson, Dukeries GC, with instructor Peter Turner, after going solo.

To broaden our intermediates' experience, we have exchanged a Junior with a Dunstable K-23 during February. We have expeditions to ridge sites and to Cerdanya, Spain and are hosting the Standard Class Nationals in July.

Our much loved K-21 (ECZ) has been refinished by Dave Richardson.
R.N.

BORDERS (Galewood)
We want to improve our club fleet and ground facilities with a Sports Council grant and have plans for a new clubhouse and improved hangar floor so we can do our own tug maintenance.

We hope our static display at the Tourist Board's sports week in May will attract new members and we will have many flying weeks from Easter Monday through to November.

Congratulations to Richard Horan on Silver height and Les Gibson on re-soloing after a long absence.
R.C.



Alan Wright, Deeside GC, who soloed at 16 years, photographed with his instructor Iain Donnelly.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)
Graham Morris has retired as CFI and we thank him for his years of hard work and service. We welcome Gerrard "G" Dale as the full time CFI/manager, who will run a seven day operation, and Sandra Cantwell who is in the office. We now need a winch driver.
H.E.

BUCKMINSTER (Saltby Airfield)
Conditions haven't been too bad with some wave flights at the start of 1992. Our Rallye had been overhauled and the club K-6CR is being replaced with an Astir, thanks Jim Airey, our chairman.

Our Christmas dinner was a great success. Congratulations to Sam Morecraft who went solo shortly after her 16th birthday and joins the rest of her aviating family.

We are hosting the Inter-University and the club task weeks at the same time from July 12-18. We operate at weekends and on Wednesdays but from May will be flying seven days a week. Visitors are always welcome but please use the extrance off the Sproxton-Skillington road.
M.E.

BURN (Burn Airfield)
Our third winch was built in four months by a team headed by Tony Flannery. (It will be described in an article in a future issue.)

Our senior member, John Thompson (78) recently had his 1000th flight in a club K-8, which was quite an achievement as John didn't start gliding until he was 63.

The pantomime was an enormous success. Congratulations to Mark Griffiths on going solo. We have a new aircraft – a privately owned Twin Astir.
D.G.K.

CAIRNGORM (Feshiebridge)
Our 25th anniversary dinner-dance was a great success and our thanks to the organiser, Ray Lambert.

We are considering replacing the old hangar, which is being threatened by erosion from the river, with T hangars. Andy Carter has bought a "scaffy wagon" for us to convert into a winch.

The unseasonal lack of snow has made this our most active January.
S.M.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
We now fly every Friday with winch launching and instruction available. All the buildings on our new site are complete or nearing completion and we are hosting a task week from August 15-23 to which visiting pilots are most welcome.

Congratulations to Malcolm Farrell (Gold badge) and Martin Saunders, Morris Skellern, John Curtis, Bob Godden and Tim Bleazard on going solo, Tim the first at Gransden Lodge.

Our presentation evening was a great success with trophies awarded to Richard Baker (two); Phil Jeffery (at least two!); Ariane Bridge and Janet Birch. The new Tredders' cup, awarded in memory of Peter Treadaway, went to Marshall Papworth for his enormous efforts in the preparation of the new airfield.

Our new Supacat winch has arrived.
J.L.B.

Obituary – Colin Simmonds
It is with great sadness we report the death of Colin in December. His love of flying began while in the RAF in the Second World War and he joined the club in the footsteps of his son Andrew.

Colin's first flying love was soaring his beloved Mosquito but he was an enthusiastic club all-rounder who would cheerfully take on any chore. The club benefitted considerably from his accounting professionalism as assistant treasurer.

He will be greatly missed and we send our deepest sympathy to Barbara, Andrew and Gill.
Harry Boal

CLEVELANDS (RAF Dishforth)
The Christmas wave camp gave some Gold and Diamond heights, mainly to visitors. Congratulations to Phil Thorpe and Rob Martin (Bronze badges, Rob also gaining Gold height) and Derek Smith (AEI rating and Diamond height).

At the AGM, awards went to Benny Benedict, Terry Wilson, Dick Brisbourne, Jill Povall, Paul Whitehead, Colin Walker and Dick Cole. ➡



Here we have four girls who have recently gone solo. Teresa Bruce-Jones is the first Highland GC member to solo at their new site. Photo: Martin Knight.



Julie King soloed the day after her 16th birthday. She is seen with, l to r, Brian Griffiths, CFI, Humfrey Chamberlain, DCFI and David King, her father and instructor.



Above: Sam Morecraft, Buckminster GC, who went solo shortly after her 16th birthday. Below: Claire Nurcombe soloed on Christmas Day, her 16th birthday, and is photographed with her instructor, Gary Wills, on the right. The placards were marks out of 100 for her landing!



We said goodbye to our chairman, Peter Gooding, and DCFI, Wally Grout and family, with thanks for all their work and best wishes for the future.
J.P.

CORNISH (Perranporth)
Our home brewed two drum, 5.3 litre V12 Jaguar winch, started some years ago by Nigel Davey and Dave Uren, continued by Dave Clouder and completed by John James, is giving smooth launches, often to 2000ft, has a fast turn-round and a comfortable and weatherproof cab, all for £1500.

The new owners have licensed part of the airfield and we will aerotow on runways 05/23 and 09/27 with winching on grass strips seawards of 05/23 and alongside 27 on to the ridge. Much undergrowth has been cleared and the long derelict control tower is now a small palace.

John Shaw has taken 18 months to rebuild the T-21 and it looks wonderful. Shares are still available.
R.T.V.

COVENTRY (Husbands Bosworth)
At the annual dinner prizes went to Dave Booth, Jonathan Walker, Steve and Paul Crabb, Phil Marks, Mike Hughes, Gisele Pellegrini, Ron Wright, Richard Blackmore, Nick Hackett, Carl Buzzard, Keith Nurcombe and Max Scott with the two Crabb brothers taking six. Our AGM will be on April 25.

Rory Ellis and Mike Hughes have AEI ratings and Mike his Silver badge. Alan Foxon and Mike Cater gained Gold heights and Alan Kangurs Diamond height at Dishforth. Congratulations also to Dave Booth and Jonathan Walker who came 1st and 2nd in the National Weekend Ladder and Nick Hackett who came 3rd in the Open Ladder.

Claire Nurcombe went solo on her 16th birthday on Christmas Day, thanks to members who turned out to help.

The club has a third new Puchacz.
T.W.

CRANWELL (RAFGSA)
We will be celebrating our 25th anniversary in various ways throughout this year. We will soon have a bunkhouse, refurbished toilets and probably a shower so weekend visitors are very welcome.

Ian Mountain and Bobby Stone gained Gold heights at the Clevelands GC wave camp at Christmas where the wave and hospitality were good.

Max Iverson and Nick Hawley have gone solo. The Gull 4 has been sold and is leaving the site after 13 years.
I.M.

CULDROSE (RNAS Helston)
Eighty members and guests enjoyed our 25th anniversary dinner-dance. Prizes went to Steve Coulthard, John Smith, Dave Brown, Pete Green, Pete Pengilly and Graham Best.

The Pirat has been renovated due to much hard work by Robbie and Darren Robinson and Steve Coulthard.

We bid farewell to Nick Weaver who has been posted to Australia for two years. Five members are attending the assistant Cat course at Culdrose in April.
R.A.

DARTMOOR (Brentor)
At the annual dinner the main awards went to Norman Wood and Alan Holland.

We now fly all the year and wave helped John Hunt and Ray Boundy gain Bronze badges and Steve Walsh and Colin Boyd to start 1992 with a Bronze leg and Silver height respectively.
F.G.M.

DEESIDE (Aboyne Airfield)
Alan White at 16 years-old is the first under our junior training programme to go solo but qualifies for free glider time until he is 18. Many congratulations and also to Dave Pirie (Bronze badge) and Steve Thompson (Silver height).

A new Junior complements the single-seater fleet of ASW-19 and Sport Vega. Our thanks to Ian Ross on building it a trailer.

The clubhouse is being extended this spring with the addition of offices, briefing room, kitchen, viewing area, shower, bunkrooms, bedrooms for the tug pilots and more toilets with facilities for the disabled. The existing clubroom is being extended and will incorporate a bar.

The winter wave has been working most days and training flights to 10 000ft are becoming a regular occurrence.
G.D.

DEVON & SOMERSET (North Hill)
Trophies were presented at the AGM to Simon Minson, who won three and shared another with John Burrow, Mike Fairclough, Ian Mitchell, Stuart Proctor and David Greig.

On New Year's Day Damian Le Roux (K-6CR) contacted wave over North Hill with a gain of 3100ft.

We have a cross-country week from June 15-19 and a task week from August 10-14. We look forward to welcoming visitors, particularly to the vintage weekend from May 2-4.
I.D.K.

DERBY & LANCS (Camphill)
We've had a large number of flying days this winter, a high percentage being soarable, and frequent wave which took Mike Armstrong to more than 10 000ft and gave Daryl Athey 6kt at 8500ft during a training flight. This has given *ab-initios* lots of experience. Congratulations to Dave Atherton and Brian Hamlet (Silver height) and Warwick Horne (5hrs).

We have a busy programme of lectures; field selection and landing practice will be boosted by the visit of a Motor Falke and all week flying and courses start on April 1.

Our open weekend is May 24-25; our task week starts on June 7 followed immediatly by a BGA soaring course with a club week in September. So book early. Visitors are always welcome.
M.I.R.

DORSET (Old Sarum)
We have a new Grob Twin 2 which is very popular and with several new *ab-initios* we have been busy.

Comfort on the field has improved considerably with the new tea caravan fitted out (plus Cathy's superb bacon sandwiches) while the usual crew are rebuilding another tractor.
E.B.

Club News reporters: *If you are sending handwritten contributions please print pilots' names. We had trouble deciphering several in this issue and have a feeling some must be wrong.*

DUKERIES (Gamston Airport)
Congratulations on going solo to Linda Telfer, our social secretary. The club K-7 is being refurbished.

A reminder to visiting pilots – you must not cross runway 03/21 unless above 1500ft.
J.C.P.

EAST SUSSEX (Ringmer)
We had a successful series of winter lectures and hosted one of the first BGA safety awareness evenings.

Congratulations to Carol Head (Bronze badge) and Richard Goodsell, Clive Hawkes, Kevin Mockford and Phil Staplehurst (AEI ratings).
L.M.

ENSTONE EAGLES (Enstone Airfield)
After deciding to replace our towcars with a winch we have ended up with two! We have used the winter to settle into our winch launching operation.

The Enstone Regionals from August 8-16 are well subscribed.
M.S.

FENLAND (RAF Marham)
We are rewiring the clubhouse. Members have overcome the hurdles of the last six months with resourcefulness and the launch rate may even be better than the previous year.

We have another Land Rover, thanks to Kev Sharp and Paul Avery. Congratulations to Paul (who has taken over from Kev as MT member), Mike Toon and Ian Padgett on their AEI ratings.

We wish "AJ", our disabled glider pilot, our best whilst seeking treatment in Russia to rid her of the wheelchair.

"Bic" Smith, a full Cat, joins us from Phoenix GC.
R.M.E.

FOUR COUNTIES (RAF Syerston)
Thanks to hard recruiting we have eight new members this year. and following an instructors' course, held over Christmas, six have their ratings.

The arrival of the motor glider makes navigation exercises, field landing checks etc possible throughout the year and Mark Davies soloed in it in January.

The affiliated Nottingham University GC has increased membership, have a fund to replace their ageing Blanik with a more modern two-seater and bought a share in the privately owned K-8.

We have Easter and summer task weeks and with many places to sleep after completion of

the accommodation blocks, those interested can phone Andy Mason at the club. Andy is our new CFI, having taken over from Ben Beniston at the November AGM.
S.D.

GLYNDWR (Denbigh)
Our annual dinner was a great success with prizes going to John Dean, Dave Townsend, Stuart Pearson, Lyndsay Bird and the new landing out trophy to Dave Bullock.

We have had some excellent wave with Diamond height for Geoff Glazebrook, Gold height for Simon Symeonides and Bronze badges for Chris Fox and Dave Horgan. Sandy Pels has gone solo.

London GC have left a K-21 at the site for regular winter wave expeditions.
G.H.

GRAMPIAN (By Laurencekirk)
We had a most enjoyable week at Portmoak in October with everyone having soaring flights in wave and on the ridge. Our thanks to Martyn Davies for the loan of his K-6 during the expedition.

Some members are trying to form a glider syndicate. Congratulations to Keith Jack on going solo and Dave Smith on gaining a Bronze leg.
R.J.S.

HEREFORDSHIRE (Shobdon)
In November Chris Rollings brought us the BGA Janus, a Discus and an SZD 55, the week culminating in a ladies' weekend organised by Diana King and a visit by Booker members. With two extra tugs there were 62 launches from 9am to 4pm and a thick band of gliders up to 5000ft west of Shobdon. But the visit in December by John Jeffries and friends was a complete wash out.

The New Year started with wave from the early hours until late at night with some good flights.

The BGA safety meeting was an eye opener and exceedingly well presented by Peter Gill. Practically every member attended.

Charles Boutcher has gone from DCFI to CFI, taking over from John Hunt who is back as chairman.
R.P.

HIGHLAND (Easterton)
We are settling in at Easterton and have a refrigerated lorry box as a trailer for the Bocian and K-8 and a bigger caravan for a clubhouse.
The weather has been kind with Geddes Chalmers, an early solo pilot, gaining a Bronze leg and nearly 9000ft in wave – the highest so far.

Theresa Bruce-Jones is the first to go solo at Easterton on January 5 – is she the first UK solo in 1992?
A.G.V.

HUMBER (RAF Scampton)
We are housing our club fleet, which we expect to change giving priority to a glass two-seater, in one of the ex British Aerospace hangars.

At the AGM in January the chairman presented trophies to Kev Atkinson, Tom Lamb, Vic Wilson, Dave Cockburn (CFI), Sean Hodges, Dave Ruttle and Ray Mawson.

Congratulations to Mike and Rich Tobin (AEI ratings) and Sean Hodges (Bronze badge).
D.M.R.

IMPERIAL COLLEGE (Lasham Airfield)
We have been busy with many new members and the arrival of our new Grob 103 Twin 3. The club single-seaters are being fettled by Frank Irving, Rob Martin and Rob Williams.

We ran a successful course over the New Year (including getting the first flight of 1992 at Lasham) and plan an excursion to Wales for Easter,

Well done to Sarah Harland on going solo.
A.D.

KENT (Challock)
The two drum winch designed and built by Graham Johnson is now launching to over 1200ft. Congratulations to John Whittington, who is handicapped, on going solo.
D.J.C.

KESTREL (RAF Odiham)
Our thanks to members who helped repair our ageing hangar and to Alan Somerville and, in particular, Mike St Jean for months' of hard work to get our Tost winch operational.

Congratulations to Dick Milton and Paul Shelton-Smith on going solo.
J.N.

MENDIP (Halesland)
At the Christmas dinner-dance the chairman, Barry Hogarth, presented awards to George Whitcombe-Smith, Dave Townend, Tim Hogarth, Paul Croote and Bob Sheffield.

The clubhouse is nearing completion with a kitchen, clubroom, briefing room and toilets.

Congratulations to Ron Perry on his restricted MGPPL instructor rating.
T.A.D.H.

MIDLAND (Long Mynd)
We have flown most winter weekends, sometimes enjoying wave with climbs and some dual cross-countries. December 8 was glorious: 51hrs wave flying above an inversion from 61 launches. The imminent arrival of our Pawnee will expand our wave seeking.

Ken Markham has gained his AEI rating and Brian Cleugh and Maureen Sanbrook have soloed. The Christmas lunch and New Year's Eve parties went with a swing. Liz Platt has taken on the catering and our week courses start in mid-March.
A.R.E.

NENE VALLEY (RAF Upwood)
The annual dinner in December was a great success with the CFI's shield going to "Taff" Turner. Congratulations also to John Young on his full instructor rating.
D.H.

NEWARK & NOTTS (Winthorpe)
Congratulations to Eric Goodwin on going solo; to Tom Kerry on finally flying the Skylark and to Gerry Hall and Bill Griffiths on becoming private owners. The club's ex Swiss K-8 is being converted to a normal trim tab system, courtesy of Peter Waller.

Frank Hunt is now an authority on rebuilding Gardiner diesels.
M.A.

NORFOLK (Tibenham Airfield)
Our new hangar is well underway and utilisation of the clubhouse continues to increase – we have recently held quiz nights, courses on cross-country flying and an excellent video evening in aid of the 8th Air Force memorial library in Norwich.

Congratulations to Josie Briggs (the first winch trained solo pilot) and Terry Jeffery and John Edwards (MGPPL).

Our annual dinner is on April 4, the spring task week from May 23-29 and the Eastern Regionals from May 30.
R.J.H.

NORTHUMBRIA (Currock Hill)
We ended 1990 with a superb wave day. Every winch launch on December 28 contacted wave directly above the site giving even the earliest solo pilots an unforgettable experience.

At a social evening solo pilots were given their wings and trophies were presented by Graham McAndrew, national coach, who the next day flew with AEI candidates, demonstrating spins from simulated winch failures in the Puchacz.

Our task week starts on May 25 and we have our usual summer courses.
R.D.

NORTH WALES (Bryn Gwyn Bach)
We are enjoying reliable launches of a good height, having bought two Wilde winches which have been re-engined. This now gives us access to the longest soarable ridge in North Wales and the wave systems found in a SW wind.

We started the year with wave climbs to 10000ft common and several flights much higher. Congratulations to John Royle on his Bronze badge.

We are continually improving the site and welcome visiting pilots with or without a glider. If you would like to visit contact Vic on 0745 582286.
D.J.

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The prize-winners at the Mendip GC dinner-dance, l to r, Barry Hogarth, chairman, Bob Sheffield, Dave Townend, Tim Hogarth, Paul Croote, George Whitcombe-Smith and Peter Turner, CFI.

PETERBOROUGH & SPALDING (Crowland Airfield)
David Crowhurst took over from Norman Brown as CFI at the AGM. Our thanks to Norman for all his work. Congratulations to those recently going solo and gaining badges, especially Lois Thirkill, our first Bronze badge female for many years, and John Mann, the most recent to solo. Commiserations to Roger Gretton for just missing his 300km.

Many thanks to Harry Worth for repairing and maintaining our fleet and Sandrae Dickson for excellent clubhouse catering.

Our flying fortnight is from August 3 with the barbecue on August 8.
D.K.P.

PORTSMOUTH NAVAL (Lee on Solent)
Congratulations to Sue Bullock and Robert Elcock on going solo.

Our thanks to Tony and Mandy World for organising a successful Christmas dinner and to Hazel and John Robinson for running the canteen bus.
K.S.

RATTLESDEN (Rattlesden Airfield)
Congratulations to Julie King (daughter of David) who went solo on her 16th birthday.

The AGM was well attended with excellent refreshments by Mark and Karen Wright. A new syndicate have a Twin Astir and the recent, very well attended, quiz evening was won by the Team Astir.
M.E.

SCOTTISH GLIDING UNION (Portmoak)
We had a record December-January with over 800 launches and a good crop of achievements – David McFarlane, Gordon Watson, Douglas Macpherson, Ronan Murphy and Murdo Mackenzie (solo); J. Muir (re-solo); Andrew Wood (AEI) and Ian Wright and Donnie Caldwell (Silver badges). Add to this the first (unintentional) cross-country on New Year's Day in the Bocian by visitors, and an impending Michelin star for our catering, and we are very optimistic about 1992.

Colin Hamilton has taken over from Graham Smith as DCFI and in appreciate of his service over many years Graham was made an honorary life member.

Three members spent an enjoyable Christmas and New Year at St Rùmy-de-Provence and we hope for a reciprocal visit. We also had welcome use of the Puchacz demonstrator which proved popular.

We had a good turn-out for Bill Scull's flight safety presentation in January followed by a BGA Regional meeting. We were pleased to see the BGA flying the flag north of the border even if Mary Meagher chooses to leave us off the map.
M.J.R.

SHALBOURNE (Rivar Hill)



Dave Maleham, photographed with his wife Ellen, tragically lost his life in a gliding accident on July 28 (see obituary in the October issue, p273). A trust has been set up in his memory by Ellen, their children Tracey and David and members of the club to help young pilots develop their skills.

Dave, a dedicated instructor, had been gliding for nine years and was an enthusiastic club member.

Donations may be sent to The Dave Maleham Memorial Fund, c/o Steve Ottner, The Dell House, Charmwood Close, Newbury, Berks RG13 1XA or to Lloyd's Bank, 14 The Broadway, Newbury, Berks. Account No. 7045463.

Our AGM in November was tinged with sadness as we elected a chairman, Ken Porter, to replace Dave. Our thanks for 4 years hard work to Steve Ottner, who retired as secretary. Our CFI, Chris Rowland, thanked Roger Madelin for successfully running the first *ab-initio* week, helped by Carol Pike and Ken Reid, and presented trophies to John Parsons, Richard Dann, Nigel Kent, Jonathan Mills and Val Pike. A trophy in Dave's memory will be awarded next AGM for the most progress in a first solo year.

The clubhouse exterior walls have been rebuilt and the entrance to the open hangar given heavy duty tarpaulin curtains. Our thanks to Alan Pettitt and Denis Maynard respectively for organising these improvements.

Congratulations to Richard Dann (assistant instructor rating and 100km diploma); Alan Pettitt (100km); Thomas Stamp (Silver height and 5hrs); Denis Maynard (50km); John Hogbin (Silver badge) and Rob Jarvis (going solo).

We are sad to say goodbye to John Hogbin, who has moved to Carlisle, and welcome back Mark Flower who recently resoloed after two years in Gibraltar. We have a new Puchacz.
J.R.

SOUTHDOWN (Parham Airfield)
Our second end of year dinner just before Christmas was hugely enjoyable – our thanks to the organiser, John Hawkins.

The benefits of our new Tost winch are becoming clear with launches in January 40% ahead of target. A team led by Ron King are refurbishing one of our K-13s and our new 22m flapped DG-500 is due in July.

Congratulations to Paul Barker and Nicky Clowes on going solo and to Sue Hill for completing her Gold badge and gaining Diamond height.
C.M.R.

SOUTH WALES (Usk)
We thank Norma and John Milsom for organising our annual dinner. Trophies were presented to Dave Jobbins, John Phillips, Ian Evans, Simon France, Maureen Counsell, Mike Dunlop and to Liz Phillips for her work as course secretary before handing over to Hugh Evans.

Over Christmas three of the Vega syndicate climbed to 19 000ft for Diamond heights – Graham Bailey and father and son Eric and Justin Fitzgerald.

We are sad to have lost a long serving member, Ian Edwards who finally succumbed to the courageous battle he fought against cancer. He had given much of his time to the club in a variety of roles as an instructor, inspector and chairman. When possible, he even continued much needed maintenance work on aircraft. Our thoughts go to Ian's wife and children.
N.S.J.



Mike Jackson of Trent GC in his life-jacket at Kirkbride, north of Keswick, after attempting to cross the Irish Sea.

STAFFORDSHIRE (Seighford from April)
After three years' search and 12 months' negotiation we are moving to Seighford, four miles NW of Stafford. Although we sometimes enjoyed memorable soaring from Morridge, the ground,

airspace and weather restrictions finally became too great.

Seighford promises to be an excellent training and cross-country site and membership is growing rapidly. We hope to start flying there using our new Tost winch in April and welcome new members and visitors.

If you arrive by air (gliders and SLMGs only please) note that the gliding site is the **grass** NW part of the airfield with the main run 08/26, and not the SE part which still has a hard runway 12/30 in occasional use. Therefore glider circuits should be to the north.

Congratulations to David Thorpe and Chris Harris (full Cat ratings); George Loizou (Bronze badge) and John May and David Gill (going solo).
P.J.G.

STRATFORD ON AVON (Snitterfield Airfield)
We had a record attendance at the annual dinner-dance. Being only 4 miles from the M40 we have a lot of visiting pilots – we fly on Thursdays and at weekends.

A new SZD Junior joins our K-21 and two K-13s in April. Congratulations to Brian Marsh on coming 8th in the Junior Nationals and to those awarded trophies at the AGM. Numerous Bronze legs shows the commitment of our instructors.

We are indebted to Caroline Coates and her team for the clubhouse catering and Dave Benton's chairmanship of the new operations group is making its mark.
H.G.W.

STRUBBY (Strubby Airfield)
We welcome Dick Hannigan as CFI and thank Roy Partington for filling in. Phil Trevethick has bought a Std Cirrus; the Nord 2000 has been sold and the club Skylark is being rebuilt for this season.

Congratulations to Terry Mottishead and Geoff Traves on going solo, Geoff re-soloing after a lengthy break.
R.G.S.

TRENT VALLEY (Kirton in Lindsey)
A year of frustrating and disappointing negotiations towards buying a new site came to a standstill. The planning application for the development of a farm three miles from Kirton was turned down on slender grounds and an appeal is likely to be too costly.

The proposed buying of a glass two-seater will help to compensate as will the flying week at the end of May, eating in the new tea bus and the annual dinner.
M.P.G.

TWO RIVERS (RAF Laarbruch)
Congratulations to Lyn Ferguson, Kev Morley and Richard Lovegrove on their assistant Cat ratings. A big thank you to Four Counties GC for running a superb course during the Christmas holiday. Well done to Alec McDonald, Tom Sawyer, Bill Bailey, Stuart Warne, Rachael Hill and Silka Evans on going solo.

The RAFGGA AGM, at Laarbruch in January, was a thoroughly enjoyable evening.

We have an expedition to Sisteron in March/April and our Mini Comp is from May 28-31 – all entries welcome. Application forms are from the CFI, Two Rivers Gliding Club, RAF Laarbruch, BFPO 43.

Mike Burrows is returning to the UK and will fly at Chilterns.
L.F.

VALE OF WHITE HORSE (Swindon)
Congratulations to Paul Mansfield and David Foster on their 300kms and to Dianne Steele and Geff Wirdnam on completing Silver badges. But commiserations to Gerry Brown on his 500km – better luck on the photographic course Gerry!

The power lines at the western end of the field have, at great expense, been buried.

We have eight courses planned and four mini courses already booked.
R.C.W.

VECTIS (Isle of Wight Airport, Sandown)
Visiting pilots beware! Our gliding strip has been ploughed up, levelled and re-seeded making it temporarily unusable. Our aircraft are still based at Sandown but we are operating from Bembridge Airport or field sites. Please phone Sandown Airport before departing.

But training continues as normal and congratulations to Neil Simpson on going solo at Bembridge. A privately owned DG-400 has arrived.
J.C.B.

WELLAND (Lyveden)
We are pleased to be hosting a BGA cross-country soaring course from June 22-28. Congratulations to Ken Payne on his Gold distance and Diamond goal flight and to Mick Esden on his Silver badge.

We thank Phil West for being treasurer for 12 years. Our dinner is on April 4.
R.H.S.

WREKIN (RAF Cosford)
We held our usually successful AEI course at Christmas and also added a full Cat course. On New Year's Day Keith Harsant flew the first hour off the winch and Richie Toon gained his Diamond height at Dishforth for all three Diamonds.

Our AGM was well attended with trophies going to Paul Bailey, Mick Boydon and the newly presented Jerry Odell memorial trophy to Noel Hawley.

We welcome Mick Davis back from the Falklands.
R.J.

WYVERN (RAF Upavon)
The gliders' Cs of A have been completed by a small team of inspectors led by Gerry Sturgess and we now have three twin drum winches.
At the AGM, both the chairman Ken Moules and the CFI John Hawkins reported a disappointing year with launches and hours down. Trophies were awarded to Roy Gaunt, Martin Hardy, John Attaway and Chris Hart followed by a most enjoyable party organised by Colin and Stella Arch.

We have a soaring week at Easter and the first *ab-initio* training week.
E.S.



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YORK GLIDING CENTRE (Rufforth)
Winter flying was restricted by the weather but Kevin Jackson and Phil Hardy went solo and Geoff Barnham reached 12 000ft on a day which lacked promise.

There is a new Pirat syndicate; an ex-forces fire engine from Anglesey; the Pawnee has an exhaust hush kit and we have a new hangar.

We have a task week in August to which visiting pilots will be welcome. For details ring 0904 83694.
A.W.

YORKSHIRE (Sutton Bank)
Congratulations to Jim Wilkinson and Steve Leigh on going solo and to Mike Dennett on his Gold height. February 2 was a good wave day with Andy Wright gaining Diamond height.

Our club two-seater fleet will be joined in April by a new DG-500 and the new winch is operational.

Bookings are going well for the Northern Regionals and Competition Enterprise being held at the club during July. Our annual dinner-dance is on April 18 with the AGM on April 25.
C.L.

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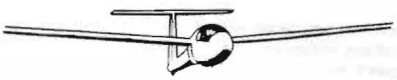
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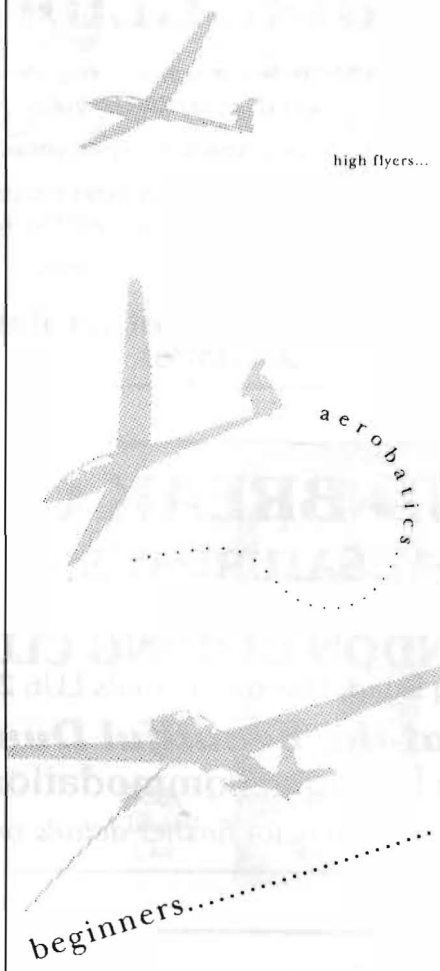
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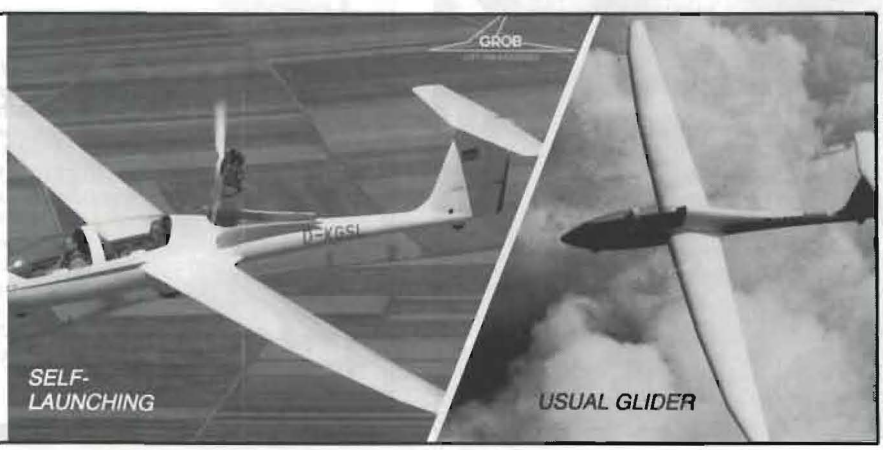
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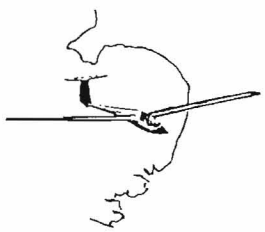
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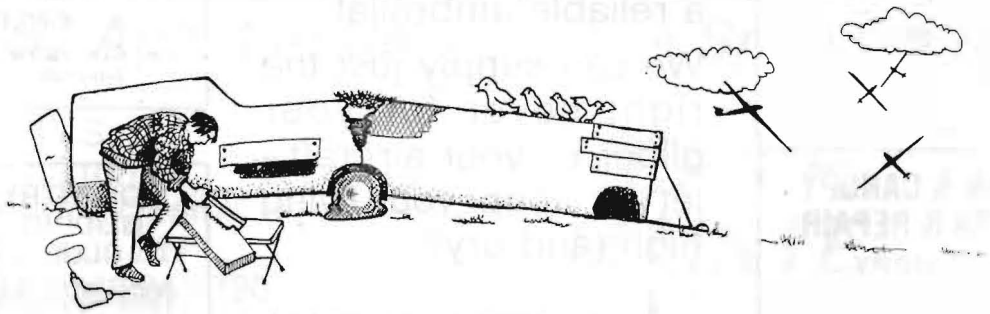
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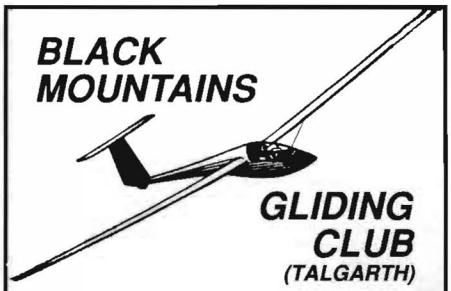
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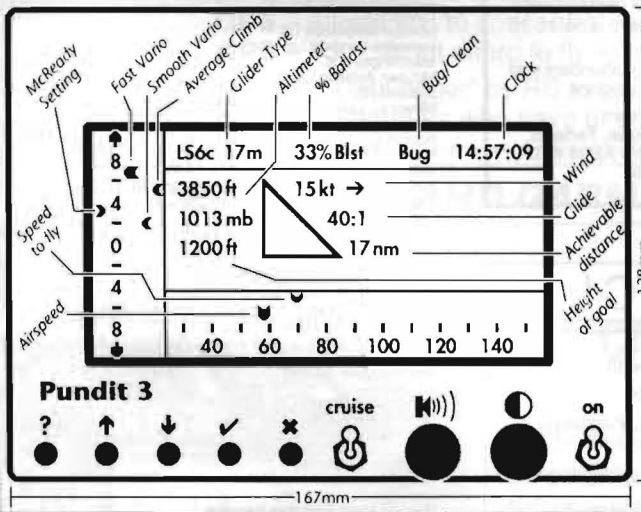
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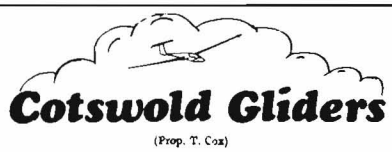
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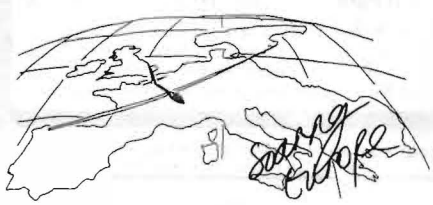
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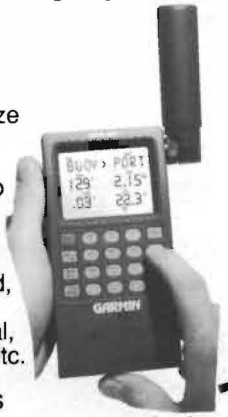


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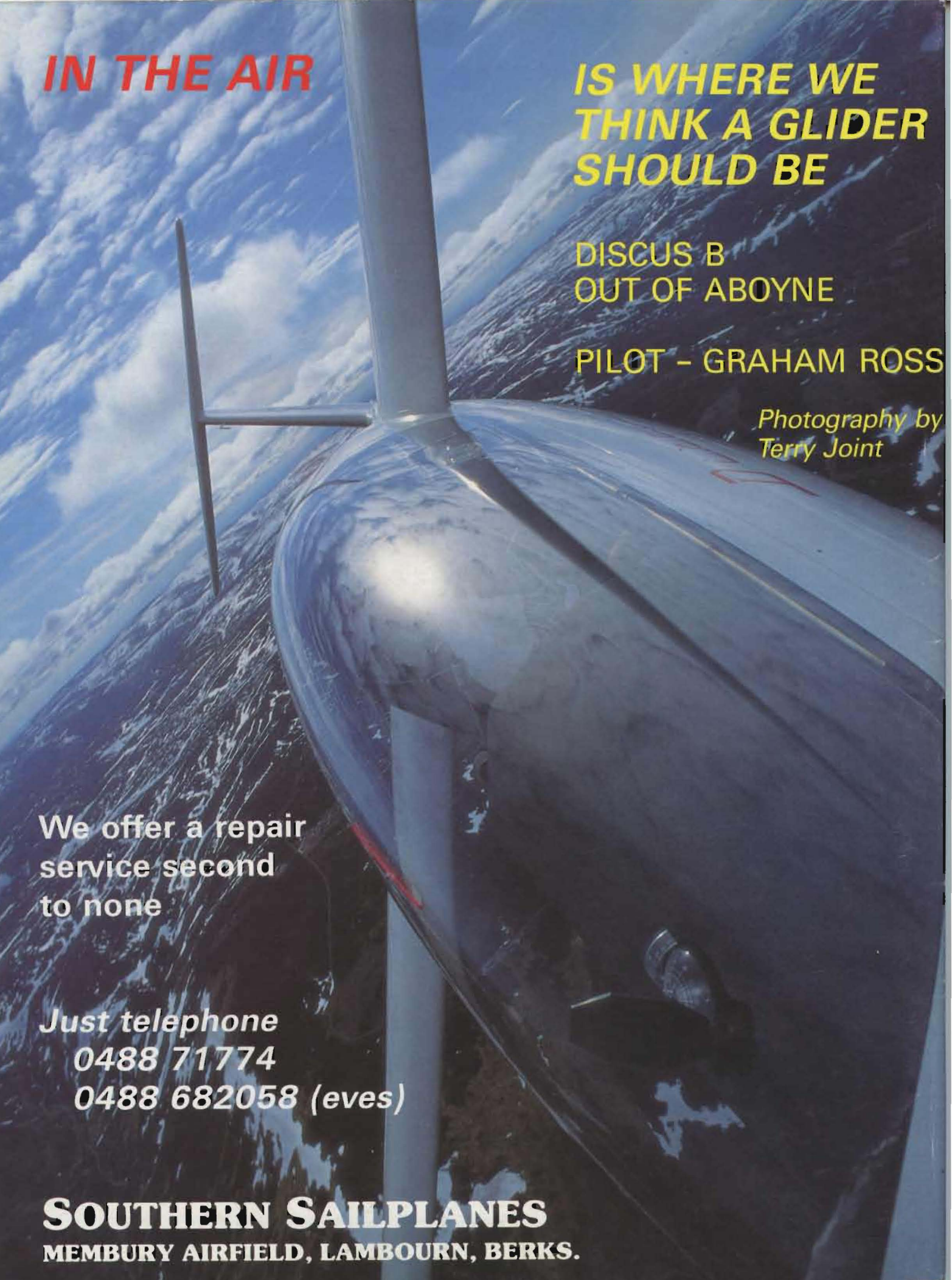
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