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SAILPLANE & GLIDING

Magazine of the BRITISH GLIDING ASSOCIATION

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Cover: Peter Whitehead photographed the family IS-28 being retrieved from a little field up Glen Muick, Aboyne. He landed there the day before, missing the spectacular wave. Peter shares the IS-28 with his father and brother and has been teaching them both to glide.



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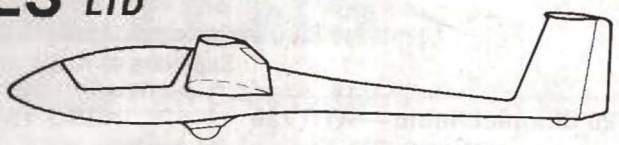
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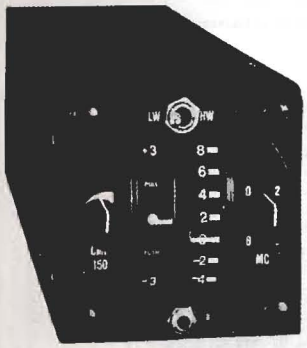
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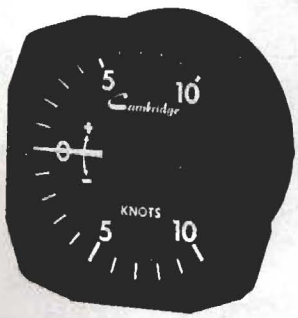
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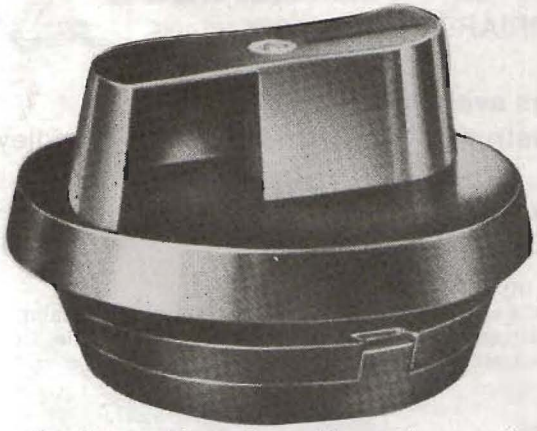
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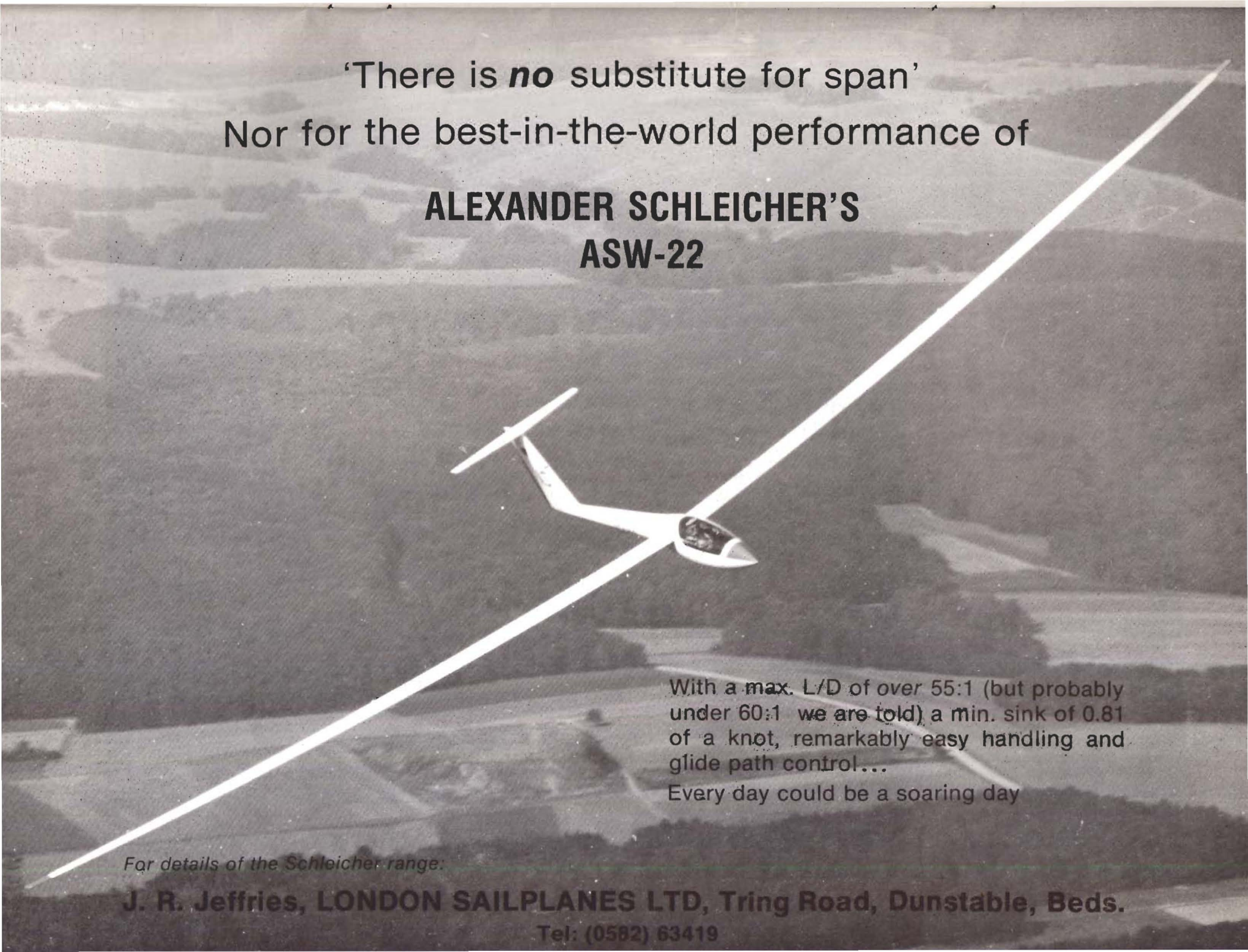
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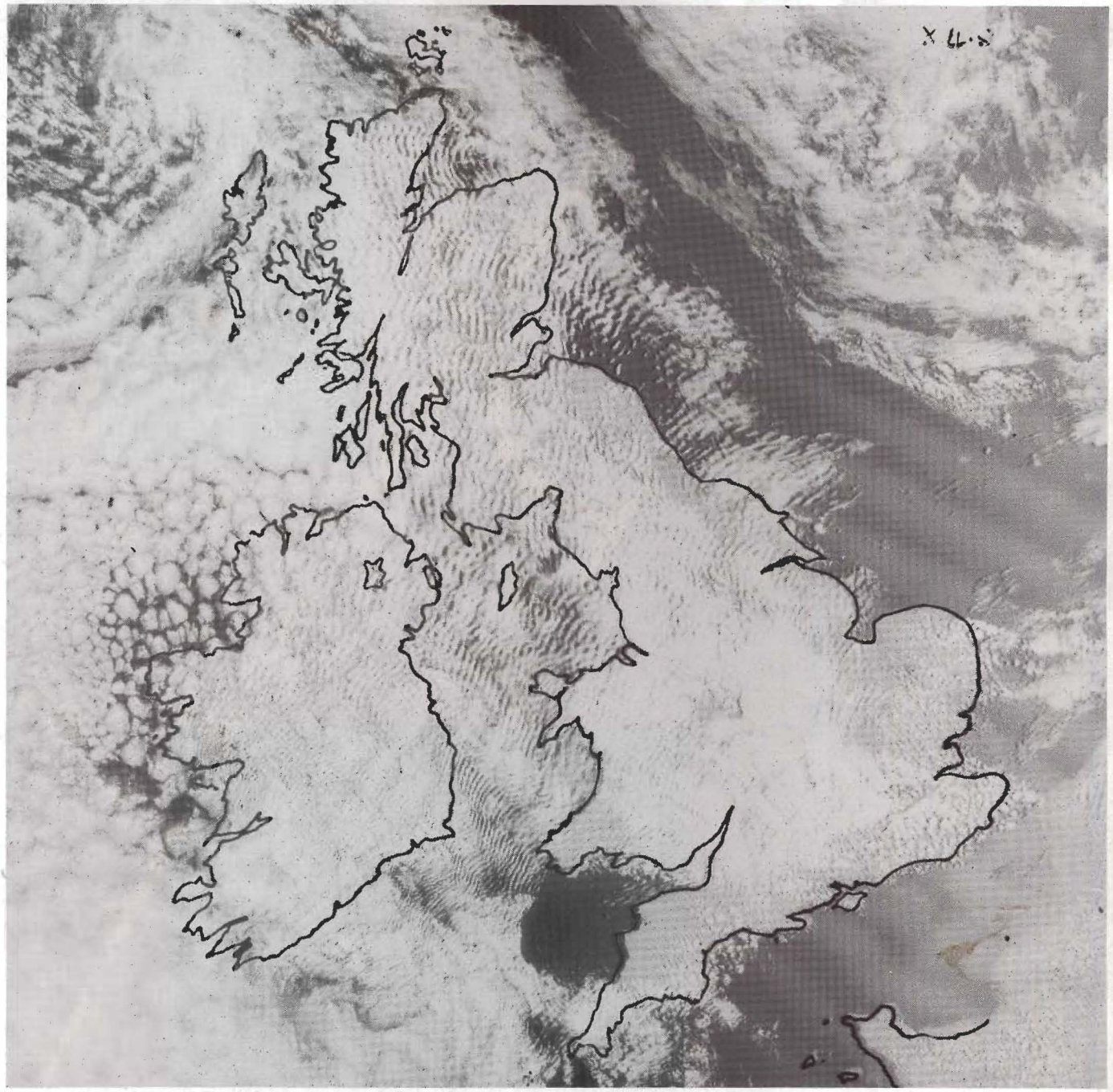
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WAVE INTERFERENCE

JULIAN WEST writes about the phenomenon of wave bars forming herringbone patterns

A satellite picture taken on June 16, 1981 when Tom Docherty flew from Portmoak to Cambridge. All these pictures are from the University of Dundee and printed with their kind permission.



MY FIRST experience of interference effects in lee waves was on October 22, 1979 in a south-easterly at Portmoak. The early morning sky was completely overcast and launching was delayed until a wave gap was revealed upwind by shafts of sunlight. After release just below the downwind edge of the gap the climb rate was a modest 4kt. When well above the cloud tops the wave structure could be seen more clearly. The gap looked like a long narrow cut, generally straight but with occasional kinks. (See satellite picture, top right.)

Further gaps parallel to the first appeared and then quite unexpectedly another set of gaps appeared, but these were almost perpendicular to the others. The visibility was unlimited and the system stretched to the horizon in all directions.

As the day progressed the amount of cloud gradually reduced until the lenticulars looked from above like chevrons, and these are clearly shown in the satellite photograph for that day. As there were lines of lift along two directions at an angle, it was relatively easy to track across the sky in lift, only occasionally having to cross an area of sink. Finally the sky became cloudless, the wave continuing as before though it was now much harder to locate the lines of lift. Maximum altitude was achieved by a pilot who flew downwind to the Aboyne area.

This flight raised a number of intriguing questions. How could such a wave system be generated? Where do the amplitude maxima occur in such a system? When is a downwind

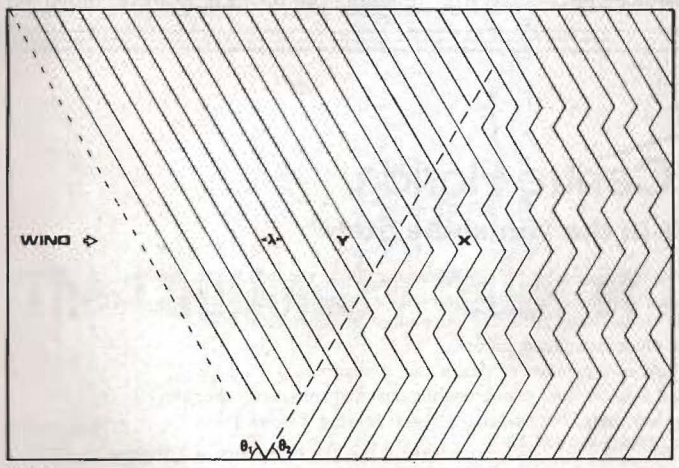


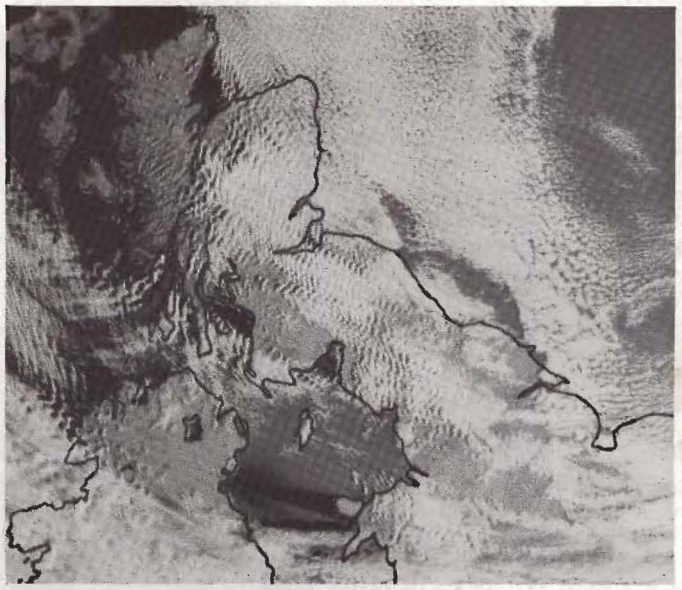
Fig 1.

flight more likely to result in greater altitude than the usual upwind flight? A study of satellite photographs showing wave clouds over the British Isles during 1981 has at last revealed the answers to these questions.

The satellite photo, bottom right, was taken on June 30, 1981 when there was a north-westerly air flow across the British Isles. The most notable feature is the long range order in the cloud patterns. Another feature is that in some areas the wave bars form herringbone patterns.

It is axiomatic that lee waves form parallel to the ridge that sets them off. Although the waves themselves are stationary there is a flow of air through them and, since one airmass cannot flow through another, wave interference patterns would not normally be expected. However the herringbone patterns on the photograph do look remarkably similar to wave interference patterns and a simple model for the creation of such patterns is described below.

Let us consider what would be the effect on the standing wave system of a first ridge if there was a second ridge lying downwind at an angle to it. If this second ridge is much smaller than the first, then the wave pattern will be unaffected, but the amplitude will be enhanced where the second ridge is in phase with the first and reduced where it is out of phase. If however the second ridge is much bigger than the first, then the wave will



Satellite picture for October 22, 1979.

realign parallel to the second ridge, the amplitude being augmented or decreased as in the first case. What happens when the two ridges are similar in size?

This situation is illustrated in Fig 1 where the first and second ridges are indicated by the pecked lines and the solid lines represent wave bars. The first ridge lies at an angle θ_1 to the wind direction and creates downwind a series of wave bars parallel to itself. The second ridge lies at an angle θ_2 to the wind direction.

When the two ridges are almost equally effective as wave generators, some sections of the wave bars are unaffected by the second ridge whilst others realign parallel with it. The result is a herringbone pattern downwind of the second ridge, and at the line of this ridge some of the wave bars terminate to accommodate the new pattern. In Fig 1 $\theta_1 = \theta_2$ and several possible patterns are illustrated in which the relative lengths of the angled wave bars are 1 to 1, 2 to 1, 3 to 1 and 2 to 2. There are of course many other possible combinations which can be constructed in a similar way.

The shortest basic lengths of the wave bars are related to the wavelength λ, which is the distance between wave bars along the wind directions, by the formulae

This picture was taken on June 30, 1981.



$$l_1 = \left(\frac{\text{cosec } \theta_1}{\cot \theta_1 + \cot \theta_2} \right) \lambda$$ for wave bars parallel to the first ridge.

$$l_2 = \left(\frac{\text{cosec } \theta_2}{\cot \theta_1 + \cot \theta_2} \right) \lambda$$ for wave bars parallel to the second ridge.

These formulae represent in trigonometric form the distance between one set of wave bars measured along a line parallel to the other set. In Fig 1 $\theta_1 = \theta_2 = 60°$ and thus $l_1 = l_2 = \lambda$. The wind direction is parallel to lines drawn through the corresponding apices of a set of angled wave bars.

The amplitude of the wave varies along the wave bars depending on whether the two ridges are in or out of phase. In short wave bars of length 1 the maximum amplitude occurs at the ends where two bars meet at an angle. For longer bars of length 21 or 31 there are, respectively, one or two intermediate points where the ridges are also in phase giving additional maxima. This is occasionally revealed in satellite photographs by local widening of the wave bars, or in an otherwise clear sky by dots of cloud at these points. For a glider flying along wave bars in such a system a regular periodic variation of the rate of climb will occur. My own experience suggests that slightly higher climb rates and altitudes occur at the apices or kinks rather than at intermediate maxima.

A new route for crossing from one wave bar to another is suggested by the model. There are two conventional methods of doing this. In the first one flies directly into wind from one maximum to another. This involves crossing a region of maximum downdraft and results in a relatively large height loss. Its advantage is that the glider is positioned immediately in an area of strong lift. In the second method one does the same from one minimum to another. This involves crossing a region of minimum downdraft and results in a relatively small height loss. Its disadvantage is that the glider is now positioned in an area of weak lift.

However provided the wave bars are strongly angled by flying between maxima on adjacent bars of one set along a line parallel to the bars of the other set, it is possible to achieve a relatively small height loss and a final position in an area of strong lift. This route combines the advantages of both the other methods because it involves crossing from one maximum to another *via* a region of minimum downdraft. It is easier to apply this method at an into wind apex than at other maxima since it is only necessary to continue along the line of one or other of the angled wave bars.

In the case of a glider launched at position X in Fig 1 an upwind flight to the primary in the lee of the second ridge will result in the maximum altitude. But for a glider launched at position Y it could be better to fly downwind to the same place rather than upwind to the primary in the lee of the first ridge. It will be necessary after reaching the primary to move along the



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wave bar to locate a maximum where the two ridges are in phase. Of course the bigger the downwind ridge the more likely it is to be worthwhile to drop back, but even a relatively small one can mean the difference between a Gold and Diamond height.

Although the wave bars on the satellite photograph are not as clear as in the model, it is relatively easy to verify that the proposed relationships also apply here. It seems that the wave pattern, which is remarkably regular, is determined only by major features which, although having a very complex topography, act as if they were long straight ridges aligned at differing angles to the wind direction. The long range order of the wave patterns is a direct consequence of the way in which the wave bars elect to remain parallel to a first ridge or to become parallel to a second ridge with the bars connected. Thus, provided the hill and mountain ranges overlap when viewed along the wind direction, the wave system of each range can be connected by a herringbone interference pattern in the region of overlap. This effect is most pronounced with north-westerly winds.

1000km?

Although days when wave is as extensive as it was on June 30 are relatively rare, the exceptional long range order that can occur with north-westerly winds could point the wave to a 1000km flight utilising wave alone. The obvious choice would be a crosswind O/R, and the optimum route and TP for a particular launching site could be determined from a study of the relevant satellite photographs.

The one we show suggests a launch point in eastern Scotland and a TP in Ireland, which would involve a double crossing of the Irish Sea. Wave bars extend all the way across the North Channel in the sections between Stranraer and Belfast, and these should give lift all the way across (19nm). The shorter Mull of Kintyre crossing (13nm) does not have this advantage and complete cloud cover unbroken by wave gaps could effectively block this route. However the risks involved in crossing a long stretch of water are particularly high when there is wave about and this should not be undertaken lightly or without adequate safety precautions.

An alternative approach could be to utilise the long day length in mid-summer to fly a 1000km triangle having two legs with significant downwind and upwind components. This would reduce the average cross-country speed considerably, but would enable the entire flight to be made over land.

Tom Docherty's 450km flight on June 16, 1981 from Portmoak to Cambridge clearly shows that it is possible to exploit long range order in wave for such flights. The satellite photograph for this day is remarkably similar to the one for June 30, 1981. Wave bars can be seen extending all the way from the north-east coast of Scotland to the south-west coast of Ireland, but the herringbone effect is less marked.

Perhaps instead of trying to fly higher and higher in wave we should all be trying to fly further and further. ■



The Cautionary Tales of Joe

In the last of this series MENTOR writes a letter to Joe

Dear Joe,

Thank you for your letter. Glad to hear you are fit and well and just as hooked on flying as ever!

Winter's gloom and it's time to look back over your 1981. It's been quite a year for you, hasn't it!

First let me say thank you for letting me tell your stories. I daresay you would rather not have been reminded of some of them, but I know you realise that you are not alone! There are lots of Joes out there all making mistakes — not always the same mistakes as yours, to be sure — and if each of them can learn a little from you so much the better.

So what lessons did you learn? Your worst moment was when you went into the trees around this time last year[1]. That really was a nasty and not entirely your fault. True, no one else could have planned your circuit for you but maybe your training was a bit threadbare. Glad to hear that your club overhauled its ideas on circuit training and that everyone coming up to solo, and on checks, is liable to find their intended circuit deliberately upset, so that they have to replan in a hurry. No chance to go to sleep there! And the idea of arranging pupils into groups, to be taught by the same small group of instructors, seems a good one. When you went through the mill you had fifteen different instructors and none of them really got to know you or your flying problems, did they?

Then you jolly nearly bought it after that cable break, didn't you?[2] But at least since then you know more about minimum cockpit loads, and not trusting the altimeter. And you show a proper respect for the wind gradient now. Did you know, Joe, that cable breaks account for more than a tenth of all our accidents? And usually they are nasty accidents.

Your first cross-country taught you a bit about modern dairy farming methods but I'm afraid not everyone learnt *that* lesson. Since your near-miss in June at least four other Joes *didn't* avoid electric fences[3].

Hill soaring. Ah yes! Hill soaring! Great fun, but there *are* snags[4]. And remember, the locals know best so respect their briefing next time. They learnt it the hard way, too! Same applies to wave soaring, especially when the weather changes and you don't notice[5]. By the way, why *didn't* you make sure your radio batteries were properly charged that day? You had three days waiting for the weather to clear. And you know now not to waste power idly chattering to all and sundry about nothing of importance.

Sorry to nag, Joe, but I'd hate to see you hurt yourself by being careless or ill-prepared.

Anyway, delighted to hear all about your Silver badge at last, and that you are going into that Cirrus syndicate. Let me know how you get on, and remember — don't let your flying hibernate this winter. Try to get into the air at least once a month, in a two-seater if possible. It's good for the soul — and the flying!

Merry Christmas, and a splendid 1982 to you!

Mentor

[1] *"A Nice Quiet Circuit!", February issue, p9;* [2] *"Swings and Roundabouts", April issue, p59;* [3] *"Shades of Green", June issue, p119;* [4] *"Clutching Hand", August issue, p164 and* [5] *"Wave Goodbye", October issue, p217.* ■

TRIAL BY FIRE

DAVE WATT writes about exploiting stubble fires, a technique he found effective in winning the 1981 15 Metre Nationals, see p272.

I FEEL I should warn that minimal research (other than the practical) has gone into the writing of this article. The assumptions are often tenuous, the explanations oversimplified and incomplete and, to make up for this, personal opinion from time to time appears as hard fact.

The factors that control the quality of a stubble fire I would list as follows:

1. Method of lighting.
2. Material being burnt.
3. The size of the field.
4. The wind.
5. Environmental lapse rate and local convection.

The inter-relationship between these factors is, I think, for the most part obvious (by that I mean that most cross-country pilots would probably be in general agreement), so the discussion on each I will cover only briefly.

The method of lighting — this is very important because it controls to a large extent the rate of burning, which in turn determines the initial temperature of the fire, and thus the rate of climb. Furthermore, this is something that we can actually see, even from quite large distances.

The National Farmers' Union has a number of recommendations concerning the burning of stubble which include — not burning when windy, very dry, near woods, near buildings, near airfields (!), on Sundays or Bank Holidays and many, many more. Fortunately for us a number of farmers ignore these recommendations from time to time.

Most farmers light a field from the downwind edge first and when the flames have eaten slowly into wind a safe distance, they light a crosswind edge and then the into wind edge as far as is necessary to burn the whole field. This tends to give our Standard British stubble fire.

Other more fearless landowners achieve a more efficient combustion by towing a flaming, diesel soaked rag around the perimeter of the field at high speed. This tends to give us the more "explosive" type of fire — the stuff of bar stories, requiring little or no exaggeration.

A miserable example

The more cautious soul, however, may burn the whole field from the downwind edge and the result is often a miserable fire that is of little or no use to us, except perhaps as a triggering mechanism for normal thermals.

It helps to think of a field as a big gunpowder keg, the downwind edge (when lit) as a slow leak from the bottom and the into wind edge (when lit) as a fuse.

Size — this is fairly obvious except don't expect a large field to burn for twice as long as one half its size if lit by the "explosive" method. Also size is to some extent a factor in producing a reliable fire.

Surface material — the actual material is less important than the way in which it is distributed on the surface of the field. Evenly distributed material, especially if newly turned and dry, gives the best results. Material in rows, especially if widely spaced, often doesn't produce any useful lift at all. It is the slow-burning fires from such rows which, on windless days, can give what looks like a good fire but is in fact very poor. However if you associate darkness of smoke with strength of lift you shouldn't be fooled. (Beware of billowing white smoke.) Also as you get closer you will see how the fire has been lit and how it is burning.

Wind — in strong winds farmers often don't dare light fires and when they do, the heat is carried quickly from above the field preventing the formation of good pulses. Also we don't fly many cross-countries on such days anyway.

Light to moderate winds give the best fires by adding oxygen, like fireside bellows, to the whole process and speeding the rate of burning whilst not being strong enough to dislodge bubbles before they are ready to rise. Zero wind can also produce excellent fires although the edges often have to burn for longer before the fire gets going. When it does it tends to be as dramatic as it is brief.

Environmental lapse rate and local convection — this is a bit too boring to bother with (although I expect it is quite influencing).

The formation of fires and their life cycle deserves a much more detailed article but for myself I find the philosophy of using fire to fly cross-country (with particular reference to competition flying) rather more interesting.

Every time we fly to a stubble fire we take the risk of it not working as well as we thought, or not working at all; and although the same is true for normal thermals, stubble fires exaggerate with horrid clarity the extent to which we are right or wrong.

In the extreme one may win a day easily or lose it disastrously by the use of fires. My flying on stubble fire days has convinced me that **success depends more on the fires we reject** than the ones we choose to use. If this is true, then two skills emerge which are necessary. The first, fairly obviously, is the ability to assess fires for what they are, and the second is to be able to quantify the likely benefit (on a rough points basis) of using a fire, should your assessment of it be correct.

Incidentally, the following does assume a reasonable working knowledge of the 1000 point scoring system and the ability to make a rough assessment of the total points, the speed points and the distance points whilst still airborne.

Unpredictable nature

I think the successful assessment of fires depends less upon a detailed knowledge of the mechanisms that control them (although this can only help) than from the development of a good **visual memory** stocked from repeated practice. Practice is very important as stubble fires have a rather unpredictable nature. I find that because these are the only thermals we can see they have helped enormously to my understanding of normal thermals as well as of the fires themselves. To try and discuss their life cycle in detail would take all day, but I would say that it is the way fires pulse and the extent to which you are prepared to use your eyes to gather all the information that really matters — for example, how has the field been lit? How much of it is left to burn? How long will it take judging by the size of the flames and the wind, etc, etc?

The second skill of working out the likely benefit of a fire which we think will work, is often not bothered with. However, consider the following assertions:

1. If no lift other than fires exist then all our climb on a cross-country will come from fires.

2. (And this is less obvious.) If the weather is excellent, *ie* high cloudbase, good streeting, very strong lift, we should use only the stubble fires that we happen to fly through, for to deviate from a good cloud street to an off-track fire which would probably produce only slightly better lift than the thermals would be wrong.

As all our cross-country flying lies in between these two extremes, this forms a basis of how much attention one should pay to stubble fires on a **general** basis. (It is noticeable how the hard luck stories concerning fires flow in thick and fast when the weather has been good.)

Decision making

However, what we must do with each **particular** stubble fire situation is to balance the extent to which we are prepared to accept the probability of failure in going to a fire, *(ie* landing out or serious delay) with the extent to which we feel the result will be beneficial should the fire live up to our expectations.

The following analogy may clarify this. If a gambler is offered a £5 reward for betting £1 on the rolling of a dice he should not accept. If the reward is £7 he should. Although the odds of winning remain the same (5 to 1 against) in both cases, only in the latter will he come out ahead in the long run.

Things may not be as clear cut or quantifiable in gliding but the same process is still important. For example, if we accept that a consistent performance — *ie* low risk flying — will produce one's best result in a competition, then on Day 1 to accept a ten per cent chance of landing out in the hope of gaining say a five per cent points advantage is unacceptable. By Day 9, however, one might well be prepared to accept a 30 per cent chance of landing out in order to gain a five per cent points advantage. But this would only be so if you felt, for whatever reason, that the reward was worth it. It may be gaining first place whilst risking 12th or perhaps just the glory of trying to win a day outright at the risk of coming last.

The important thing is to decide at the start of each flight the level of risk you are prepared to accept in your flying. This may depend upon the state of the competition, how many days left to fly etc and your own personal aspirations balanced with the likelihood of achieving them. The point I make is that one's strategy at the start of a flight should be clear and adhered to. How often, for instance, have you decided on the last day of a competition that you would be happy to maintain your current place and then found yourself flying in such a risky manner as to make it likely that you will either win or lose ten places?

Although all this applies to competition flying in general, stubble fires tempt us into the most absurd situations and provide an almost irresistible attraction for glider pilots. They tend to bring out the moth in us — we will quite happily fly round and round in them until we bang into something (and it's often the ground). I have personally ruined many a satisfactory flight by diving like an idiot at the base of fires which I took to be working, without the first thought as to the consequences.

If all this sounds a bit disjointed perhaps the following examples may help. Chris Rollings on Day 4 of this year's 15 Metre Class Nationals was ten minutes ahead of my gaggle of five gliders. But with 28 miles to go and just short of final glide, he decided to sacrifice the ten minutes and wait overhead while a fire was being lit (losing height in the process). We all arrived in it low and climbed in a bubble which finally picked Chris up as well. The way the fire was being lit coupled with the knowledge that few speed points were involved and conditions were barely soarable on track, made his decision correct. We all arrived home at the same time and the delay lost him was less than ten points. Had he set off anyway, he would have risked losing over 140 speed points!

On the other hand, a less fortunate pilot on Day 1, when soaring conditions were very good, flew to a fire from 4000ft. It didn't work, he got low and took 25 minutes to get away. The result was that he lost about 250 points costing at least ten day places and two final places. The biggest shame was that he didn't even need the fire!

Speed to fly

That I think covers the difficult part — once you've decided to go to a fire the rest is relatively easy. You must decide on what speed to fly, and as always this should reflect your confidence in the next lift. The caution I have been urging when using fires should not deter you from flying very fast and/or arriving low at good fires which are clearly working well. When there is any doubt in your mind you should fly at a more sensible speed in order to give you the height to find other lift should the fire not work or suddenly go out.

Whilst on your way to a fire I suggest the following:

1. Switch on the turn and slip and artificial horizon.

2. Check airspace for what height you may climb to. (You should already have calculated the difference between QNH and the 1013mb.)

3. Strap in tight — stow loose articles.

4. Switch to 130.4 (always call before entering if the smoke is at all thick, even if you don't intend to enter cloud).

5. Make a note of the heading to leave the fire.

This leaves you free to concentrate on looking. Are there other aircraft in the smoke? (In a competition it is fairly unusual to have a stubble fire to yourself.) What is their direction of turn? (If they are below you and banking steeply, speed up.) How much of the field is left to burn? How big are the flames etc? (Remember that the last bubble may take less than two minutes to rise to 3000ft!)

The most efficient method of entry is not consistent with safety inasmuch as the speed should be reduced before hitting the core. If the fire is a really mean one you may well actually experience that sharp-edged gust that OSTIV talks about, so you should choose a speed that ensures the aircraft stalls immediately you hit the core rather than causing too much *g*. I suggest 60-65kt for 15m glass ships or, if the fire is less threatening, perhaps 75kt.

Steady attitude

Once in the core I don't think it matters much what you do, provided you stay in it. If no one is below you then 45-50kt works OK, otherwise 55-60kt with **lots** of bank. Be quick with your feet (if you're not sure about stalling and spinning you probably won't cope — but it'll be fun trying). Keep other aircraft on the opposite side of the turn if possible and try and keep a steady attitude.

When clear, resist the temptation when the weather is poor to fly fast. This is the most effective way of reducing your chances of finding another fire. Slow down and concentrate on looking to the extreme of your vision.

Finally, the way round the safety problem of stubble fires and big competition gaggles is not, I think, to ban stubble fire flying as was suggested ("well meaning" is about the most charitable thing I can find to say about that).) We are stuck with fires and the best thing we can do is be disciplined and hopefully become good at using them.

The level of risk is highest when a big gaggle is feeding into a cloud from a fire and there is only one way to make sure it doesn't end in tears — namely the use of commonsense and airmanship.

NINTH INTERNATIONAL VINTAGE GLIDER RALLY

Burg Feuerstein – July 25-August 2

CHRIS WILLS



Martin Louwinger and Wim van Beek after a flight in their Goevier 3 which has just been fitted with a new "original" canopy. *All photos: Chris Wills.*

OF THE 44 gliders taking part, the oldest were a Rhönbussard and Moswey 2 built in 1937 and the newest a Spatz, Sagitta, K-6CR, Mucha Standard and the Hungarian Gobé, the latter built in 1960.

The first of four replicas being built by VGC members, a Hungarian Vöcsök primary, was finished just in time and had its first bungy launch, aerotow and away landing during the Rally.

The newcomers

For the first time Hungary was represented with a large team and two aircraft and Norwegians were also newcomers, although the Norwegian registered Slingsby Prefect was entered by British pilots temporarily resident in Norway.

Although morale was high the weather didn't allow any outstanding flight. Only one task was flown, a 24km triangle by Werner Tschorn in his FW Weihe 50. He actually flew the task 1½ times as he landed half way round on his second attempt.

However, despite the weather, the Rally was a success. More vintage gliders are being restored to pre-war condition with transparent fabric. The only damage was a minor and easily repaired crack in the fuselage bottom of a Grunau Baby 2B. The glider that seemed to make the greatest impression was the T-31 entered by Colin Anson and partners from Dunstable which became known as *"Das blaue wunder über dem Feuerstein!"*.

"Rendez Vous" Rally

After the successful *Rendez Vous* Rally organised by Colin Street at Lasham last year before the International Rally at Sutton Bank, our Dutch members invited us to a similar occasion this year at their club at Malden, near Nijmegen.

Apart from myself (Rhönbussard), it was attended by Colin Street and partners (T-21C); Francis Russell, Loise Coates and Kim Gouldstone (FW Weihe 50); Tony Smallwood (Gull 1); Ken Bates and Angus Munro, British Nationals living in Norway, and Ted Hull (Prefect) and Rainer Willeke who brought the Münster Oldtimer Club's Goevier 2 to represent Germany. The Dutch entries were three Goevier 3s, two Prefects and two 1947 Fokker built Grunau Babies.

Welcome change

That these casein glued aircraft are allowed to fly shows the changing situation favouring the development of our movement in Holland. Previously government airworthiness regulations have been so strict that only one glider type has been designed and built in Holland since the war.

A pre-war Dutch Grunau Baby is being restored and this will soon be cleared for limited flying only. The enthusiasm of the Dutch vintage glider movement is evidenced by Sikko-Jan Vermeer having flown a 163km triangle in a Prefect and Raymond van Loosbroek a 195km triangle in a Grunau Baby.

The first Sunday of the Rally was the only sensationally good day when Evert-Jan Vermeer flew 55km in 50 minutes in a Prefect. The next three days were spent in sightseeing with Francis Russell and partners spending much time in the air in the Weihe on the Thursday despite strong winds.

Exceptional winch

All launching during the *Rendez Vous* Rally was by the Nijmegen Aero Club's winch which may well be the finest in the world. It took members nearly four years to build and has a 200hp diesel engine operating six drums in succession through a fluid drive at speeds to suit individual gliders. Average launches are in excess of 1500ft.

The cables, although close together, are retrieved with one vehicle. Their parachutes are folded and stored in a box until needed at the launch point. It is simple to drive and the whole operation is so efficient it is likely the club will be able to reduce charges to below the present £1 a launch.



The six drum winch.



Cable retrieve vehicle.

The winch launched the entire Sport Class during the Dutch Nationals.

The Dishonourable Member for Booker

ROB TERRY is the airline salesman who was sacked after publicity following the prestigious outlanding described in the article which advertised the fact he was gliding in his firm's time. Now Rob is waiting for the case to go to an industrial tribunal.



IT'S NOT every day you pack a picnic lunch into a glider and fly off to see the Prime Minister. As soon as I had set the barograph ticking I knew deep down I would never get to Cranfield. Everybody said it was very promising, even the CFI, so I knew I'd never get there.

Flung off at 1400ft all those pretty little cumulus had joined together forming a very scraggy street with about enough lift to float a dandelion seed. At least the strong wind blew me in the right direction. At 1900ft the adrenalin began to flow and that, "I'll show 'em feeling" took over. Boldness overtook commonsense and I edged over to the other side of the street. Moving into the Falls Road. I dropped like a pebble in a bucket of water. Looking at the vario I got heart flutter.

Below there was this very stately large red-bricked house, probably Queen Anne. It was set in some very inhospitable country as far as a glider pilot was concerned, but it had lovely green lawns, newly cut and pressed and nobody playing croquet.

A nice class!

Size, slope, surface, into wind — the west lawn it was then. I swept past the house, turned back into wind, squeezed through the two chestnut trees, checked the speed, airbrakes out and down I came. I knew instinctively a nice class of people lived there. They had taste. "Nice of you to drop in old boy, have a glass of Croft original" that sort.

In my heady deluded way I started to walk back to the mansion and the whole scene turned into a hazy D'Oyle Carte "Pirates of Penzance" sort of thing. Five jolly policemen danced out from behind a line of trees. In full lilt, beautifully unisoned they sang "Hallo, hallo, hallo" tra la la "H'and what" tra la la "Do we have h'ere then . . .?" tra la la. The "Sound of Music" had nothing on this. What a reception. I stood dazed as they moved up towards me in line, across the veldt.

Suspicion

"H'and what may I ask is this?" spoke the one with stripes and pointing very suspiciously to the white flying thing on the ground.

"It's a glider sergeant."

"Ho ho ho, very droll, I know it's a glider laddy, but what's it doing here?"

"What!"

"In this field."

"Well I've just land . . .".

"No no no, why this particular field. You know where you are, don't you?"

"No."

"Chequers lad, this is CHEQUERS, you've landed in the Prime Minister's country garden, haven't you?!"

I looked up to the heavens. Why me?

"We shall have to inspect this 'ere vehicle", said the voice with the stripes.

I opened the canopy like a gentleman and he stuck his head in only to unstuck it very *tout* sweet.

"What's that?" he demanded rather excitingly.

"What?"

"That ticking noise, what's that ticking in there?"

"Oh, that! It's only a barograph sergeant, nothing to worry about!"

He informed me in the usual police jargon that it was his duty to inspect the contents of my plastic shopping bag. The constable would take notes. "One banana, yellow; chewing gum packet of; tin of liquid refreshment; five fruity Caribbean flavours, plastic mac; two barley sugars; sunhat with telephone numbers; tenpenny piece; one aerial map; sunglasses; roll of opaque white sellotape."

"Do you have a camera, sir?"

"Not here."

"Good, perhaps you'd be good enough to show me your licence, sir?".

"I don't have a licence."

"Don't have a licence! No licence! Of course you got a licence to fly this 'ere thing around the sky. You can't go meandering across the great divide, drop out of it onto Mrs Thatcher's lawn without a licence. Now can you?"

Not convinced it was to be further questioning in the privacy of the guardhouse. I can hardly blame him, I do have that rather mid-eastern hue about me, sort of a camel trader in western jeans. In the sterile coolness of the barred gatehouse the interrogation was polite but firm. "Father's name, date of birth, place of birth, age, car registration, name of club, etc, etc."

All the information was taken back to the master control room. During the interminable wait, well over one and a half hours, a kindly constable made me a cup of what he named coffee. At last the result of the cross-checks came back.

Release

"Well sir", the sergeant said, sounding perhaps a trifle disappointed that he hadn't caught an international terrorist. "It does seem that Interpol aren't after you and the home mob don't seem to want you either, so it seems we will have to let you go."

I thank him.

"I phoned your club, sir, told them who I had got. Thought I detected a very audible groan sir, you know a scuffling of feet, chairs falling down, that sort of thing, probably rushing over themselves to come and collect you, are they sir!"

"Sergeant."

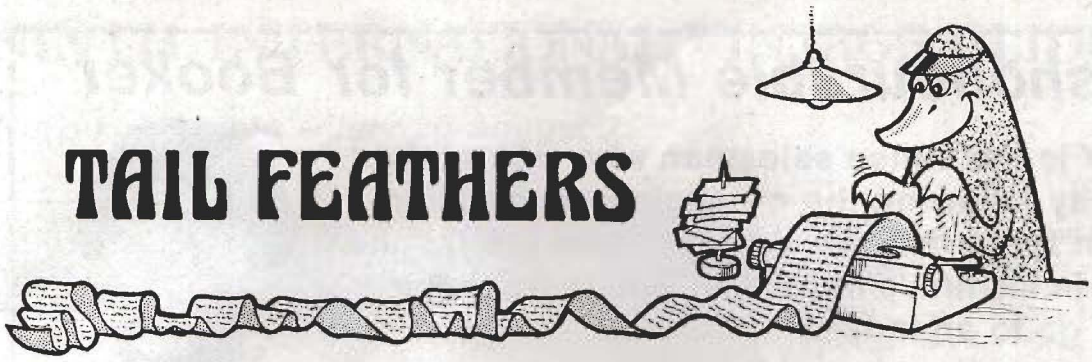
"Sir."

"Do you know where Michael Foot lives?".

On going to press we had a letter from Rob to say that his company settled out of court and gave him a year's salary. "Enough" he writes "for a very nice glider – better than a watch!

"Also," he adds "at the age of 42 I have now become a full time art student, doing a three year fine art course, something I have always wanted. So all in all it was a good day's flying!"

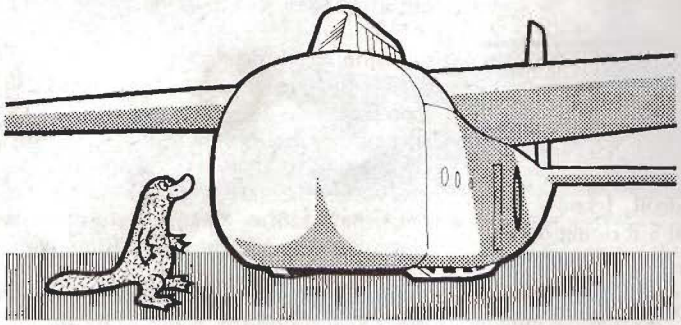
TAIL FEATHERS



by PLATYPUS

Platypus Ponders the Nationals

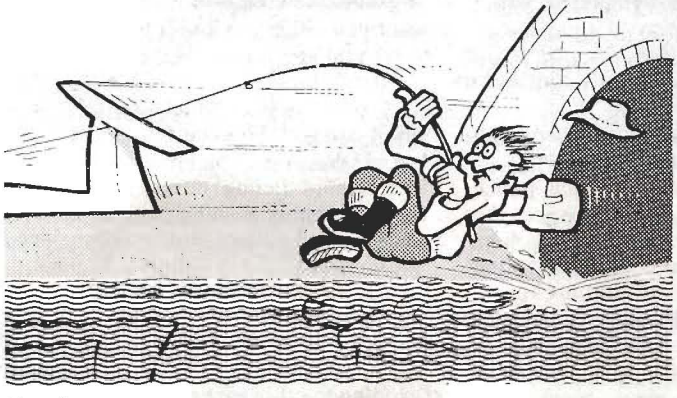
MUCH as I love big gliders, there is no doubt that the real Nationals is the 15 Metre show. This year that impression may have been unfairly reinforced by the misery of the Greenham Common Open and Standard Nationals in May,



Big gliders.

with two and zero contest days respectively. However, the factors of cost, wide variations in performance and absence of handicapping make it increasingly unlikely that the Open Class will ever again be contested by *all* the best pilots, which is what a true Nationals ought to be.

Open Class gliders are ideally suited for the inept, the lazy, the cowardly, the romantics (me to a T: I've got my name down for one of the next generation) and rich would-be record breakers. Open Class gliders enable you to make mistakes and get away with them; they enable you to cover the ground fast without getting low and scared. These 15-metre men are always getting very low and are apparently quite fearless about it.



Very low.

Towards Professionalism

In all sports nowadays intense professionalism is driving up the standards, increasing the tensions, making for more exciting spectacle and driving out the amateurs and dilettantes. No one yet makes a living from winning gliding contests — solely because it is not yet possible to make it a spectator sport (though with imaginative use of television and computers that would be no serious problem), but it is significant that the top people today all make their living from aviation in some way or other, whether by flying civil or military aircraft, training glider pilots or selling and repairing gliders. They are much more disciplined and organised in their approach to flying than the rest of us: they could navigate round Britain with their eyes closed (some of them actually do, I suspect). Most of the stars are bachelors with jobs such as airline captains that provide large hunks of weekday as well as weekend flying. They practise flying around the same little triangle with ferocious speed and precision in all possible soaring conditions. Fun is going faster than the next man.

No sour grapes, I promise. The ability of these men to go round tasks in conditions that would normally keep the hangar doors closed is an example to the ordinary pilots who grumble about unflyable weather.



All possible soaring conditions.

You notice I keep saying *these men:* there are no serious female competition pilots today. Of course not many women become professional aviators either so maybe there is a connection. Comments, please, from the aviatrices amonst our readership.

Stubble, Stubble, Boil and Bubble

Stubble-burning requires dry weather, and this August was the driest since 1976; hence the exceptional number of fires. The alternative way of keeping down weeds is herbicides, but burning is cheaper — except when it incinerates other people's property, especially trees.

A good straw fire generates a tremendous amount of energy (as the Montgolfier brothers discovered 200 years ago) and has several advantages from the pilots' point of view. First it is a visible source of lift, very welcome on blue days — when the fires are most likely. Secondly it goes up at a frightening rate — if you can centre on it, all vario needles bend against the stops.

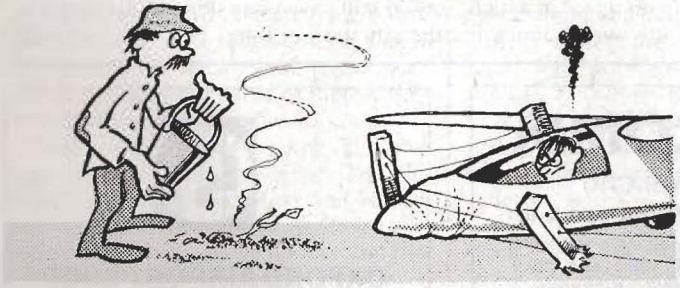


Well-timed fires.

Thirdly, and maybe most important, it bursts clean (or dirty) through the inversion, which on blue days can be depressingly low, and flings the contestants up to six or seven thousand feet — all the benefits of a cloud climb without the navigational or icing problems. Clearly a few well-timed fires can make nonsense of theoretical estimated speeds based on natural thermals. They also extend the soaring day far beyond the normal limit.

More Dunstubble Thoughts

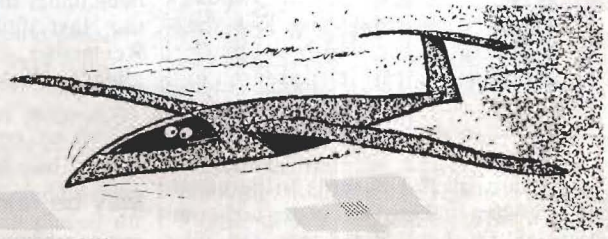
Stubble fires entail changes in soaring technique. It makes sense, for instance, to hang around in weak lift, or even sink, while a freshly brewed cauldron of flames, smoke and blackened straw bubbles up underneath you. The time lost will be amply compensated if you gain 5000ft in five minutes when the mushroom cloud hits you. (Turning *back* several miles to a fire sometimes pays off; but the life cycle of a fire is so short that if it fails it can mean a catastrophic loss of points.)



Loss of points.

The disadvantages are pretty obvious: clouds of burnt straw are dense and dirty; however it is by no means generally accepted that all the normal courtesies and disciplines attached to cloud flying should apply to stubble fires. Some people's radios are on 130.4, some are not. The turbulence moreover is so violent that pilots are continually on the edge of losing control. Three contestants saw a fourth, a short distance ahead of them, dash into the smoke at high speed, pull up into the usual classic climbing turn — and promptly unwind a few hundred feet in two turns of a spin. They were relieved that they were behind, and not with, the aerobat in question. Some people entered stubble smoke at 250ft agl, at which height neither spinning nor evasive action to avoid a collision would be much fun. The turbulence causes wings to flex violently — when you can see *other* people's wings twanging up and down, that's violent.

It is whispered in dark corners of the bar, that the Booker Mafia pass each other (no law against it) vital information about the state of stubble fires. This is very important since only the person very near *ie*, less than a mile away can really assess the present condition and future prospects of a fire. Some look terrific from ten miles away, but are dying, others look nothing special at that range, but are well organised *ie*, one of those ferocious squares, with a big area of straw promising to burn strongly for fifteen minutes or more. To have a car driving



Ferocious squares.

around ahead of the pack is a splendid aid — but only of course if codes and/or radio channels not in common use are employed. Again, quite legal, if the channels are legal.

What Makes A Good Task?

Attitudes to landing out in contests have changed radically since the 1950s. Then well over 90 per cent of tasks involved outlandings many miles from home and the further from home the happier everyone was: even when closed circuits came to be set regularly in the 1960s, no one complained if they were never



No one complained.

completed. They were just one way of containing the traditional distance flights within the bounds of our small country. Getting home was a rare bonus. Now we are rapidly approaching a situation where 100 per cent completion will be regarded as an achievable ideal, and a ratio of less than, say, 80 per cent will be seen as reflecting not at all well on the organisers.

NB. As soon as you get your new diaries this Christmas turn to March 13-14 and mark in the BGA Weekend at the Rugby Post House, Crick, Northants. The BGA have assured me it really is going to be extra special with George Lee and other top men in gliding among the speakers.

THOSE RACING FINISHES

DEREK PIGGOTT

By now you may have heard of the tragic accident at Booker* when a pilot flying an LS-3 was killed. Apparently he made a competition type of finish at low altitude, pulled up and spun off the turn. Obviously we could eliminate much of the risk of this kind of accident by prohibiting such finishes. But this would mean that we would also lose the enjoyment factor which so many pilots value as part of the reason to fly tasks and competitions.

There are several hazards to be considered when making final glides and competition finishes. Sometimes the pilot will wait until he has crossed the line and pulled up before considering how he is going to make his circuit and approach. Unconsidered factors such as a change in the surface wind, other aircraft taking off etc, can make this a very dangerous thing to do. Other pilots have made up their mind exactly what they will do but by the time they have crossed the line their speed has been eroded to the extent that any pull up leaves them very slow for any kind of circuit at all.

A further hazard is the effect of the wind gradient when the final glide happens to be downwind. Pulling up results in an extra loss of speed and a reduction in height gain leaving the glider in a poor situation trying to regain speed as it goes through the gradient again on the approach.

All of these hazards plus the extra work load of lowering the wheel, setting the flaps and operating the airbrakes come at a time when the pilot has just been under the high stress involved over the last few miles of flying low. Remember, the race is not over until the glider has landed and come safely to rest.

*See BGA News, "Fatal Accidents", p278.

May be taken unawares

If you are going to make a competition type of finish you must also consider the effect you may have on another pilot, perhaps a beginner taking-off as you appear low at high speed across his line of flight. You may have seen him and know it is quite safe whereas he may be taken unawares and attempt avoiding action with disastrous effects. In most cases it is safest to make your finish line well short of any normal launching or landing area, for example at the extreme edge of the airfield rather than the perimeter track.

Occasionally final glides will go wrong and become extremely marginal in which case your choices are very limited. Avoid any turning near the ground at low speed and take the best landing area ahead. At other times the choice may be for a 90° turn directly into wind or a pull up and 270° turn. With most gliders at least 75kt is needed for a safe 270° turn before landing.

Think of the likely and possible hazards *before* you cross the line. Which way will you turn? What if you arrive with only 60 instead of 90kts?

Like most of the finer points in gliding the pull up into a circle requires practice to do safely. It is an aerobatic manoeuvre and must be treated as such. Do not attempt it at low altitude until you can do it reliably every time at a safe height. Try pulling up from various speeds from 70 to 100kt and see how much height you gain. It takes practice to turn the speed into height and then to establish a steady turn at the right speed every time. That apparently innocuous buffet in the turn can become a dangerous stall and incipient spin if the glider meets turbulence! You must get it right everytime if you are only a few hundred feet up on a thermic day.

Most important, try a few pull ups and turns letting the speed get too low so that you get an idea how your glider will behave if you do make a mistake and stall it in the turn while using just a little too much rudder. A prompt reaction could still save your skin if you recognise the situation in time.

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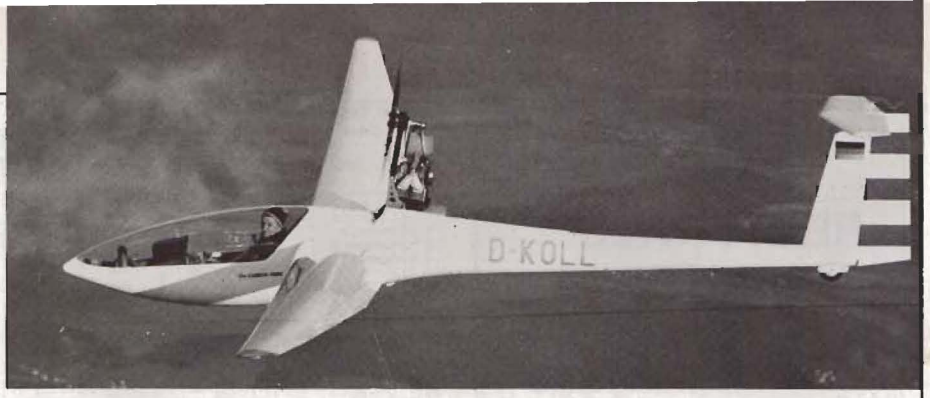
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Flying the DG-400



An account by LAURENCE McKELVIE, JIM WALLACE and GEORGE STEWART, following their recent visit to the Glaser-Dirks factory in Germany

WITH ever increasing fuel costs and ever lengthening launch queues, it is not surprising that self-launching sailplanes are on the increase, as evidenced by the continued success of such machines as the PIK 20E and Motor Nimbus. Now an exciting new contender is about to join battle for its share of what must be potentially one of the largest markets for some time.

Aesthetically, the DG-400 is indeed a very attractive machine and, in appearance, identical to the DG-202, with only the upper fuselage contour straightened to provide the necessary space for the engine. The excellent gliding performance is not hindered in any way, with performance and handling equal to the successful DG-202, the extra weight of the engine being compensated for by the wings, flaps and ailerons being constructed completely from carbon-fibre.

Such are some of the claims by Glaser-Dirks, a relatively small German manufacturer at Untergrombach, Bruchsal, near the French border, that in September, we decided to pay a visit and, if possible, put some of their claims to the test by flying the prototype.

Ergonomically, the cockpit must be hard to beat with the expected "in-flight" adjustable back-rest and rudder pedals. Don Austin's modest 6ft 3in presents no problem and we understand that the production machine will have even more space. The cockpit layout itself is straightforward, with flap operating lever, airbrake control and undercarriage lever all situated on the left. Visibility in every direction really must be the best possible in any sailplane, as the large one piece forward-hinging canopy extends right to the nose of the aircraft, with even the soles of the pilots feet being clearly visible from outside. We were astounded to see Wilhelm Dirks, the designer, unconcernedly taxi the machine with the canopy open, such is its inherent strength, helped, no doubt, by the high spring-mounted undercarriage.

With a compact instrument pod, we were intrigued as to how full engine controls and instrumentation could possibly be installed and here, some very interesting innovations came to light. Extension and retraction of the power plant is by means of an electric spindle drive, the engine doors being opened and closed automatically and this is effected by right or left operation of a switch placed on the front of the stick. This completely obviates the necessity for winding handles and levers, and also means that at no time during extension or retraction of the power plant must the pilot change hands on the controls. In fact, apart from the switch on the stick, all other controls are to the left hand. These comprise a choke lever, the propeller brake control and the throttle lever in the centre of which is the engine start button. Ignition switches are on the left of the instrument console and a special feature is the engine control instruments with digital LCD indication for fuel level, rpm, cylinder head temperature and battery state: all this in a space no larger than 3in × ½in.

Engine start proved very straight forward with no warm-up period required for the 43hp duel ignition ROTAX 505 two-stroke, and there was no difficulty in lifting the wing on the take-off run on grass without the aid of a wingtip runner. Aileron control is excellent and for actual lift-off the flap position is moved from −4° to +8°, the take-off distance on grass and with zero headwind being less than the average aerotow. The climb rate of between 600 and 700ft/min at 45kt is most impressive, particularly as the glider is in a considerable nose-up attitude, and this performance would certainly do justice to many conventional powered aircraft. Noise level is very low from the ground and quite acceptable in the cockpit, although much more comfort is achieved by the use of a headset.

Engine shut-down and retraction is simplicity itself. The throttle is closed, ignition switched off and with the aid of a rear view mirror, the propeller is stopped in the vertical position by the propeller brake, again all of this happening with the left hand. It is then a simple matter of moving the switch on the control column to the left and the engine smoothly retracts, a satisfying "clunk" confirming that the doors are firmly closed.

From this moment on, one is flying an excellent 17 metre machine with an incredible roll-rate and "twitch-free" handling, no doubt as a result of the conventional tailplane and elevator with the parellelogram type stick. In fact, the only noticeable difference between the DG-202 and the DG-400 is in the latter's improved roll rate, possibly due to the carbon-fibre wings. The machine is trimmable throughout the speed range, and with the Kestrel type automatic trim control, pilot work-load is reduced further.

Engine re-start simply reverses the retraction procedure and a period of only 12 seconds can be achieved from the start of the operation until climbing on full power.

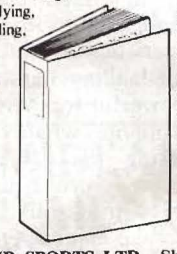
As expected, approach control is every bit as impressive as the general handling characteristics of the aircraft. Using first stage landing flap, coupled with the very powerful top surface airbrakes, no problem whatever was encountered during the landing and roll-out, full aileron control being maintained in this flap position. Full rearward travel of the airbrake lever operates the very powerful wheel brake and very little difficulty was experienced in effecting a 180° turn to taxi to the launch point, even without the aid of a steerable tail wheel, which we understand will be a standard fitting on the production machine. For those who really want the best of all worlds, the engine can actually be removed in a matter of 15 minutes, thus producing a very light top class racer.

To demonstrate the further flexibility of the aircraft, Don Austin, the UK distributor, landed with the engine extended and power on, without any problems whatsoever.

The DG-400 certainly appears to provide all that is desirable in a machine of this type, as is certainly evidenced by the very full order book. Such were our impressions, that we had no hesitation in joining the queue.

REGIONALS' RESULTS

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Booker Regionals — August 8-16
Sport Class

No.	Pilot	Sailplane	H'cap	Day 1 10.8 167km ▲	Day 2 11.8 507km ■	Day 3 12.8 177km ▲	Day 4 13.8 122km = d/l	Day 5 14.8 174km = d/l	Day 6 15.8 226km ▲	Day 7 16.8 127km ▲ twice	Total Points
1	Kay, A. E.	ASW-20PL	111	—	—	608	788	3	—	835	
	Watt, D. S.			624	1000	—	—	—	265	—	4123
2	Fitchett, B.	ASW-17	116*	527	652	734	812	11	262	891	3889
3	Campbell, D. R.	ASW-20L	111	755	776	636	658	0	91	796	3712
4	Jones, J.	Ventus B	109	839	789	817	0	0	156	1000	3601
5	Curtis, C. J.	ASW-20F	108	799	614	659	762	2	560	108	3504
6	Withall, C. L.	ASW-20L	111	471	716	724	574†	0	184	768	3437
7	Murdoch, M. L.	ASW-20	108	547†	760	460	721	0	155	716	3359
8	Hawes, C. W.	Nimbus 2	118	435	725	638	791	9	55	656	3309
9	Emmett, M. R.	Ventus A	107*	443	700	476	762	1	133	770	2779
10	King, S. M.	ASW-20	106*	542	753	536	623	0	133	645	3232
11	Stafford-Allen, P. R.	PIK 20D	106	494	775	615	383	0	129	814	3210
12	Harborne, P. N.	Jantar 2	116*	406	663	562	663	0	143	684	3121
13	Alway, J.	ASW-20FL	111	431	729	384†	654	11	117	718	3044
14	Woodford, J. M.	ASW-20L	111	414	777	353	575†	0	152	738	3009
15	Szulc, B. J.	Nimbus 2	118	805	557	377	659	2	142	637	2979
16	Walton, R.	LS-3a 17	110	460	723	476	715	0	124	475	2973
17	Walsh, A. P.	Mosquito	106†	528	627	292	791	0	65	666	2969
18	Bell, P. D.	Nimbus 15	106*	—	753	—	715	—	0	—	
	Davey, R. A.			428	—	292	—	0	—	591	2779
19	Bradney, F. G.	Kestrel 19	112	459	765	417	290	0	144	686	2761
20	Cruse, C. M.	ASW-20L	111	413	696	491	231	1	241	625	2699
21	Steiner, P.	Kestrel 19	114	416	695	670	214	0	53	452	2500
22	Aspland, W.	PIK 20D	106	458	703	397	102	3	136	685	2484
23	Sheppard, F. J.	Vega	106*	441†	717	303	44	0	167	762	2434
24	Boydon, M. V.	ASW-20	108	454	607	568	206	0	177	DNF	2012
25	Scarborough, C. R.	Kestrel 19	112	319	645	174†	18	0	120	536	1812
26	Richer, P. M.	Mosquito	108	0	547	292	684†	0	119	DNF	1622
27	Ashurst, R.	ASW-20L	111	125	629	181	162	0	12	329	1438
28	Young, M.	Nimbus 2	116*	227	0*	391	0	0	50	396	1064

Club Class
2 Booker

No.	Pilot	Sailplane	H'cap	Day 1 10.8 156km ▲	Day 2 11.8 336km ■	Day 3 12.8 175km ▲	Day 4 13.8 122km = d/l	Day 5 14.8 174km = d/l	Day 6 15.8 187km ▲	Day 7 16.8 106km ▲ twice	Total Points
1	Stone, A. J.	LS-4	101*	947	1000	1000	678	66	186	901	4778
2	Cooper, B. L.	DG-100	100	937	764	820	704	0	269	895	4389
3	Fletcher, R. W.	Std Libelle	98	994	797	784	864	1	63	776	4279
4	Barrett, J. W.	ASW-19	100*	872	839	935	664	14	142	719	4185
5	Giddins, J. B.	Std Cirrus	98*	735	739	922	669	0	145	932	4142
6	Thick, M.	ASW-19	100*	898	672	845	585	0	169	785	3954
7	Jeffries, J. R.	ASW-19C	99	899	692	855	127	15	492	850	3930
8	Cockett, T. F.	Std Libelle	98*	382	741	823	687	56	288	868	3845
9	Kay, W. M.	Std Libelle	98*	782	936	588	79	0	154	1000	3539
10	Tomlinson, J. W.	Cirrus	98*	701	673	661	603	1	176	516	3331
11	Aldis, C. J.	Cirrus	100	729	730	698	212	0	163	787	3319
12	Read, G.	ASW-19	100*	—	—	631	—	—	—	—	
	Reeve, C.			593	770	—	240	53	189	813	3289
13	Morris, B. C.	Astir CS	97*	726	747	801	28	0	166	756	3224
14	Rollings, C. C.	K-21	95	230	—	981	—	16	—	—	
	White, S. A.			—	657	—	127	—	185	805	3201
15	Belbin, E. R.	Phoebus 17	108	763	492†	399	664	0	179	881	3178
16	Chaplin, B. C.	Std Cirrus	100	679	642	701	474†	0	0	651	3147
17	Hayden, T. W.	Std Cirrus	98*	653	—	776	219	0	—	647	
	Howton, J. S.			—	214	—	—	—	1	—	2510
18	Luke, J.	Phoebus	103	607	5	477	309	0	179	444	2021
19	Gill, P. C.	Dart 17	94	—	367	—	308	—	188	—	
	Wright, A.			143	—	451	—	8	—	326	1791
20	Busby, I. N.	Dart 17	94	—	—	372	—	0	0	—	—
	Doughty, A. W.			143	593	—	0	—	—	173	1281
21	Wise, B. R.	Std Libelle	98	175	222	431	154	DNF	DNF	DNF	982

* = *without waterballast*; † = *penalty*; *DNF = did not fly*

Enstone Regionals — August 8-16
Open Class *(Class division at 94.5%)*

No.	Pilot	Sailplane	H'cap	Day 1 10.8 221km ▲	Day 2 11.8 350km ▲	Day 3 12.8 166km ▲	Day 4 13.8 101.5km ■	Day 5 14.8 313km▲	Day 6 15.8 105km ▲	Day 7 16.8 219.7km ▲	Total Points
1	Bishop, M.	Mini Nimbus	105	1000	836	1000	398	189	31	741	4196
2	Saundby, R. P.	ASW-17	118	673	585	881	842	299	0	772	4052
3	North, S.	Std Libelle	96	573	872	964	503	143	123	861	4039
4	Gardner, D.	Cirrus	102	684	951	817	635	68	116	765	4036
5	Smith, M.	Std Cirrus	98	876	1000	314	490	160	260	880	3980
6	Gough, A. W.	ASW-20	106	876	667	893	172	76	266	1000	3950
7	Clarke, A.	Std Cirrus	100	852	—	—	—	—	0	777	
	O'Fee, A.			—	716	903	520	0	—	—	3768
8	Wilson, T.	ASW-20	106	686	840	552	467	0	0	718	3263
9	Charlett-Green, M.	Std Cirrus	96	746	738	617	198	0	112	744	3155
10	Gardiner, D.	Kestrel 19	112	662	624	342	657	38	14	744	3081
11	Duffin, E.	Std Jantar 2	99	763	697	181	578	0	0	795	3014
12	Wilson, D.	Std Libelle	96	729	770	95	560	88	0	628	2870
13	Evans, B.	Astir CS	97	804	686	107	0	15	69	822	2503
14	Lawrey, M.	DG-100	100	621	670	335	0	0	63	687	2376
15	Phillips, D.	Kestrel 20	115	632	506	78	524	0	78	502	2320
16	Hilton, A.	Vega	106	239	667	285	174	0	55	505	1925
17	Cliffe, A.	Hornet	98	573	—	104	—	175	—	33	
	Kirkham, L.			—	492	—	0	—	0	—	1377
18	Marshall, J.	D9-200	106	15	0	DNF	DNF	DNF	DNF	DNF	15

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Sport Class

No.	Pilot	Sailplane	H'cap	Day 1 10.8 159.5km ▲	Day 2 11.8 169km ▲	Day 3 12.8 123.2km ▲	Day 4 16.8 159.5km ▲	Total Points
1	Dawson, M.	90 K-6E		1000	—	772	—	—
	Eagles, T.			—	454	—	879	3105
2	Cumner, G.	92 Pilatus B-4		956	396	802	822	2976
3	Dixon, G.	84 Skylark 3F		580	588	746	934	2828
4	Smith, A.	84 Skylark 3B		645	411	911	759	2726
5	Beale, B.	94 Dart 17R		348	306	1000	905	2559
6	Evans, S.	92 Pilatus B-4		923	517	994	0	2434
7	Roberts, D.	90 K-6E		472	527	220	800	2019
8	Johnson, R.	84 K-6CR		764	158	732	288	1942
9	Moxon, M.	86 Skylark 4		364	434	DNF	790	1588
10	Giles, E.	94 Foka 5		400	597	132	104	1233
11	Butt, P.	84 Skylark 3B		379	101	22	292	794

EGG ON MY FACE

RHODA PARTRIDGE tells a sorry tale

I'VE always fancied myself as a shrewd buyer of gliders. Always ready with unsolicited advice, "Never" I would say sternly "buy a glider until it has been in production for at least two years. And never buy from a firm that is not financially sound."

I'd been so clever. In 1967 I'd bought a K-6E for £1300 (empty from Germany). She taught me a lot and I loved her dearly. In 1972 (after I'd sold my K-6E well) I bought a Std Cirrus for £3400 (empty in Germany). Both brand spanking new. I loved her too but in 1978 sold a half share to Roger because costs were getting so heavy and rigging was becoming a bore for my friends (who were remarkably patient).

Nervy about rebuilds

We started to long for flaps and in March 1979 we sold her and had a gliderless summer while we waited for the carbon Mini Nimbus. Peter joined the syndicate and we all loved her dearly and in June 1980 Roger did his celebrated tree loop (see S&G, December 1980, p269). After a lot of negotiations we took the insurance and sold the wreck to Ralph. I know his repairs are fantastic, but I've always been nervy about rebuilds. Any creak will make me hold my breath. (Ralph, stop those unseemly chuckles.)

So what should we buy? A Ventus? But too long to wait. We had lost two seasons and couldn't face a third gliderless summer. An ASW-20? Again, too long to wait. A second-hand Mini Nimbus? Tempting, but what about the 304? Glasflügel make wonderful gliders (I love the Libelles). Justin Wills spoke very highly of her. Wonderful new wing section. Low speed performance. Fur lined cockpit. Seductive. Like a bearskin rug. Reasonable price. Autumn delivery. A 304 then. But the type hadn't been in production for two years. Never mind. These glider manufacturers are so clever nowadays.

In dark November Tony Hanfrey instrumented her. December 20 she saw the light of day. A real beauty. Peter brushed off a few specks of dust from the fuselage behind the canopy. He brushed again. A light peppering of dust. He took out a magnifying glass and his heart dropped to his boots. Each speck of dust was a tiny hole. "This" he thought "is where I came in."

He'd had a dreadful time with blisters on the wings of a PIK that he'd had a share in. Litigation, visits to Finland, a new glider, more blisters and now here he was with holes. Roger and I didn't take it so seriously. We had a dream glider and we flew. An unbelievable bird. Docile as a K-6E, they had bred the twitch out of her, but ask for a speed and off like a shark. The lovely Glasflügel trim (even in turns). Hands off like a Skylark. You bet we flew. But the pepper appeared on the wings and the tailplane.

Tony Hanfrey suggested in March that she should go back to the factory. We couldn't bear it. Take her away just as the good weather was due to start? (It didn't!). So we flew. And Peter negotiated (and flew). When it was hot we relaxed in the fantastic cockpit (one at a time) and we flew and when we landed we explained why we weren't tired and hot (ventilation) — and Peter negotiated.

The factory offered to do her in the autumn so Peter flew her in Germany and Roger and I took her to Sisteron. And we flew.

Keys through letterbox

Before I left home I phoned Mr Fuerst at the factory. We would be there on Friday, October 2, early afternoon. What if we got held up and they were closed for the weekend? Leave her on the yard, keys through the letterbox. I sent him a pretty postcard from Sisteron to confirm.

Morning of October 2 I was excited. A visit to Glasflügel. Our beautiful bird to be made like new. I even wore my gliding badge to make a good impression. After a nightmare drive from Fribourg on rain swept accident strewn autobahns we arrived at the factory at 1.30. Closed (for lunch?). I rang the bell and a face appeared at an upstairs window. "No one here, they are not working." Some mistake. I explained about Mr Fuerst. Another man came and took us up to the office. He phoned Mr Fuerst at his home, handed me the phone and I said politely "Am I too early for you Mr Fuerst?"

GLASFLÜGEL CLOSES

Due to internal disagreements among its shareholders, and despite a full order book, Glasflügel has had to cease production. However on going to press the three leading members of the production team, Messrs Fuerst, Hansen and Streifeneder, were hoping to find a new source of finance to acquire the assets of the company. This would enable them to recommence production of the 15/17 metre 402 and their new Falcon (see p287), and continue to provide a service to Glasflügel owners. We hope to have more in the next issue, meanwhile Tony Hanfrey, UK agent until recently, remains confident that a back-up service will be maintained.

He laughed and said cheerfully "No you are too late, the factory has closed. We cannot do your reparation." I put the receiver back, knees trembling. Egg on my face.

We drove the hundreds of miles home stunned. But it could have been worse. We could have arrived late and our beautiful bird would have been left on the yard, keys through the letterbox. At least we had a glider. At every stop we drank to her. She had been badly treated. Our poor peppery, sweet flying bird.

So, if you are buying a new glider, don't forget! In production for at least two years and from a factory that is financially sound. Do as I say. Don't do as I did.

FLYING KNOW-HOW PREVENTS ACCIDENTS

Flying Know-How by Robert N. Buck £6.95 plus £1.05 p&p. Explains and emphasises the right attitudes and thought processes needed for safer piloting. Should be compulsory reading for every pilot.

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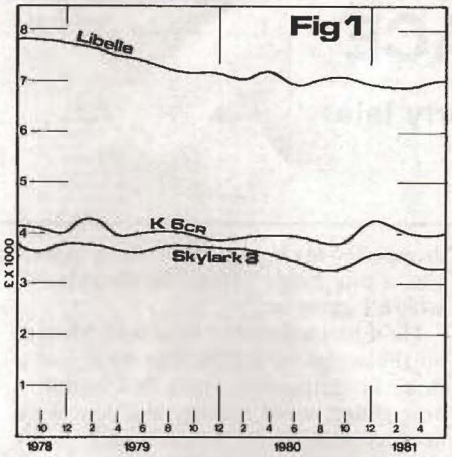
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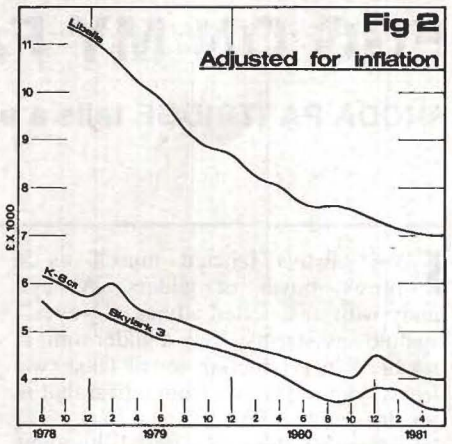
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GLIDERS ARE GETTING CHEAPER!

PAUL MARLOW





FURTHER to the Platypus article (see June issue, p106) on the cost of glider per unit of performance, I have been studying secondhand prices of three gliders he mentions in back issues of S&G. After a lengthy period of statistical averaging and fiddling and various dubious assumptions, the results for the Libelle, K-6CR and Skylark 3 (B, C and F) are shown in Fig 1. The asking prices of the wooden ships have stayed pretty constant — say £3800 for a K-6, £3500 for a Skylark — while those of the Libelle have shown a gentle decline before flattening off. This is what one might expect from a newer glider a bit further up its depreciation curve. Bumps in these graphs show the appearance in the market of super optimists, no doubt with gold plated go-faster machines.

However, Fig 1 ignores the demon inflation; when adjusting for this I have taken June 1981 as the baseline and worked backwards using the Retail Price Index (Indices of Average Earnings would have given a similar result). If glider prices had moved with the RPI, a K-6 now costing £4000 should only have cost £2750 in August 1978. But it did not — the price was £4200 — and so gliders were, in real terms, more expensive in the past. The results of this are shown in Fig 2. The Libelle for which you are now asked £7000 was £11 500 in summer 1978 at today's prices; the K-6 now at £4000 was £6100 three years ago. Since depreciation is a relatively minor factor, the main reason for this decline is surely the lower real costs of new, easier-to-fly glass ships coming off the assembly lines depressing the secondhand market. Doom, gloom, recession and British weather don't exactly help, either.

The fall in prices in real terms is around 12% *pa* for these three gliders, and 13½% *pa* for the Kestrel 19. Or, to put it another way, in spring 1979, a K-6 was equivalent to the cost of about 1100 aerotows. Today 1100 aerotows would buy you a Libelle. Or, finally, if in August 1978 a Kestrel 19 was equal to two years' salary, now it is is equivalent to 13 months' salary.

Could it be a gift horse?

This is all good news? Yes if you don't own a glider, no if you do. If private ownership is coming within the reach of more people, is there a disadvantage? More private owners equals less club spirit? Might elderly low performance machines (and their trailers) have such high running costs *relative to their value* that they become unsaleable and are junked? Or maybe there are no real adverse effects and we should not look a gift horse in the mouth. Perhaps this is an example of how technological advance and high productivity in German glider factories benefits us all?

Future price trends are anybody's guess; mine would be that with apparently increasing emphasis upon cross-country flying, wooden machines with a 250 to 300km potential could achieve some sort of price stability, but lesser gliders may not.

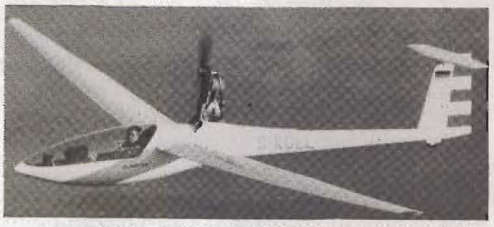
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Flying the ASW-20L Without Elevator

" . . . not every pilot will remember that he still has pitch control by using flaps, even though the elevator control circuit is jammed." (Or disconnected! PB) – ASW-20L Flight Manual, p25.

PETER BOURNE, London Gliding Club

ON SEPTEMBER 15 I thought a cat's cradle might be managed in the ASW-20. Rigging and DI was normal with particular attention being paid to the elevator connection, and so to the launch point.

The 20, when correctly trimmed, flies itself at the beginning of the launch but some way up it needs backward pressure to keep the climb going. It was then I began to recognise that all was not well, but by then had plenty of height for a circuit so pulled off.

The flap setting was position 3 which is correct for a winch launch. Immediately after release the glider built up speed to 62kt and I realised for sure that I had no elevator. I had plenty of height to miss the pig farm ahead and beyond that there was a whole selection of large fields, all looking very inviting indeed in the September sunshine. I remembered the above quoted passage from the Manual and selected flap position 4. The nose went up and the speed dropped to about 47kt. The glider is extremely stable in pitch, even with an unconnected elevator.

I was now in a position to select my field — one was stubble but seemed to have slight down-hill gradient, the other ploughed and went slightly up-hill. I chose the latter.

At this stage I recalled that I had two other pitch control devices available — airbrakes and the side-slip. I tried the airbrakes gingerly. The nose went up and I put the airbrakes back in quickly. I was too chicken to try side-slipping!

By now I was about 100ft over the hedge of the chosen field with the undercarriage down and a speed of about 48kt. The field, though big, was not infinite and I very much wanted to get down on the ground. The problem here was that I didn't want to use the brakes much for fear of stalling. I now knew I could get into the field and so tried the landing flap slowly. The nose came down and the speed went up to 53kt with not much to be seen ahead except ploughed earth.

Progressive deployment of the airbrakes brought the nose up, the speed dropped off and we touched down like a feather. The earth, however, was soft and the wheel went in. Later I found there were some scratches on the under part of the fuselage. The rest of the syndicate will be furious as they had only just filled and polished out the previous crop.

How did it happen?

I'm pretty neurotic about the elevator connection but I must have got it wrong that time. How, I don't know. I was lucky not to have been on aerotow or to have had a cable break and to have had a large field I could go straight into, requiring only gentle turns.

I am grateful to London Sailplanes for ensuring that the C of G was in the right place, thus giving me a flyable aeroplane without elevator. I am grateful to Schleicher's for providing a very stable design and a superb Manual. When you get a glider like an ASW-20 you also get a Manual with it and this is written by men, who in comparison with the likes of me, have absolutely vast experience and knowledge. I read it when I first got the glider and have been re-reading it ever since as my experience of the glider increased. It is deceptively simple but it contains a veritable mine of wisdom.

"Principally, a flapped glider has two pitch controls: flaps and elevator." – ASW-20L Flight Manual p10.

"In a flapped sailplane the flap handle is the more sensitive pitch control, whereas the stick is more or less a correcting control." – ASW-20L Flight Manual p12.

Thinking it over now, did I *really* believe what I had read? If so, whey not fly into my chosen field using brakes and flaps in combination to control the approach? The trouble was that I'd not practised this in normal flight and at a safe height. I did not know how effective the combination would be. On the other hand, I had practised going back from flap position 5 to 4 and knew the loss in height involved and reckoned that I had enough in hand on this occasion if I had to modify my approach at the last minute.

Moral, practise *everything* they tell you about in the Manual, wing dropping, flap changing, side-slipping, the lot! It's all fun.

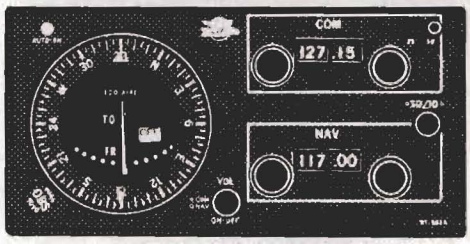
My resolution? There is a hole for a safety-pin in the elevator connection. In future I will use it.

* * *

PS. "Think on! Do you really want to try flying with the elevator disconnected?!" — *a quote by Bill Scull from his article in the February 1980 issue, p7.*

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15 METRE CLASS NATIONALS

Dunstable, August 22-31

Reported by MIKE BIRD, the task setter, with photographs by Mike and Roger Barrett

BY CONTRAST with the June 1980 15 Metre Nationals, this year's was anticyclonic and mainly blue. The only classic days with fair weather cumulus and cloud streets were the two Sundays. No doubt the Lord chose to produce real thermals on His day and let Man produce artificial thermals on the other days.

DAY 1: Sunday, August 23.
Task — 243.5km ▲ Peterborough (Norman Cross), Bury St Edmunds.

Anxiety (probably excessive) about conditions to the west constrained the organisers to set the biggest triangle in East Anglia that was consistent with airspace (Luton, Stansted) and the need to avoid sea air. The wind was light, northerly.

Ralph Jones (Ventus) got very low near the first TP and subsequently queried whether the task had not been set too close to the Wash. However the tasksetter had taken the precaution of gently following the field round the course and arrived at the same point shortly after at 3000ft, observing cumulus stretching far to the north-east. More likely to have been press-on spirit than the sea air that caused those anxious moments, Ralph.

Bernie Fitchett crossed the line first, three minutes ahead of Dave Watt, but Dave had started 12mins later to take a 5km/h lead. But wait! our revered BGA chairman, Tom Zealley, stunned us all by matching Bernies' time to come equal second.

An effortless day with only three outlandings. The contest was off to a good start.

Leading results		Km/h	Pts
1	Watt	94.11	1000
=2	Fitchett	89.13	925
=2	Zealley	89.13	925
4	Campbell	88.35	914
5	Cardiff	88.34	913
6	Rollings	88.14	911

DAY 2, Monday, August 24.
Task — 151km ▲ Watford Gap, Henlow.

This was by far the smallest task set in the whole contest, indicative of our pessimism about the conditions. There was very little fear that the day would be devalued by anyone doing the 151km in under two hours. As pilots crept away under the low murk that hardly deserved to be called cloud, I doubted that any would return. Although the fields were increasingly being cut and cleared there's many a slip . . .

Suddenly as in a nightmare, three *separate* telephone messages came through on different telephones in the space of half an hour, each reporting a glider crash: one from a farmer near Bedford, one from Thames Valley Police at Kidlington and one from the chairman of the London GC, Peter King. It took quite a few minutes to realise that all three calls referred to one crash; John Glossop, flying the Bryce-Smith/Scott Vega, had failed to observe a power cable about 15ft up on the approach to what was otherwise a good field. John was shocked and burnt quite severely; the eleven thousand volt cable, as it severed, arced across all metal components including parachute harness, controls and even the telephone change in John's pocket. Each caused burns. Electricity was cut off for quite a radius and by pure chance Peter Kings' house very nearby was one of those blacked out.

John was taken to Stoke Mandeville and later to a Cambridge hospital; he is now mended and very grateful for all the visits and kind messages.

Back to the contest: Dave Watt widened his lead yet further, making particular use of the straw fires that were to become a dominant feature of the contest. His spectacular finish under the slate-grey sky, with no rivals in sight, caused Rocky Stone (only a spectator this year) to shout "I call that — — hot!" which it was.

The BGA chairman scored a duck. Well, every dog has his day, and yesterday was it.

Tom Zealley



Richard Aldous



Graham Smith



Leading results	Km/h	Pts	Overall Position
1 Watt	72.01	632	1
2 Aldous	64.99	597	7
3 Garton	63.28	588	2
4 Kay	62.20	583	10
5 Spreckley	56.99	558	4
6 Watson	53.08	539	13



Dave Watt. Gliding's most eligible bachelor. Airline pilot. Plays poker the way he flies. (Flies gliders I mean — I have no idea whether he flies airliners the way he plays poker.) Holder of FAI 750km diploma for Britain's biggest triangle achieved in 1980 — not a year when records were easy to come by.

Day 3, Tuesday, August 25.
Task — 241.7km ▲, Devizes Castle, Calvert Junction.

The choice of start time was generally less critical in this contest than in 1980, when the cyclonic conditions and rainstorms introduced a huge element of chance. This year people often tended to hang back in the increasingly blue conditions, hoping that the thermals would be marked by pilots ahead of them. The danger was that with the days drawing in and the limited natural convection they would run out of time to complete the task.

However on this particular day there was no hanging back; the whole field of 45 had started within 22min of the line being opened. Bernie Fitchett starting 36th was well placed near the back of this "super-gaggle". He worked his way steadily through the field and in an exciting finish crossed the line three seconds behind Chris Rollings, who had started 12min earlier. It was 18min before any other finishers appeared. Dave Watt did an uncharacteristic slow time, arriving at ten to seven, and his lead over Bernard shrank to 39pts.

Dusk came; the finish-line team were much inclined to slope off to the bar, but hung on to twelve minutes to eight, when Tony Manwaring cruised in for a dignified 48km/h and a late supper — though not so late as the 24 who failed to get round. How was the day being stretched so far beyond nature? Stubble.

Leading results	Km/h	Pts	Overall Position
1 Fitchett	77.68	1000	2
2 Rollings	77.43	997	4
3 Spreckley	74.51	972	3
4 Kay	67.45	912	9
5 Wells	64.96	890	18
6 Boyden	64.43	886	14

DAY 4, Wednesday, August 26.
Task — 328.3km ▲, Droitwich, Pewsey.

So it looked as though Bernie Fitchett was poised to take the National Champion's laurels yet again. It was not to be. The biggest task of the contest was, with the benefit of hindsight, the most overset: only 12 finished. And an impressive sight they made with the setting sun behind them, speeding across the darkening valley between Ivinghoe Beacon and the club, most of them hugging the ground well below the finish line observers.

Not Bernie's day

Bernie started first, recognising that this task would take all day; he flew fast but became isolated from the rest of the pack who were miles behind, and fell down only 19km from home.

Steve White started last — partly by misadventure — and for a while looked as though he was hopelessly behind the pack. However he caught up — carrying full water in the difficult thermals that rarely went above 2500ft under a hot blue sky. Honours this day to White, Rollings, Spreckley, Watt. The Booker Mob. Who has a chance against them these days?

Leading points	Km/h	Pts	Overall Position
1 White	67.114	1000	4
2 Rollings	62.77	968	3
3 Spreckley	62.53	966	2
=4 Watt	61.09	956	1
=4 Wells	61.16	956	11
6 Kay	61.00	955	7

DAY 5, Thursday, August 27.
Task — 192.2km ▲, Didcot, St Neots.

At the beginning of the contest I had decided that a two thirds completion rate would be ideal. Independently Dave







Photographs in the righthand column from top to bottom: Al Farmer; Adrian Wright and Elspeth Newport-Peace, the time keeper.



Watt suggested 70 per cent. So far we were well behind either figure. After three days of outlandings, the majority of pilots were doubtless hungering for a nice completed task. Not that any of them were so brash as to say so to the organisers. Much too polite. However, the reason for the 100 per cent success rate on this day was not so much a desire to placate the combatants as underestimation of the conditions. The Didcot and St Neots power stations were chosen as TPs known to yield more or less guaranteed local thermals, while along the line between them were several Bedfordshire brickworks. These scenic delights, plus the inevitable straw fires, would no doubt help the pilots stagger around what otherwise might be a difficult task. What we were doing for the pilots' health I hate to think. Students at Cranfield College often require medical treatment for the effects on their giblets of chemicals in the smoke from the nearby brick factories.

It turned out in fact to be a stonking day (wherever did that word come from? Perhaps it is derived from *stoking* and *stinking*, since the hotter and smellier the thermals the better they were).

> It is exactly ten years since Bernie Fitchett first became National Champion, and I am happy to take bets that he will be National Champion again during the next ten years. All the same, the fierce pace that each new generation of Racing Class pilots is setting makes one ask whether the time at the top is going to shrink. Philip Wills was Britain's top pilot almost effortlessly, for a quarter of a century; in the 1980s I expect that to hold onto one's laurels for say five years will be a real achievement.

After 2hrs 4min Dave Watt whizzed in, saving the tasksetter's face from the humiliation of a devalued (under two hours) day. Bernie Fitchett and Brian Spreckley achieved poor times because of an excessive urge to use straw fires, even turning back to go to a big one that suddenly petered out on them. In a short task with 100 per cent finishers and a high premium on speed that can be deadly.

Leading results	Km/h	Pts	Overall Position
1 Watt	92.89	1000	1
2 Garton	92.12	987	5
3 Lysakowski	91.99	985	13
4 Throssell	87.01	905	10
5 Cardiff	84.61	866	4
6 Rollings	84.18	859	2

DAY 6, Sunday, August 30.

Task — 256.2km ▲, Banbury, Newmarket.

For a change a nice straight forward Sunday stroll under the shade of friendly cloud streets. Chris Rollings timed his start nicely with an effortless no-circling run up to Banbury; this gave him a time advantage which he held onto round the course.

Things had got to the point where Dave Watt need no longer go particularly fast to win the whole contest. However, he went round at 93km/h, presumably because he doesn't know how to fly slowly.

Leading results	Km/h	Pts	Overall Position
1 Rollings	96.86	1000	2
2 Wells	94.72	969	10
3 Watt	93.02	945	1
=4 Garton	91.17	919	4
=4 White	91.14	919	5
6 Kay	90.85	915	7

DAY 7, Monday, August 31.

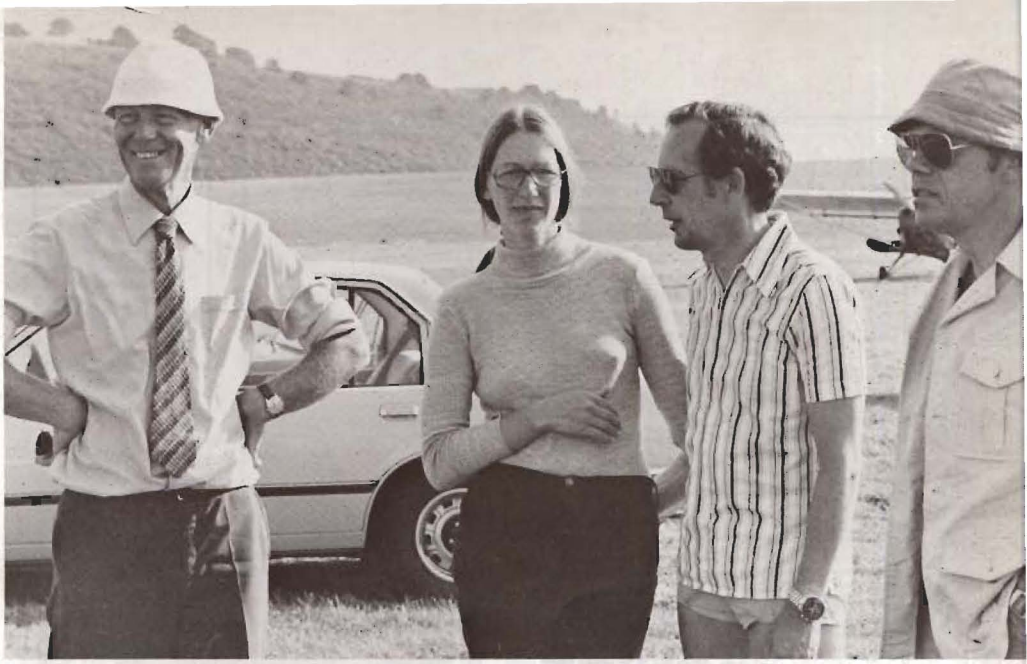
Task — 272.1km ▲, Leicester East, Newmarket.

On this, the last day, the organisation rather overdid things and an ambitious fall-forward task, for which the pilots were not prepared, was improvised at the eleventh hour. Of the 20 non-finishers, 12 came down in a 15km wide











zone near Cambridge on the second leg — too far away from Dunstable to organise themselves into a lynch mob, I'm glad to say. Mike Throssell experienced no such difficulties and by winning, provided a refreshing change in the list of daily prize-winners which was beginning to look monotonously familiar.

The Cambridge Hole might have been due to the presence of sea air, but it can equally be said to have been due to an absence of stubble fires which were becoming absolutely essential to survival around the course. On the second leg Peter Stafford-Allen was seen winging his way happily up to 4000ft in a 10kt plume of smoke; not many minutes later he was on the ground near Corby, all lift sources in the area natural or artificial, having vanished. Sadly, Corby is no longer the thermal producer it was; the steel mills are now dead.

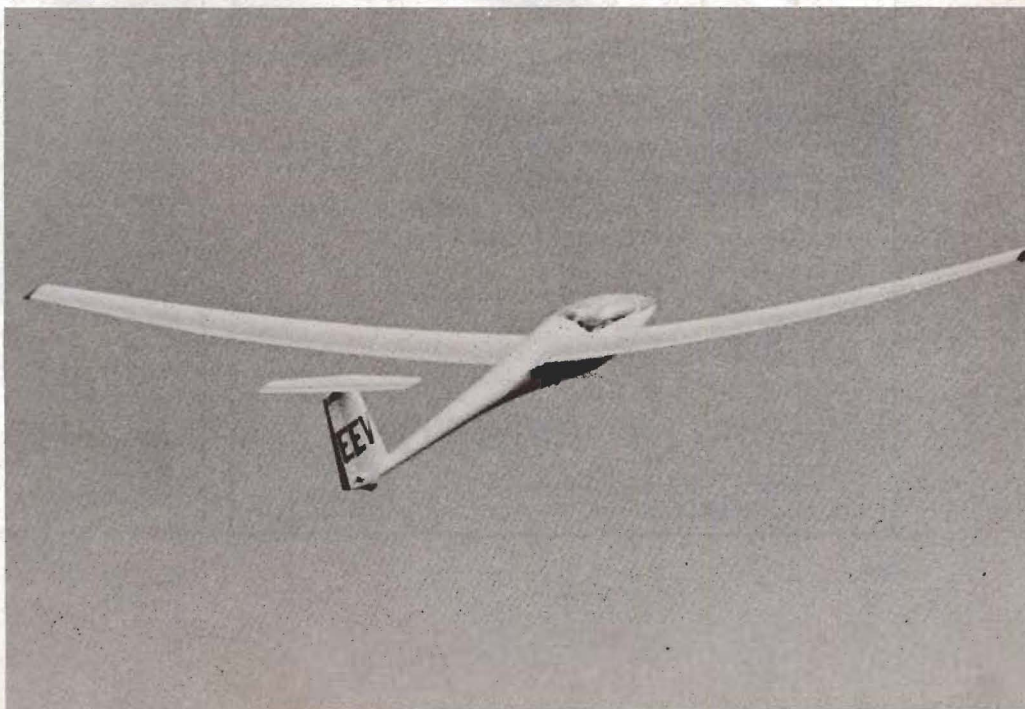
Dave Watt's 6th place for the day looks like just the right mix of dash and caution, leaving him over 200pts ahead of Chris Rollings and over 300pts ahead of Brian Spreckley.

Bernie Fitchett, making a do or die effort, landed only 7km past Y and fell back to 13th place overall; Ralph Jones also landed out and finished 21st overall. Of the "older generation" of National Champions, John Delafield did best with 7th overall.

Leading results	Km/h	Pts	Overall Position
1 Throssell	78.7	1000	10
2 Spreckley	77.13	982	3
3 Delafield	76.74	978	7
4 White	76.12	971	5
5 Wells	75.51	964	9
6 Watt	75.29	962	1

A. Tim Macfadyan in his ASW-20; B. Mike Carlton playing bridge with Katie Pollard (centre) and Rika Harwood before the start line became a finish line; C. John Hands, chief marshall; D. Peter Stafford-Allen; E. Dilys Yates and, oh yes, John Cardiff; F. Mike Jefferyes says he always takes something to read for outlandings; G. Peter King, chairman of the London GC, with Gill Jeffries, John Jeffries (competition director) and Mike Bird (task setter) and H. Dave Watt (ASW-20) finishing the last task knowing he was the 1981 Champion.





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Fin. Pos.	Pilot	Comp. No.	Glider	DAY 1 23.8 243.5km ▲ Peterborough, Bury St Edmunds Speed (Dist.)	Pos.	Pts.	DAY 2 24.8 151km ▲ Watford Gap, Henlow Speed (Dist.)	Pos.	Pts.	DAY 3 25.8 241.7km ▲ Devizes Castle, Calvert Junction Speed (Dist.)	Pos.	Pts.	DAY 4 26.8 328.3km ▲ Droitwich, Pewsey Distance (Speed)	Pos.	Pts.	DAY 5 27.8 192.2km ▲ Didcot, St. Neots Speed	Pos.	Pts.	DAY 6 30.8 256.2km ▲ Banbury, Newmarket Speed (Dist.)	Pos.	Pts.	DAY 7 31.8 272.1km ▲ Leicester East, Newmarket Speed (Dist.)	Pos.	Pts.	Tot. Pts.
1	Watt, D. S.	EEV	ASW-20FL	94.11	1	1000	72.01	1	631	62.24	12	867	(61.09)	=4	956	92.89	1	1000	93.02	3	945	75.29	6	962	6361
2	Rollings, C. C.	58	ASW-20F	88.14	6	911	42.28	15	467	77.43	2	997	(62.77)	2	958	84.18	6	859	96.86	1	1000	72.15	=11	928	6150
3	Spreckley, B. T.	59	ASW-20	86.95	8	893	56.99	5	558	74.51	3	972	(62.53)	3	966	77.76	16	755	89.93	9	902	77.13	2	982	6028
4	Garton, C.	ELG	Ventus B	87.28	7	898	63.28	3	588	62.97	10	873	318.05	17	729	92.12	2	987	91.17	=4	919	74.07	8	949	5943
5	White, S. A.	94	ASW-20F	85.95	=9	878	47.66	12	513	60.87	15	855	(67.11)	1	1000	80.28	9	796	91.14	=4	919	76.12	4	971	5932
6	Cardiff, J. D.	915	ASW-20	88.34	=4	914	48.93	10	519	63.44	9	877	(55.76)	8	917	84.61	5	866	83.76	20	814	74.84	7	957	5864
7	Delafield, J.	DTQ	ASW-20	81.87	16	817	(141.50)	19	418	63.66	8	879	(58.90)	7	940	79.32	10	780	88.44	11	881	76.74	3	978	5693
8	Kay, A. E.	949	ASW-20FL	74.04	29	701	62.20	4	583	67.45	4	912	(61.00)	6	955	76.43	18	734	90.85	6	915	67.75	16	881	5681
9	Wells, M. D.	321	Mosquito	85.94	=9	878	(22.50)	=35	0	64.86	5	890	(61.16)	=4	956	79.05	11	776	94.72	2	969	75.51	5	964	5433
10	Throssell, M. G.	87	ASW-20	80.34	18	794	(145.50)	18	434	62.66	11	871	259.55	34	576	87.01	4	905	82.06	22	790	78.78	1	1000	5370
11	Hackett, N. G.	EFS	LS-3	84.61	12	858	48.53	11	517	(211.20)	27	566	(54.04)	10	904	73.69	25	689	86.21	15	849	67.02	18	873	5256
12	Lysakowski, E. R.	119	ASW-20F	84.74	11	860	(38.25)	=35	0	61.94	13	865	313.05	=18	716	91.99	3	985	86.78	13	857	65.87	21	861	5144
13	Fitchett, B.	569	ASW-20	89.13	=2	925	52.01	7	534	77.68	1	1000	309.05	20	706	76.62	17	737	81.53	23	783	(143.35)	42	257	4942
14	Dixon, R. T.	27	ASW-20	84.30	13	853	(38.75)	=35	0	58.83	19	838	319.55	16	733	75.18	=20	714	88.59	10	883	69.17	15	896	4917
15	Tipney, C. J.	197	ASW-20F	79.37	20	780	43.65	13	493	(211.70)	26	568	281.55	=24	633	72.57	28	671	78.36	31	738	73.83	9	946	4829
16	Mactadyen, T. E.	EEE	ASW-20	69.51	34	633	49.77	9	523	(207.75)	29	555	(49.47)	13	871	66.29	37	570	76.76	35	716	73.04	10	938	4806
17	Sheard, P. C.	EHH	Ventus A	77.64	21	754	(87.00)	=30	194	(200.75)	=34	532	241.30	36	528	83.19	7	843	90.03	8	903	72.11	=11	928	4682
18	Aldous, R. F.	270	ASW-20	80.67	17	799	64.99	2	597	61.10	14	857	45.80	43	15	72.75	26	674	83.57	21	812	70.98	13	916	4670
19	Metcalfe, G. C.	ECP	LS-3A	70.77	31	652	0	=35	0	59.00	18	839	(53.30)	11	899	69.17	34	616	79.33	29	752	66.80	19	871	4629
20	Batty, C. J.	EBX	ASW-20	77.24	23	748	40.89	16	479	(194.50)	40	511	274.55	=29	615	68.43	35	605	85.14	16	834	61.07	24	809	4601
21	Jones, R.	982	Ventus	79.60	19	783	(101.00)	24	251	64.01	7	882	277.30	26	622	78.47	=12	767	90.37	7	908	(178.85)	35	345	4558
22	Jefferyes, M. B.	656	DG-200	75.13	27	717	(39.00)	=35	0	(218.20)	23	589	(52.29)	12	892	78.50	=12	767	84.25	18	821	57.45	25	770	4556
23	Hunt, S. G.	EEY	LS-3A 17	77.54	22	753	(87.00)	=30	194	60.55	16	853	(46.29)	15	848	74.54	23	703	78.87	30	745	(189.85)	=30	373	4469
24	Redman, S. J.	56	LS-3	82.39	15	825	(59.50)	33	80	59.08	17	840	289.05	22	653	78.02	15	759	87.42	12	866	(189.85)	=30	373	4396
25	Farmer, A. T.	227	Mini Nimbus	76.03	26	730	50.99	8	529	(195.00)	39	513	270.55	33	605	75.22	=20	714	84.55	17	826	(187.10)	32	366	4283
26	Zealley, T. S.	22	ASW-20	89.13	=2	925	(35.00)	=35	0	(198.25)	38	523	191.85	38	398	75.65	19	721	80.13	27	763	70.27	14	908	4238
27	Campbell, D. R.	170	ASW-20	88.35	=4	914	(60.25)	32	83	(200.75)	=34	532	281.55	=24	633	74.20	24	698	86.58	14	854	(210.10)	=28	423	4137
28	Watson, A. J.	704	Mosquito	74.83	28	712	53.08	6	539	(148.50)	42	359	174.60	40	353	69.21	33	617	77.14	34	721	63.34	23	834	4135
29	Boyden, M.	24	ASW-20	71.27	30	659	(128.25)	=20	363	64.43	6	886	35.80	=45	0	68.12	36	600	74.45	36	683	68.16	20	864	4055
30	Kemp, M. P.	988	PIK 20s	70.14	32	642	43.13	14	491	(210.55)	28	564	(47.97)	14	860	60.24	44	472	72.29	=38	652	(136.10)	43	239	3920
31	Cruse, C. M.	ECX	ASW-20	69.38	35	631	(89.50)	26	204	(213.70)	24	574	(54.70)	9	909	71.05	30	647	77.58	=32	727	(127.85)	44	218	3910
32	Pope, M. H. B.	46	Vega	67.48	39	603	(40.50)	34	2	(218.70)	22	591	159.60	42	314	78.17	14	762	80.59	25	770	65.06	22	852	3894
33	Shephard, E. G.	52	Nimbus 15	76.31	25	734	(90.50)	25	208	(207.00)	30	552	221.10	37	475	72.70	27	673	79.73	28	758	(185.10)	=33	361	3761
34	Blackmore, R. H.	767	Std Jantar	68.36	38	616	38.31	17	466	(213.70)	=24	574	274.55	=29	615	65.05	39	550	62.57	41	515	(185.10)	=33	361	3699
35	St. Pierre, A. H. G.	EDM	DG-200	68.84	36	623	(128.25)	=20	363	(205.00)	32	546	275.30	28	617	69.45	32	621	67.49	40	585	(177.85)	=36	343	3698
36	Camp, G. W. G.	184	Std Libelle	58.95	43	476	(89.25)	27	203	(36.55)	44	0	276.30	27	620	61.80	43	497	77.59	=32	727	67.40	17	877	3400
37	Bridges, R. C.	EEZ	LS-3A	66.78	40	592	(105.00)	=22	268	(111.40)	43	236	313.05	=18	716	69.57	31	623	72.23	=38	652	(151.60)	40	277	3364
38	Forsey, L. K.	481	ASW-20	82.55	14	827	(28.75)	=35	0	(206.75)	=34	532	29.80	=45	0	80.46	8	799	81.16	24	778	(210.10)	=28	423	3359
39	Shadrach, D.	DMD	DG-100	60.11	42	493	0	=35	0	(200.75)	=34	532	294.80	21	668	65.38	38	555	73.73	37	673	(175.85)	38	338	3259
40	Stafford-Allen, P. R.	333	PIK 20c	63.57	41	545	(37.00)	=35	0	(201.25)	33	533	286.55	23	647	61.99	42	501	83.79	19	815	(120.85)	45	201	3242
41	Corbett, G.	844	Mini Nimbus C	68.48	37	618	(105.00)	=22	268	(193.00)	41	506	274.55	=29	615	64.09	40	534	55.86	42	420	(146.35)	41	264	3225
42	Murphy, T. J.	728	PIK-20c	(108.45)	45	101	(88.50)	29	200	(227.70)	21	621	257.05	35	569	75.19	=20	714	(249.25)	44	306	(219.60)	27	446	2957
43	Manwering, A. J.	DTM	DG-200	(118.20)	44	115	(89.00)	28	202	48.40	20	748	274.55	=29	615	59.08	45	454	(256.1)	43	316	(174.60)	39	335	2785
44	Smith, G. N. D.	732	Std Jantar 2	69.99	33	640	(20.75)	=35	0	(206.00)	31	549	40.30	44	1	72.51	29	670	(194.95)	45	226	(177.85)	=36	343	2429
45	King, P. J. S.	CLS	Std Cirrus	DNF			DNF			DNF			177.60	39	361	54.83	46	385	80.49	26	768	52.57	26	718	2232
46	Wright, A.	EJR	ASW-19	(72.40)	46	48	0	=35	0	(000.00)	=44	0	165.60	41	329	63.64	41	527	(100.80)	46	89	(093.60)	46	133	1126
47	Glossop, J. D. J.	ECL	Vega	76.49	24	737	(21.25)	=35	0	DNF			DNF			DNF			DNF			DNF			737

DNF - did not fly

Our thanks to Dave Brown for compiling this computerised score sheet

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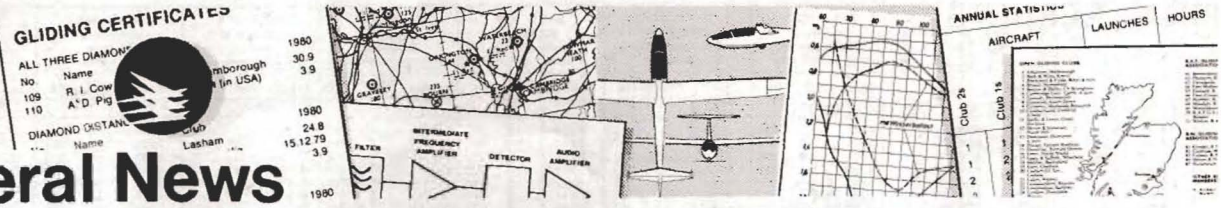
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BGA and General News



FIRST BRITISH 1000KM

William Malpas, living in the USA, has become the first British glider pilot to achieve 1000km, having taken the Karl Striedieck route he wrote about in our June issue, "Introduction to Appalachian ridge-running", p110.

He was launched on September 28 in his Mini Nimbus at State College, Pennsylvania for a ten hour O/R to Bluefield, Virginia, a flight he has been planning for three years.

William, who has promised to write us an account, is claiming the British National goal and return distance record with 1000·5km, currently held by Chris Garton with 801.3km.

NATIONAL LADDER WINNERS

Dave Watt (Airways) is top of the National Open Ladder with three 300km triangles and a 200km triangle in his ASW-20L to win him the Enigma trophy.

Chris Starkey (Imperial College) heads the Club Ladder to claim the L. du Garde Peach trophy with a Diamond height and Diamond distance adding to his points. He flew two cross-countries in an Astir CS and the third in an Olympia 463.

Mike Jefferyes (Essex) who was second on the Club Ladder and 21st on the Open, used the BGA Twin Astir on instructional flights for all his Club Ladder entries.

Shropshire Soaring Group are top of the Club League Table with Oxford GC second.

Open Ladder

Leading pilot	*Club*	*pts*	*Flts*
1. D. S. Watt	Airways	7431	4
2. N. G. Hackett	Coventry	6893	4
3. P. Pozerskis	Coventry	6095	4
4. A. K. Mitchell	Southdown	5817	4
5. G. S. Neumann	Cambridge Univ	5793	4
6. D. W. Evans	Cambridge Univ	5743	4

Club Ladder

Leading pilot	*Club*	*Pts*	*Flts*
1. C. G. Starkey	Imperial College	6611	4
2. M. B. Jefferyes	Essex	4932	4
3. P. A. Gaisford	Swindon	4255	4
4. P. Crossley	Thames Valley	2805	4
5. R. Pentecost	Surrey & Hants	2416	2
6. C. Fox	RAE	2238	3

FATAL ACCIDENTS

There have been two more fatal accidents bringing the total to four for this year with five people killed at civilian clubs.

On Wednesday, September 9, Dick Walton, a pilot for British Airways, had completed a task in a LS-3 from Booker. After finishing he had pulled up and circled once before going downwind for what would have been a 180° final turn. The glider spun in from this turn.

On Monday, September 28, Gordon Muir had climbed to 14 000ft in a Skylark 4, flying from Feshiebridge. The barograph trace showed a steady descent to 7000ft or so followed by a more rapid descent. One wing had failed just outboard of the joint (wingtip to centre section). The pilot abandoned the glider but not in sufficient time for his parachute to open properly.

The wreckage was not found until the following day and the wingtip is still missing.

W. G. Scull,
BGA Director of Operations.

BGA COMPETITIONS COMMITTEE NEWS

From Ted Lysakowski, chairman.

1982 Squad. The British Team Squad for the 1983 World Championships in Argentina comprises:

- ★ The 1981 Champions and runners-up, namely John Delafield, Ralph Jones (Open) and Dave Watt, Chris Rollings (15 Metre).
- ★ The following 12 pilots elected by a voting panel of 40 pilots (top 12 from each Class plus the 1981 Paderborn Team)— John Cardiff, Andy Davis, Bernard Fitchett, Chris Garton, John Glossop, Alistair Kay, George Lee, Ted Lysakowski, Brian Spreckley, Martyn Wells, Steve White and Justin Wills.

Our congratulations and best wishes for every success to the Squad in the 1982 competitions. The Team for Argentine will be evolved from the Squad in September 1982, although the 1982 Champions (if not already in the Squad) will also be eligible.

The British Team for the 1983 World Championships in Argentina will be headed by **Mike Pope** as **manager** and **Mike Carlton** as **captain;** their primary responsibilities will be the general admin and all sporting aspects of the expedition, respectively. Preparations are already well underway and we all wish both Mikes every success in these roles.

1982 Nationals Structure. The 1982 National Championships will be run in the three main FAI Classes, Open, 15 Metre and Standard, on separate dates and at separate venues with a limit of not more than 50 entries in each Class: for details see below. The competitions will be unhandicapped and each Class will produce one National Champion; however, the Open Class will have two supplementary cup awards for best performances in up to 21m span and up to 19m span categories.

1982 Competition Calendar. Chastened by the Greenham deluge, burned by Dunstable stubble fires and with the philosophy that one might as well be hung for a sheep as a lamb, we are not only separating the Open from Standard but also departing from the traditional Bank Holiday fixtures. Thus the 1982 Nationals will be as follows: **Open,** June 5-13, Lasham; **15 Metre,** July 10-18, Dunstable and **Standard,** August 7-15, Booker.

At the time of writing (October 1981) the other competition dates are provisional and subject to confirmation. For up-to-date details please contact the BGA office or me.

Inter-Services Regionals, late May, Greenham; **Western Regionals,** June 19-27; Nympsfield; **Competition Enterprise,** June 26-July 3, North Hill; with the following dates vacant — July 24-August 1 and August 21-30.

1982 European Championships. Earlier this year CIVV approved the concept of the formal European Championship to be run bi-annually so as not to coincide with the World Championships. Subject to confirmation the inaugural event will be run by the Italian Aeroclub at Rieti concurrently in the three main FAI Classes between July 31 and August 14. These Championships are intended to be low cost events run with less pomp and circumstance than the World Championships and Italy indicates entry fees of £70 and aerotows at £7 each. The standard of competition will no doubt be very high.

The UK is expected to field a team of up to four pilots and the membership is open to anyone who features on the 1982 Qualifying List (see p281) except the 1981 World Team that flew at Paderborn. BGA funds will not be used for this event and the competing pilots must be prepared to finance themselves. However assistance from the Sports Council may be available and the BGA will deal with this once the team has evolved.

Anyone interested in becoming a member of the European team please apply to the BGA office by Friday, February 19. Priority will be decided by the applicant's position on the 1982 Qualifying List.

INTER-UNIVERSITY TASK WEEK

Duxford, June 28-July 5

Again the task week was characterised by poor weather but there was a competitive atmosphere and enjoyable flying. There were 18 entries representing ten universities.

Only the first of the five contest days produced a race with more than half the gliders returning. On the other days, with tasks of between 62km and 141km, strong winds and rain took their toll.

Colin Paterson (Skylark 4) claimed most points for Surrey, flying furthest on all but

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one of the days. The wooden spoon was won by Nottingham who narrowly beat Edinburgh's K-13 for the honour. Commiserations to Oxford's DG-200 for achieving the best flights on non-contest days.

Our thanks to Cambridge University GC for organising the event which will probably be at Duxford next year.

Final results: *Wooden ships, 1. Surrey (Skylark 4), 3091pts, 2. Cambridge (K-7), 2700pts and 3. Imperial College (Bocian) 2319pts. Glass ships, 1. Leicester (Libelle), 1493pts, 2. Imperial College (Libelle), 1189pts and 3. Cambridge (Astir CS), 1185pts.*

James Wilson

BGA WEEKEND

Keep the weekend of March 13-14 free for the BGA Weekend at the Rugby Post House, Crick, when top speakers have been lined up with George Lee, World Champion, as guest of honour. Full details in the next issue.

EXTENSION OF SAFE-LIFE

Subject to compliance with relevant A/D and technical notes, the safe-life may be extended on the ASW-15, ASW-15B, Janus B and Std Cirrus from 3000 to 6000 flight hours.

WIND POWER

Some clubs are showing interest in the Trimblemill — a sleekly designed windmill — for their clubhouse heating. There are now 11 in use in the UK with four more being erected this autumn.

They need little maintenance and the manufacturer claims they make an impressive cut in heating bills.

S&G PRICE INCREASE

We regret that S&G will be increased to £1.10 per copy from the February-March issue. The annual subscription, which includes postage, will be £8.15.

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OBITUARY

STAN ARMSTRONG



By the death of Stan Armstrong in a gliding accident on August 26, the movement has lost one of its most dedicated and experienced members and my wife and I grieve the loss of a loyal and loved friend of many years.

Born at Stockport, he was the only boy in a family of six children and became articled to an accountant, although he really wanted to follow his father in the engineering profession and never took to accountancy. In 1936 he and Pat, later to become his wife, joined the Derbyshire and Lancashire GC. Stan gained all three primary certificates within 18 months and his Silver C, No. 63, shortly after the war. Gold C No. 13 followed in 1953, followed by two Diamonds.

At the time of his death he was part-owner of a K-21 and had seven and a half logbooks recording 1200hrs flying from 17 sites in the UK as well as abroad. He had flown 72 different types and held a PPL with an IMC rating.

Flying control duties

During the war Stan volunteered to fly, but after initial training was turned down because of defective eyesight and went over to aerodrome administration and flying control duties at home and abroad.

After the war the gliding club was working full out to recover and Stan was one of those members who would at a moment's notice produce a hammer or screwdriver or pick and shovel and use them. He was like that to the end!

The great turning point came in his life when he joined Otter Controls, a company manufacturing thermostats. As export manager he travelled extensively in Europe, the Middle East, Far East and Africa, substantially expanding the business abroad. He was invited to instruct at a gliding club in Singapore and flew with some of the leading pilots in South Africa. Unfortunately for Camphill his business activities meant he had to resign as treasurer after 17 years' expert and valued service.

Stan was never much interested in competition flying other than being a good organiser of contests — remember the 1954 World Championships at Camphill! He was a dedicated and popular instructor and after his retirement three years ago gave much time to the management of the club, a phase when inflation and other problems were accumulating to make things more than usually difficult. He was made chairman and much has been achieved under his leadership with a renewed enthusiasm abounding in the club.

Stan loved people and made many lasting friends. He was a perfectionist seeking his own high standards in others. If that should lead to disagreement he would give ground when he had to with outward patience and goodwill and do what he thought was right in his own way. Always courteous and understanding towards those with problems, he was a thoroughly nice person.

Above all he was a family man, devoted to Pat and proud of the achievements of his son Michael, now established in industry and bidding fair to match his father's prowess in gliding. He had great affection for his daughter-in-law and two granddaughters.

He will be sadly missed by us all.

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GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1981
117	P. L. Bisgood	Twinwood	16.8

DIAMOND DISTANCE

No.	Name	Club	1981
1/179	M. J. Fairclough	Dunkeswell (in USA)	14.5
1/180	P. L. Bisgood	Twinwood	16.8
1/181	D. G. Roberts	Cotswold	2.8

DIAMOND GOAL

No.	Name	Club	1981
2/1029	E. K. Stephenson	Bicester	2.8
2/1030	P. L. Manley	Essex	2.8
2/1031	J. Duncan	Bicester	2.8
2/1032	R. C. Farthing	Clevelands	2.8
2/1033	M. J. Fairclough	Dunkeswell	11.5
2/1034	C. J. Wingfield	Midland	10.7
2/1035	I. G. Bass	Bicester	2.8
2/1036	J. C. Bastin	Surrey & Hants	11.8
2/1037	B. Chaplin	Thames Valley	11.8
2/1038	J. B. Giddins	Oxford	11.8
2/1039	J. W. Tomlinson	Thames Valley	11.8
2/1040	K. R. Buckner	Bannerdown	2.8
2/1041	Mary Charlett-Green	Bicester	16.8
2/1042	C. J. Alldis	Midland	11.8
2/1043	J. W. Barrett	London	11.8
2/1044	S. K. Houlding	Bicester	16.8
2/1045	C. Fox	RAE	16.8
2/1046	J. R. Tarrant	Norfolk	17.8
2/1047	P. Lazenby	Yorkshire	16.8
2/1048	N. W. Dempster	Bicester	16.8
2/1049	P. Newmark	Derby & Lancs	16.8
2/1050	B. Scougall	SGU	20.8
2/1051	D. A. Smith	Bath & Wilts	31.8
2/1052	S. J. West	Buckminster	11.8
2/1053	P. G. Bower	SGU	16.8
2/1054	E. H. L. Shore	Devon & Somerset	31.5
2/1055	P. Baker	Cambridge Univ	2.8
2/1056	D. Foster	Newark & Notts.	16.8
2/1057	S. S. Mackintosh	SGU	16.8
2/1058	P. B. Gray	Derby & Lancs	16.8
2/1059	F. W. Chapman	Bicester	16.8
2/1060	H. Clarke	Bicester	30.8
2/1061	J. A. Charlett-Green	Bicester	23.8
2/1062	B. R. Forrest	Enstone	23.8
2/1063	D. W. McQue	Aquila	23.8
2/1064	P. B. Conyers	Chilterns	16.8
2/1065	C. M. Cruse	London	26.8
2/1066	M. G. Thick	London	11.8
2/1067	A. Roberts	Derby & Lancs	16.8
2/1068	A. J. Eddie	Four Counties	16.8
2/1069	W. H. Bush	Bicester	30.8
2/1070	M. Hatdukiewicz	Cotswold	16.8
2/1071	A. J. Southard	London	16.8
2/1072	W. Kay	London	11.8
2/1073	D. R. Brownrigg	Bannerdown	16.8
2/1074	J. Swannack	Trent Valley	23.8
2/1075	A. Kennedy	SGU	22.8

DIAMOND HEIGHT

No.	Name	Club	1981
3/493	R. Marsden	Herefordshire	20.7
3/494	W. R. Longstaff	Cairngorm	5.9
3/495	L. Kirkman	Shropshire	16.6

GOLD C COMPLETE

No.	Name	Club	1981
807	E. K. Stephenson	Bicester	2.8
808	R. C. Farthing	Clevelands	2.8
809	P. L. Manley	Essex	2.8
810	J. B. Giddins	Oxford	11.8
811	J. W. Tomlinson	Thames Valley	11.8
812	P. C. Gill	Essex	11.8
813	K. R. Buckner	Bannerdown	2.8
814	Mary Charlett-Green	Bicester	16.8
815	C. J. Alldis	Midland	11.8
816	S. J. West	Buckminster	11.8
817	J. R. Tarrant	Norfolk	17.8
818	N. W. Dempster	Bicester	16.8
819	P. Newmark	Derby & Lancs	16.8
820	B. Scougall	SGU	20.8
821	P. G. Bower	SGU	16.8
822	E. H. L. Shore	Devon & Somerset	31.5
823	Sally King	Booker	11.8
824	S. S. Mackintosh	SGU	16.8
825	P. B. Gray	Derby & Lancs	16.8
826	W. Young	Wolds	29.7
827	Jane Randle	Oxford	20.8
828	F. W. Chapman	Bicester	16.8
829	H. Clarke	Bicester	30.8
830	J. A. Charlett-Green	Bicester	23.8
831	A. Roberts	Derby & Lancs	16.8
832	W. H. Bush	Bicester	30.8

GOLD C DISTANCE

Name	Club	1981
E. K. Stephenson	Bicester	2.8
R. C. Farthing	Clevelands	2.8
P. L. Manley	Essex	2.8
J. Duncan	Bicester	2.8
M. J. Fairclough	Dunkeswell	11.5
R. Marsden	Herefordshire	20.7
I. G. Bass	Bicester	2.8
J. C. Bastin	Surrey & Hants	11.8
B. Chaplin	Thames Valley	11.8
J. B. Giddins	Oxford	11.8
J. W. Tomlinson	Thames Valley	11.8
P. C. Gill	Essex	11.8
K. R. Buckner	Bannerdown	2.8
Mary Charlett-Green	Bicester	16.8
E. J. Alway	Bristol & Glos	11.8
C. J. Alldis	Midland	11.8
J. W. Barrett	London	11.8
S. J. West	Buckminster	16.8
S. K. Houlding	Bicester	16.8
C. Fox	RAE	16.8
J. R. Tarrant	Norfolk	17.8
N. W. Dempster	Bicester	16.8
P. Newmark	Derby & Lancs	16.8
B. Scougall	SGU	20.8
D. A. Smith	Bath & Wilts	31.8
P. G. Bower	SGU	16.8
E. H. L. Shore	Devon & Somerset	31.5
Sally King	Booker	11.8
P. Baker	Cambridge Univ	2.8
D. Foster	Newark & Notts	16.8
S. S. Mackintosh	SGU	16.8
C. M. Cruse	London	26.8
P. B. Gray	Derby & Lancs	16.8
W. Young	Wolds	29.7
F. W. Chapman	Bicester	16.8
H. Clarke	Bicester	30.8
J. A. Charlett-Green	Bicester	23.8
P. E. L. Whittle	Buckminster	16.8
B. R. Forrest	Enstone	23.8
D. W. McQue	Aquila	23.8
P. B. Conyers	Chilterns	16.8
M. G. Thick	London	11.8
W. Kay	London	11.8
A. Roberts	Derby & Lancs	16.8
A. J. Eddie	Four Counties	16.8
W. H. Bush	Bicester	30.8
M. Hatdukiewicz	Cotswold	16.8

GOLD C HEIGHT

Name	Club	1981
J. D. Bally	Black Mountains	20.7
W. B. Bowden	Ulster	26.6
E. G. Martin	Bristol & Glos	16.3
P. Little	Bristol & Glos	16.3
Jane Randle	Oxford	20.8
W. T. Craig	Ulster	26.7
G. E. Ramsden	Avro	30.6
J. R. Greig	Cairngorm	16.8

SILVER C

No.	Name	Club	1981
5927	T. C. Marchant	Buckminster	4.7
5928	D. M. Judd	Wrekin	2.8
5929	G. Edmunds	Surrey & Hants	29.7
5930	L. Sherlock	Stratford	2.8
5931	S. M. Smith	Cambridge Univ	27.6
5932	D. B. Stidwell	Avon	2.8
5933	R. Johnson	Four Counties	27.7
5934	A. Mather	Thames Valley	3.8
5935	A. F. Quartly	Bannerdown	28.7
5936	K. J. Bates	Norway	21.6
5937	G. A. Larkin	Yorkshire	10.8
5938	A. P. Lees	Enstone	1.8
5939	L. S. Thorne	Stratford	1.8
5940	M. G. Dovey	Surrey & Hants	11.8
5941	Elaine Routledge	Northumbria	10.8
5942	P. Brice	Thames Valley	12.8
5943	P. Ennis	Thames Valley	12.8
5944	R. B. Ramsay	SGU	27.7
5945	R. F. Smith	Buckminster	16.8
5946	Helen Florence	Lasham	12.8
5947	R. A. Yates	Thames Valley	11.8
5948	T. Mallard	Herefordshire	27.7
5949	S. M. Brownlow	Cranwell	2.8
5950	D. H. Ramsey	Cranwell	16.8
5951	A. S. Hunt	Inkpen	15.8
5952	E. E. Lake	Bicester	16.8
5953	R. Witham	Hambletons	16.8
5954	Sheila Gildea	Humber	16.8
5955	D. B. Hesketh	Coventry	16.8
5956	S. Biggs	Thames Valley	21.6
5957	Caroline Brailsford	Thames Valley	17.8
5958	W. R. Barker	Cranwell	29.7
5959	W. R. Clarke	Welland	2.8
5960	P. J. P. Heseltine	Trent Valley	16.8
5961	J. A. Stephens	London	16.8
5962	Doreen Marshall	Coventry	16.8
5963	J. D. Bally	Black Mountain	16.8
5964	G. R. Brown	Thames Valley	11.8
5965	T. Rowles	Lasham	2.8
5966	D. G. Beazley	Cambridge Univ	2.8
5967	J. V. Eden	Yorkshire	16.8
5968	A. R. L. Parker	Cotswold	16.8
5969	P. Cockerill	Yorkshire	17.8
5970	R. W. Sheffield	Woodspring	16.8
5971	F. M. Newboult	Derby & Lancs	16.8
5972	M. G. Tigwell	RAE	23.8
5973	E. W. Johnson	Kent	16.8
5974	P. R. Mannering	Wolds	16.8
5975	Susan Walmsley	Hambletons	23.8
5976	J. R. Cooper	Coventry	23.8
5977	L. J. Birch	Surrey & Hants	16.8
5978	M. J. Bland	Cranwell	23.8
5979	N. E. Whiteman	Kestrel	27.8
5980	K. E. Goodrun	Norfolk	16.8
5981	D. E. Hindley	Surrey & Hants	17.8
5982	C. J. Hornbuckle	Wyvern	23.8
5983	I. G. Hunt	London	2.8
5984	R. Noon	Newark & Notts	29.6
5985	C. A. Jennings	Four Counties	23.8
5986	D. C. Berry	Kent	16.8
5987	M. Haynes	Norfolk	16.8
5988	C. R. Ayre	Derby & Lancs	26.7
5989	J. A. Rowson	Midland	30.6
5990	D. J. Hale	Stratford	2.8
5991	N. Buchan	SGU	22.8
5992	R. W. Fox	Fulmar	16.8
5993	S. Etherington	Cotswold	26.8
5994	V. F. Fielding	Doncaster	18.7
5995	R. B. Kennedy	SGU	16.8
5996	E. H. Messa	Surrey & Hants	26.8
5997	S. D. Sabine	Essex	30.6
5998	M. R. Armitage	Surrey & Hants	30.8
5999	J. M. Staley	Bicester	16.8
6000	N. R. Danby	Fulmar	8.8
6001	A. D. Stenton	Bannerdown	2.9
6002	P. Kevern	Cotswold	25.8
6003	P. Robinson	Coventry	16.8
6004	H. D. Colton	Kent	3.9
6005	Penelope Smith	Wyvern	5.9
6006	G. R. Horner	Yorkshire	5.9
6007	A. R. Born	Airways	30.8
6008	Elizabeth Duffin	Thames Valley	12.8
6009	G. H. N. Chamberlain	Rattlesden	2.9
6010	P. H. Darnsborough	Oxford	3.9
6011	K. S. Fowler	Aquila	30.8
6012	A. J. Williams	Herefordshire	2.8
6013	R. Beezer	Four Counties	17.8
6014	K. Askari	Cambridge Univ	24.8
6015	B. McPhillips	SGU	16.8
6016	C. C. Smithson	Surrey & Hants	3.9
6017	Louise Coates	London	16.8
6018	M. L. G. Oldfield	Oxford	5.9
6019	T. P. Eglinton	Kestrel	16.8
6020	C. J. Harding	Lasham	12.8
6021	A. C. Marshall	Coventry	30.8
6022	D. Kelly	Bannerdown	9.4
6023	R. D. Horder	Kestrel	28.7
6024	P. W. Turner	Essex	25.8
6025	D. Beech	Cranwell	23.8
6026	I. M. Barrow	Cranwell	23.8
6027	M. J. North	Coventry	30.8
6028	C. J. Smith	Bannerdown	3.9
6029	B. McMaster	Four Counties	6.9
6030	S. Cooper	Coventry	23.8
6031	D. J. M. Eardly	Enstone	23.8
6032	S. Hutchison	Two Rivers	30.8
6033	J. R. Pye	Blackpool & Fylde	11.9
6034	M. G. Fuller	Marchington	13.9
6035	E. Downing	Kestrel	23.8
6036	N. Grant	Clevelands	12.9
6037	A. J. Powell	Two Rivers	18.4
6038	M. Lee	Trent Valley	13.9
6039	J. Osment	Thames Valley	6.9
6040	R. Maskell	Cambridge Univ	13.9
6041	M. D. Smith	Wrekin	9.9
6042	R. G. Cooper	London	31.8
6043	S. R. Lee	Ouse	24.8
6044	M. Fountain	Thames Valley	23.8
6045	P. G. Watts	London	9.9
6046	G. A. Mason	Herefordshire	13.6
6047	B. R. Newman	618GS	15.7
6048	Elaine Johnston	SGU	13.9
6049	I. Whitmore	Derby & Lancs	12.9
6050	Julia Fairbanks Smith	Lasham	28.8

1982 NATIONAL QUALIFYING LISTS

The National Qualifying Lists, which simply decide the order of acceptance if any of the 1982 National Championships events is over-subscribed, have been compiled as stated in S&G, December 1980 (p297), except that the previous year's lists are now dovetailed into the respective new lists from position 26 onwards instead of position 21.

As announced at the end of the "unconsummated" 1981 Standard Class, notional results have been used, based on pilots' position in the 1981 Qualifying List with the Promotion List dovetailed into the Priority List from position 21.

Gordon Camp, *BGA Competitions and Awards Committee.*

PRIORITY LIST 1982

1	Lee, D. G.	(W)	27	Dean, M.	(S)	53	Stafford-Allen, P. R.	(QL)	78	Pope, M. H. B.	(15)	104	Murphy, T. J.	(15)
2	Fitchett, B.	(W)	28	Brown, H. F.	(O)	54	Hunt, S. G.	(15)	79	Wheeler, J. H.	(QL)	105	King, S.	(S)
3	Spreckley, B. T.	(W)	29	Metcalfe, G. C.	(S)	55	Watson, A. J.	(S)	80	Hogg, A. J.	(S)	106	Manwaring, A. J.	(15)
4	Davis, A. J.	(W)	30	Dixon, R. T.	(15)	56	Redman, S. J.	(15)	81	Roberts, D. G.	(QL)	107	Crawshaw, G. H.	(S)
5	Watt, D. S.	(15)	31	Shephard, E. G.	(QL)	57	Reed, D. W.	(O)	82	Wilton-Jones, M.	(S)	108	Ellis, C. A. P.	(QL)
6	Rollings, C. C.	(S)	32	Mitchell, K.	(S)	58	Zealley, T. S.	(QL)	83	Blackmore, R. H.	(15)	109	Kay, W.	(S)
7	Delafield, J.	(O)	33	Tipney, C. J.	(15)	59	Newall, Pam	(S)	84	Williamson, J. S.	(QL)	110	King, P. J.	(15)
8	Wells, M. D.	(S)	34	Campbell, D. R.	(O)	60	Purdie, P. G.	(QL)	85	Hynes, K.	(S)	111	Herringshaw, G. H.	(O)
9	Jones, R.	(O)	35	Wilson, D. V.	(S)	61	Farmer, A. T.	(15)	86	Foot, R. A.	(QL)	112	Woodford, J. M.	(S)
10	Wills, T. J.	(S)	36	Macfadyen, T. E.	(15)	62	Docherty, T. P.	(O)	87	St. Pierre, A. M. G.	(15)	113	Willett, M.	(S)
11	Garton, C.	(15)	37	Hawkins, P.	(S)	63	Hood, L. S.	(S)	88	Carlton, M. R.	(QL)	114	Wright, A.	(15)
12	Glossop, J. D. J.	(O)	38	Sheard, P. G.	(15)	64	Pozerskis, A.	(QL)	89	Fleming, A. M.	(O)	115	Cowderoy, R. L.	(QL)
13	Smith, G. N.	(S)	39	Randle, Jane	(O)	65	Wise, B.	(S)	90	Hall, R. A.	(QL)	116	Clarke, M.* (1567)	(S)
14	White, S. A.	(15)	40	Tanner, L. E. N.	(QL)	66	Torode, H. A.	(QL)	91	Randle, M.	(S)	117	Sandford, R. A.	(QL)
15	Benoist, J. D.	(S)	41	Fletcher, R.	(S)	67	Cook, P. G.	(O)	92	Cooper, B. L.	(S)	118	Miller, A. S.	(QL)
16	Cardiff, J. D.	(15)	42	Aldous, R. F.	(15)	68	Piggott, A. D.	(S)	93	Bridges, R. C.	(15)	119	Webb, M. J.	(QL)
17	Keogh, B.	(S)	43	Rowland, C. D.	(O)	69	Hawes, C. W.	(QL)	94	Young, J. R.	(O)	120	Hanfrey, A. W.	(QL)
18	Lysakowski, E. R.	(O)	44	Aspland, W.	(S)	70	Taylor, J. J.	(O)	95	Moulang, A.	(S)			
19	Clarke, M. A.	(S)	45	Tull, V. F.	(O)	71	Boyden, M. V.	(15)	96	Lusted, E. J.	(QL)			
20	Kay, A. E.	(15)	46	Batty, C. J.	(15)	72	Gorringe, J. P.	(S)	97	Shadrach, D.	(15)			
21	Elliott, B.	(S)	47	Forsey, L. K.	(S)	73	Ellis, J. J.	(QL)	98	Hartley, K.	(O)			
22	Pozerskis, P.	(O)	48	Stone, A. J.	(QL)	74	Kemp, M. P.	(15)	99	Gough, A. W.	(QL)			
23	Throssell, M. G.	(15)	49	Bromwich, R. C.	(S)	75	Robertson, D. J.	(QL)	100	Corbett, G.	(15)			
24	Camp, G. W. G.	(S)	50	Cockburn, D.	(O)	76	Cruse, C.	(15)	101	Crouch, R.	(QL)			
25	Hackett, N. G.	(15)	51	Jefferyes, M. B.	(15)	77	Taylor, J. R.	(S)	102	Hale, R. J.	(O)			
26	May, R. C.	(S)	52	Bolton, P.	(S)				103	Stewart, K.	(S)			

(Q) = 1981 Open Class; (15) = 1981 15 Metre Class); (S) = 1981 National Standard Class; (W) = World Championships; (QL) = from Priority List of 1981 NQL.
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REGIONALS PROMOTION LIST 1982

1	Hodsman, D.	(W)	24	Stafford-Allen, P. R.	(QL)	47	Baker, P.	(HB)	71	Bolton, P.	(QL)	94	Ramsden, P.	(NO)
2.	Campbell, D. R.	(BS)	25	Ward, M.	(NS)	48	Fleming, A. M.	(QL)	72	Christy, R. B.	(QL)	95	Hayes, D. M.	(QL)
3	Kiely, K.	(IST)	26	Gorely, T.	(QL)	49	Wilson, D. V.	(QL)	73	Emmett, M. R.	(BS)	96	Thick, M.	(BC)
4	Cunningham, G. W.	(L1)	27	Withall, C. L.	(BS)	50	Reed, D. W.	(L1)	74	Crawshaw, G. H.	(QL)	97	Gaunt, T. R.	(L3)
5	Breeze, D.	(L3)	28	Wilson, F. G.	(IST)	51	Cumner, G.	(ES)	75	Piggott, A. D.	(L3)	98	Cruse, C.	(QL)
6	Stone, A. J.	(BC)	29	Gaisford, P. A.	(L3)	52	Barrett, J. W.	(BC)	76	Harrison, J. G.	(IST)	99	Webb, M. J.	(L2)
7	Gough, A. W.	(ISO)	30	Jefferyes, M. B.	(W)	53	Findon, D.	(W)	77	Newall, Pam	(QL)	100	Boidi, R.	(ISO)
8	Curtis, C. J.	(L2)	31	Hale, R. J.	(QL)	54	Hawes, C. W.	(BS)	78	Young, J. R.	(ISO)			
9	Bishop, J. M.	(EO)	32	Robinson, I.	(QL)	55	Bleaken, L.	(QL)	79	Sandford, R. A.	(QL)			
10	Langrick, J.	(HB)	33	Burton, G. E.	(QL)	56	Millward, G.	(ISP)	80	Taylor, J. J.	(L1)			
11	Cowderoy, R. L.	(W)	34	Harmer, P.M.	(ISP)	57	Freeman, D. J.	(QL)	81	Brown, T. M.	(QL)			
12	Hoy, S. L.	(ISP)	35	Taylor, K.	(NO)	58	Wilson, T.	(QL)	82	Guthrie, P.	(W)			
13	Hunt, S. G.	(NO)	36	Jeffries, J. R.	(QL)	59	Alldiss, C. J.	(L3)	83	Randle, M.	(QL)			
14	Smith, E. R.	(IST)	37	Fletcher, R. W.	(BC)	60	Aldous, R. F.	(QL)	84	Eagles, T. W.	(ISP)			
15	Purdie, P. G.	(L1)	38	Cook, P. G.	(ISO)	61	Stephenson, E. K.	(IST)	85	Dixon, G.	(ES)			
16	Taylor, J. R.	(L3)	39	King, P. J.	(QL)	62	Aspland, W.	(QL)	86	Corbett, C. G.	(QL)			
17	Dawson, M.	(ES)	40	Murdoch, M. L.	(BS)	63	Gaunt, N.	(NO)	87	Warminger, A. H.	(QL)			
18	Morris, G.	(W)	41	Tipney, C. J.	(QL)	64	Hart, J. E.	(QL)	88	Smith, M. J.	(EO)			
19	Cooper, B. L.	(BC)	42	Harding, R.	(W)	65	Hancock, A. R.	(L1)	89	Wise, B.	(QL)			
20	Hartley, K.	(ISO)	43	Stewart, K.	(L3)	66	Hoye, J.	(HB)	90	Cousins, R.	(HB)			
21	Roberts, D. G.	(QL)	44	Lovell, C. D.	(L2)	67	Rogers, N.	(NS)	91	Bradley, R.	(QL)			
22	Saundby, R. P.	(EO)	45	North, S.	(EO)	68	Gardner, D.	(EO)	92	King, S. M.	(BS)			
23	Murphy, T. J.	(HB)	46	Mitchell, K.	(QL)	69	Harrington, T.	(W)	93	Sharman, R.	(QL)			
						70	Giddins, J. B.	(BC)						

L1, L2, L3 = Lasham Regionals, Classes 1, 2, 3; ISO, IST, ISP = Inter-Services Regionals, Open, Standard, Sport; BS, BC = Booker Regionals, Sport, Club; EO, ES = Enstone Regionals, Open, Sport; W = Western Regionals (Nympsfield); HB = Midland Regionals (Husbands Bosworth); NO, NS = Northern Regionals (Sutton Bank), Open, Sport; QL = From 1981 Regionals Promotion List.

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OFFICIAL OBSERVERS' TEST PAPER

Official Observers — how well do you know your job? To check yourself out we thought you might like to try and answer this test paper compiled for the Lasham Gliding Centre by DEREK PIGGOTT and ROGER DOWNING. The answers are on p287. Even if you have scored full marks, it might be worth cutting out and keeping for future reference or for the notice board.

1 Barographs for National and International records must be sealed by:
a) One Official Observer.
b) Any instructor
c) Any Gold C pilot or club official.

2 The latest time that declarations may be made for record or badge flights is:
a) On radio to an Official Observer before crossing the line.
b) At least one hour before crossing the start line.
c) Before take-off.

3 Radio Navigation Aids are allowed for:
a) All competition flights.
b) Cross-country record or badge flights.
c) None of a) or b).

4 The minimum information required on a barograph for a height claim is:
a) The trace, pilot's name, aircraft type and number, barograph type and number, flight date and the Official Observer's signature and number who sealed the barograph.
b) Base line, trace, pilot's name, flight date, barograph type and number and the Official Observer's signature and number.
c) Base line, trace, pilot's name, aircraft type and number, barograph type and number, flight date and Official Observer's signature and number and Official Observer's number who sealed the barograph.

5 The maximum height for crossing a start line for a straight line competition task is:
a) 1% of the straight line distance flown.
b) Not above 1000m asl.
c) Not above 1000m agl.

6 On a triangle badge flight:
a) The shortest leg must always be at least 28% of the total distance.
b) The minimum angle at any TP should not be less than 30°.
c) There is no minimum % distance for any leg of a triangle.

7 Claims for badge flights must be sent to the BGA:
a) Within 60 days of the flight.
b) Within 6 months of the flight.
c) Within 12 months of the flight.

8 For record flights, the BGA must be notified within:
a) 7 days
b) 48 hours
c) 6 months

9 The tug pilot's signature is required:
a) On all aerotow flights for badges and records.
b) If a starting gate has not been used.
c) Only if the glider is launched above 1000m above the landing point.

10 Turning point photographs for badge and record flights:
a) Need not show the actual TP, provided that another glider pilot witnessed the glider near the TP.
b) Need not show the actual TP as long as they prove that the glider had flown beyond the TP.
c) Must be taken within a 90° quadrant centred about the extension of the bisector of the track lines beyond the TP.

11 On a height claim the low point is:
a) The release height confirmed by the tug pilot.
b) The length of cable available for a car or winch launch.
c) The lowest recorded point after release before the climb.

12 For photographic evidence, the film strip must always include:
a) A photo of the pilot before the flight, one of the fin of the glider taken after landing.
b) A photo approved by the Official Observer and taken before the flight and one of the fin of the glider taken after landing.
c) A photo of the declaration taken before the flight and one of the fin of the glider taken after landing.

13 For badge claims photographic evidence must be certified by:
a) The Official Observer who supervised the development etc, of the film.
b) Two Official Observers.
c) Any Official Observer.

14 The responsibility for the correct completion of a Silver C claim is:
a) The Official Observer.
b) The Official Observer and the glider pilot.
c) The glider pilot.

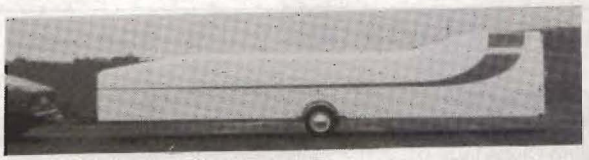
15 A barograph need not be carried for:
a) A Silver C height, if observed.
b) A Silver C distance, if observed.
c) A Silver C duration flight, if observed.

16 A calibration chart must be sent to the BGA for a Silver C height claim for a gain of height of less than:
a) 3500ft.
b) For all claims.
c) 3800ft.

17 A calibration chart is required by the Official Observer for checking a gain of height claim:
a) At all times.
b) When the gain of height is less than 3800ft.

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c) When the gain of height claimed is over 3800ft and the Observer is satisfied that there is no doubt that Silver C height has been reached.

18 A Silver C distance may be claimed for a flight of 99km if:
a) The flight is a declared triangle and is fully supported by photographic evidence.
b) The flight is an O/R.
c) The flight is a straight line.

19 A Diamond goal flight may be claimed for:
a) Straight line distance.
b) Dog leg distance.
c) A triangle or O/R flight.

20 A declaration must include:
a) Flight date, time of declaration, pilot's name and signature, start, turn and finish points and Official Observer's signature and number.
b) Flight date, pilot's name and signature, glider type and competition number, start, turn and finish points, and Official Observer's signature and number, and time of declaration.
c) Pilot's name and signature, glider type and BGA number, start, turn and finish points and Official Observer's signature and number.

21 If the height lost from the launch to the landing is 1500m, the distance which may be claimed for a flight of 328km for a Diamond Goal flight is:
a) 303km.
b) 328km.
c) 353km.

22 Landing certificates are required for:
a) All badge flights.
b) All distance and goal claims for Silver, Gold, Diamond and record flights.
c) All Silver, Gold and Diamond flights including heights and durations.

23 On a declared triangular flight of 312km, Gold C Distance may be claimed for:
a) A failed triangle of 304km, TPs rounded but landing 10km off track.
b) A failed triangle of 308km, TPs rounded but landing 15km off track.
c) A failed triangle of 328km, TPs rounded but landing 15km beyond the finishing point.

24 On a Silver C flight from Lasham (620ft asl) a pilot releases 2,700ft above the airfield, and lands at a coastal field 40ft asl. What is the minimum distance he *must have flown* in order to be able to claim the leg?
a) 98km.
b) 60km.
c) 100km.

25 How many Observers are required at start and finish lines for record attempts:
a) Two
b) One
c) Three

26 For a triangle record attempt not exceeding 500km:
a) The minimum angle at any TP of the triangle is 30°.
b) There is no minimum distance for any leg.
c) The shortest leg must be at least 28% of the triangle.

27 A Bronze C is required before making:
a) A claim for any leg of the Silver C.
b) The Silver height and distance leg only.
c) An attempt for Silver C distance.

28 A barograph calibration chart is valid for checking a Silver C height for a period of:
a) 3 months
b) 6 months
c) 12 months

29 A Silver C distance may be claimed for:
a) 50km straight flight only.
b) Part of any triangle or O/R which includes a 50km leg with declared remote start and finish points.
c) Any triangle totalling over 50km distance.

30 For record claims photographic evidence must be certified by:
a) The Official Observer who supervised the development etc, of the film.
b) a) plus any other Official Observer.
c) One Official Observer.

31 When sealing a barograph, which actions are the responsibility of the Official Observer:
a) The paper is tight on the drum, the Observer has put his number on the drum, the clockwork is wound with the correct speed setting.
b) The paper is tight on the drum, there are no traces of previous flights and the Official Observer has put his number on the drum.
c) The drum has no traces of previous flights and the barograph looks serviceable.

32 Which of the following is acceptable for sealing a barograph:
a) Gum strip over one corner signed by the Official Observer.
b) Wire locking with a lead or sealing wax seal or gum strip round the complete barograph with the Offical Observer's signature and number across the join.
c) Scotch masking tape or cellotape round the complete barograph with the Official Observer's signature and number across the join.

33 When there is more than one trace on a barogram the Official Observer should:
a) Certify each trace and cut the chart giving each pilot his portion.
b) Certify each trace, cut the chart and submit all claims to the BGA.
c) Certify each trace and submit all claims together with the uncut chart to the BGA.

34 While flying in South Africa a BGA Official Observer can:
a) Act as an Official Observer for badge flights or records.
b) Act as an Official Observer for any claim by a British pilot.
c) Not act as an Official Observer for any reason.

35 For a record height claim:
a) The barograph calibration chart made within 12 months prior to the flight must be submitted.
b) Two calibration charts are required, one within 12 months prior to the flight and one within 1 month after the flight.
c) Either one made prior to, or after, the flight.

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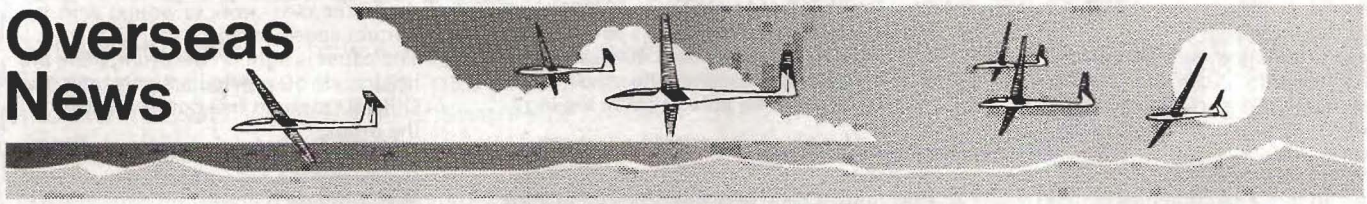


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Overseas News



Australia

Waikerie International Week. In response to their many overseas visitors' suggestions, Waikerie GC are holding a "Waikerie International Week" from February 22-28 with Standard and 15 Metre Class competitions. Waikerie GC gliders and a number owned privately will be held available for international visitors until the end of this year.

For further details contact Maurie Bradney, manager, Waikerie GC, PO Box 320, Waikerie, 5330, South Australia.

Holland

Stress in the Cockpit. A group of Dutch medical students is conducting an investigation into levels of physical and psychological stress encountered by contest pilots. During this year's Dutch Nationals, ten pilots were subjected to a battery of tests before each flight (blood pressure, pulse rate, fat, blood sugar and uric acid levels). They were also weighed before and immediately after each flight.

A different pilot flew each day with a heart beat recorder, the trace from which could subsequently be matched up with the barograph trace. If the pilot encountered particularly stressful situations during the flight (*eg* low points) he marked them by pressing a button. The results of this investigation are not yet known, but should prove highly interesting.

France

Delafield Wins Championships. The French Air Force Open Class Championships, at Romorantin from June 22-July 3, were won by John Delafield in his Nimbus 3. Conditions were generally weak and the winning speeds never exceeded 75km/h. Only five contest days emerged from a possible 12. Similarly poor conditions plagued other French Regionals this year, especially those at Buno-Bonnevaux and Nogaro (the *Coupe de l'Armagnac).*

Vinon 1981. The only French competition to have a British entrant this year was Vinon (Mike Costin flying a Nimbus 2). There were 80 gliders entered, and their pilots enjoyed seven contest days out of a possible eight, with the sort of weather the Northern Europeans were dreaming of, but which by Vinon's standards was only moderate.

860km in a Calif. The well-known Vinon pilot, Jean-Pierre Cartry has flown a cat's cradle of 860km in the southern Alps and Cevennes mountains — entirely in wave. He took-off at 1130 on July 19 in a Calif and landed at 2055, nine hours 25min later. The route — *via* Briançon, Mende, Lodève, Nyons and Briancon again — crossed the Rhone valley twice, and was carried out mainly between 9000 and 18 000ft.

1981 French Champions. Michel Mercier won the French 15m Class Championships at Bourges and Michel Recule the Standard Class at Issoudun. The two Championships were held simultaneously from July 5 to 14, 1981. Both Classes had six contest days and task lengths varied between 208 and 400km. Both Champions won by substantial margins (Mercier by 800pts, Recule by over 400), but will have to defend their titles next year before knowing whether they will represent France in Argentina.

French Split-Site Nationals. To accommodate the 83 pilots qualified to fly in the 1981 French Nationals, the French Gliding Commission decided to run the Standard and 15m contests simultaneously but on separate sites just 20 miles apart (Bourges and Issoudun). But because the 1981 Nationals were not being used to select the team for the 1983 Argentinian World Championships, only 46 pilots bothered to enter (31 in the Standard Class and only 15 in the 15m Class), a total that could easily have been accommodated on one site. An urgent reappraisal of policy is going on at the Federation Francaise du Vol a Voile!

Angers — Coupe D'Europe. A rather sorry tale from Angers too: only 43 entries, five contest days out of ten, two accidents including a mid-air collision, and former World Champion Helmut Reichmann finishing half-way down the results list.

The collision took place at the start gate between two world-class pilots, John Buchanan of Australia and Basil Obrist of Switzerland. Both parachuted to safety and

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although the wreckage fell very close to a village it did no damage.

Winners were: Standard Class, Wanzenried (Switzerland); 15m Class, Kuil (Holland) and Open Class, Lherm (France).

Second European Women's Championships. Disastrous weather too for the European Ladies at Cherence in late July. The 15m Class managed four contest days and the Standard Class just three. French pilots dominated, with Marie-Francoise Gavaret and Anne-Marie Pinon winning. Although each European nation could enter a team of four women pilots, there were no British entries.

French National Youth Championships. The French Gliding Federation intends to organise a National Championship for young people, the winners of which will have put at their disposal for one year a modern competition sailplane. The Federation already has two such aircraft available, and hopes to acquire two more by next year.

Roanne Welcomes Visitors. A new gliding centre has opened at Roanne near Lyons. The site is well known for the wave generated by the nearby Madeleine and Forez Mountains, and also has good thermal soaring potential. Accommodation is available on site and foreign visitors are welcome. For information contact the chief pilot: Bernard Defaux, CVVR, ST Leger-sur-Roanne, 42370 RENAISON, France.

An Aviator's Michelin. The French — never known for neglecting the "inner man" — have come up with a comprehensive guide to airfield restaurants in France. The guide gives details of prices of set meals and *a la carte* and recommends specialities. Silver C distances can now be planned according to taste to finish with *civet de lapereau* or *casserolette de poulet au cidre.*

Germany

Gliding Holidays for Young People. The German Aero Club runs a gliding centre for young people from many different countries at Hirzenhain/Dillenburg near Marburg in the beautiful hills of Franconia. Each year a series of courses is organised, catering for beginners and the more advanced alike. So far this year there have been young people from Belgium, China, France, Holland, Switzerland, Turkey and the USA — but none from Britain. The centre is equipped with K-13, K-8 and K-6 aircraft and is staffed by experienced instructors. Course members are accommodated in four-bedded rooms and there is a canteen supplying excellent food. Any young people (16-25yrs) interested in a gliding holiday should write for details to: Haus der Luftsportjugend, 6345 Eschenburg 4, Hirzenhain/Lahn-Dill-Kreis, W. Germany.

Advanced Soaring Centre. A national advanced soaring centre, comparable to the French centre at St Auban, has been opened at Marpingen in the Saarland. It will link the teaching of cross-country soaring theory, as expounded principally by Helmut Reichmann, Professor of Gliding at the nearby University of Saarbrücken, to practical advanced flying training. The site, close to the Federal Republic's western border with France, will allow long cross-country flights within the Federal German territory. It is hoped to hold the 1982 German Club Class Championships at Marpingen.

European Club Class Championships. The next European Club Class Championships will be held in Hammelburg (West Germany) from June 5-19, 1982. There will be a quota of six entries from each country and a maximum overall number of participants of 50. Horst Degener, task setter at the Paderborn World Championships, will also be setting the tasks. Competing gliders must have a fixed undercarriage and no waterballast tanks, and at least ten of the type must have been manufactured. Entry fee is DM500, and the closing date for applications is January 15.

1982 German Championships. The 1982 German Championships will be held in Bayreuth (Bavaria) from May 26-June 6, 1982. It is likely that in future German Championships time-recording cameras will become compulsory and all competitors' radios will be locked onto a single contest frequency, used only for emergencies and for calls required by the organisers. All other use of RT (both ground to air and air to air) will be banned. This will mean the demise of team flying. These proposals have not yet been officially adopted by the German Aero Club but are supported by about 90% of German contest pilots.

Time-recording Cameras at Bavarian Championships. Silent starts were used for the first time in the 1981 Bavarian Championships. All pilots were issued with time-recording cameras and as they started had to photograph a ground marker from a semi-circular sector based on the startline and extending in the opposite direction to the direction of the start. The usual 1000m height restriction was abolished. The system worked smoothly and no protests were made.

There are two systems authorised for use by the German Aero Club — Optichron and Foto-Time. Both give a digital indication on each frame of the time the photo was taken. As a back up, an RTI marker was also used, its position being changed every 15 minutes — but it turned out to be unnecessary.

The time-recording camera was also used to record the finish. This required some practice for the pilots flying at high speed and low altitude. The camera had to be mounted on the left-hand side of the cockpit so that the left hand could be used to press the shutter for the finish photo.

Akaflieg Darmstadt 60 Years-Old. The Darmstadt "Akaflieg" celebrated its Diamond Jubilee on September 12. Always in the vanguard of sailplane design and development, the group was responsible for such influential designs as the D-30 (1930) and the D-36 (1964). The renowned designers and manufacturers Holighaus, Waibel, Lemke and Dirks are all former members of the Darmstadt Akaflieg, so that the group can justifiably claim some responsibility for the Nimbus 3, the ASW-22, the LS-4 and the DG-400.

Winding in the aerotow cable. Two devices are now on the market in Germany which allow the aerotow cable to be wound in to the tug after the glider has released. The first (marketed by Flugservice Feuerstein, 8553 Ebermannstadt) costs DM2850, and consists of a drum driven by an electrical motor controlled by a push-button on the stick, onto which 60m of 6mm nylon rope is wound *via* a plastic tube running along the underside of the fuselage. In an emergency the rope can be cut by a guillotine operated by the old release knob.

The other system (produced by Georg Brauchle Anhängerbau, 8998 Lindenberg) is slightly more sophisticated, but no details are available of its price.

Robert Kronfeld Memorial Competition. Robert Kronfeld's 1929 world record flight of 100km in the Teutoburg Forest is commemorated each year in Germany by the award of a memorial prize to the young pilot who flies the longest distance incorporating Kronfeld's course. The prize of DM1000 this year went to Dirk Rhode of Celle for his flight of 538km. Kronfeld is remembered in Germany as a pioneer of gliding in his homeland and in Britain and also, because of his Jewish origins, as proof that the development of gliding between the wars was not solely due to Nazi subsidies and encouragement, but also to men with a genuine international and cosmopolitan outlook.

European Championships for FAI Classes? The German Aero Club's Competitions Committee is to launch a campaign for the introduction of European Championships in the FAI Open, 15m and Standard Classes. No details are given of their plans.

News in Brief. Dieter Memmert (W Germany) won the Swiss Open Class Nationals. There are 5984 official observers in West Germany.

Italy

Fatal Accident at Rieti. On the sixth day of the Italian Championships at Rieti (July 29-August 10) a collision between two gliders flown by German pilots resulted in the death of one of them, Alexander Gross of Munich. The tail of his LS-1F was ripped off in the collision and he had no chance to escape from the ensuing vertical dive. The accident happened when some 20 gliders were circling tightly in a gaggle. The director ordered all pilots to continue on task, to avoid the risks associated with mass landings of pilots in a state of shock.

Aerokurier speculates that extreme heat may have contributed to the accident, and reminds readers that Hans Werner Grosse renounced contest flying some years ago, complaining that pilots were getting too worked up and neglectful of safety precautions under competition pressure.

The winners at Rieti (after ten contest days) were Nino Perotti (Standard Class), Bruno Gantenbrink (15m Class) and Gilles Navas (Open Class).

Switzerland

Swiss Statistics. There are 2690 licensed glider pilots in Switzerland and 780 registered gliders. However, in common with trends in other European countries, there has been a reduction in total gliding activity: there were 86270 glider movements in 1979 (71380hrs) and only 79466 movements (66214hrs) in 1980. The rise in fuel prices is likely to have accentuated this trend in 1981.

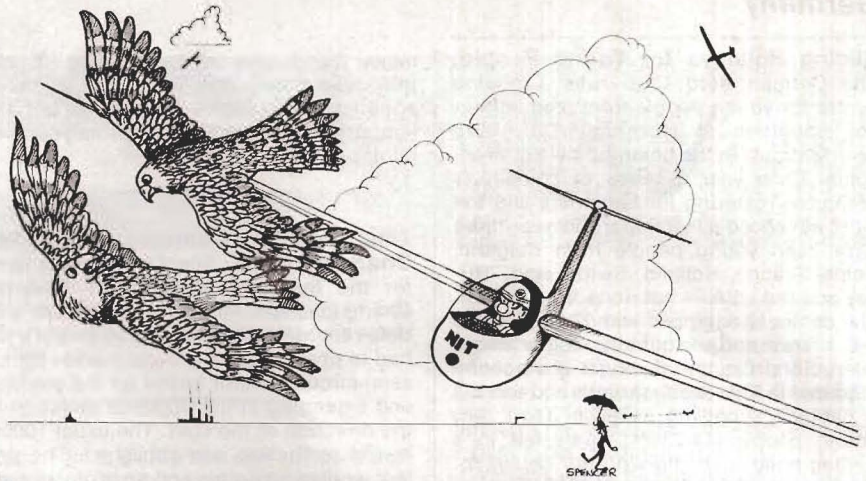
Swiss De-Bugging Device. Basil Obrist, a member of the Swiss team at the last World Championships, has fitted a cunning de-bugging device to his DG-200. It is simply a length of nylon fishing line stretched tightly over the leading edge and attached by small bungies above and below the wing to a sliding cursor, fitted with tiny runners, in the crack between the wing and the aileron or flaps. The pilot can sweep the entire span by manipulating a wire which runs along the crack and over pulleys at the wingtips. Apparently, it works quite well.

Nude Swiss Airspace Restrictions. Amazing but true — a Swiss farmer in Einsiedeln on Lake Zurich has obtained an injunction preventing hang glider pilots from violating the airspace above his farm. His reason for seeing the injunction — the constant coming and going of hang gliders every weekend was stopping him bathing in his birthday suit. The local magistrates decreed that any pilot entering this erogenous control zone would be liable to a fine of 500 Swiss Francs — enough (*Aviasport* suggests) to buy the poor fellow a pair of swimming trunks.

USA

World records. Doris Grove, USA, claims the goal and return feminine world record for a flight on September 28 of 1120kms in a Nimbus 2c. On the same day Tom Knauff (Twin Astir) flew a 1000km goal and return to lay claim to the multi-seater world record. Five US National records were broken between September 20-October 3.

The majority of the French and German news items are from *Aviasport* **and** *Aerokurier.*



"C'mon, let's leave him and find some lift!" ***Mike Spencer.***

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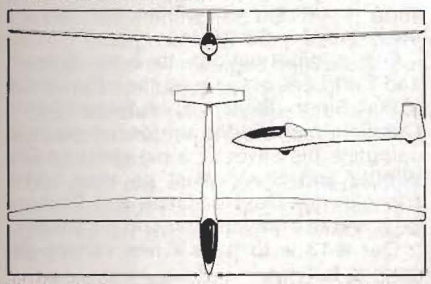
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SAILPLANE NEWS

NEW STANDARD CLASS GLIDER

Streifeneder's Falcon



Most of the competitors at the Baden-Württemberg Regionals reacted with astonishment when they saw a totally unfamiliar aircraft lined up on the grid. From a distance, the aircraft was reminiscent of the Glasflügel 304, but on closer inspection it was revealed to be what it first appeared — a new type of glider called the Falcon, designed and built by Hans-Jörg Streifeneder.

Streifeneder has been involved in the design and construction of several gliders, but he only started working on the Falcon last December. Nevertheless, it was ready for its maiden flight on July 7. This was achieved by making extensive use of well-tested, ready-made components. Thus, the Falcon resembles recent Glasflügel types because Streifeneder used a 304 fuselage, merely lengthening it to accommodate the somewhat larger wing area of the Falcon. Otherwise only minor modifications were made to the shape of the fuselage and vertical tail. The cockpit was not changed at all, but since the Falcon has no flaps, the wing/fuselage junction was redesigned and the transition from the cockpit area to the rear fuselage tube was made more streamlined than in the Glasflügel 304. The Falcon is fitted with a Hornet elevator.

The main distinguishing feature of the Falcon is the wing. Martin Hansen of Glasflügel was called in to work out the optimal wing planform to meet the required performance criteria and he came up with a rectangular double-trapezium wing, which produces a nearly ideal elliptical lift distribution. The Falcon's ailerons are very prominent, extending over almost the entire length of the central trapezia. These ailerons are designed to give the glider good manoeuvrability about the longitudinal axis, and according to Streifeneder are fully effective right from the start of the take-off run on aerotow.

Blowing technique

The type of aerofoil section to be adopted was determined by the designer's wish to use the latest method of enhancing performance, namely blowing. This technique, first tested on the SB-12 and now incorporated in the production ASW-22, produces an 8% improvement in performance according to Akaflieg Brunswick. The acknowledged experts in the design of blown sections are Horstmann and Quast, and they were called in to optimise the Falcon's wing.

The wing of the Falcon is blown across its entire span, but only on the lower surface. The first few flights were made without "blowholes" and measurements were carried out to determine the precise location of the laminar separation bubble. Holes were then bored in the appropriate position. The reason why Streifeneder decided against upper surface blowing is that the position of boundary layer separation varies much more with angle of attack on the upper surface than on the lower surface. Several rows of blowholes would therefore have been necessary to burst the separation bubble as it moved back and forth over the upper surface.

Streifeneder has declared himself fully satisfied with the handling characteristics of the Falcon. The stall is completely harmless, and aileron can be fully deflected at very low speed with no ill effect. Performance data will be determined at this year's *"Idalflieg"* meeting, but Streifeneder, who was placed 4th out of 32 in the Baden-Württemberg contest, claims that he was outclimbing his competitors. — Translated by Max Bishop: from *Aerokurier (Norbert Seuss).*

Technical Data:

Span (m)	15
Wing area (m²)	10.65
Aspect ratio	21.11
Empty Weight	242
Max cockpit weight (kg)	110
Max AUW (kg)	450
Max wing loading (kg/m²)	42.2
Min wing loading (kg/m²)	29.3
Max rough air speed (km/h)	175
VNE (km/h)	250

ALEXANDER SCHLEICHER'S

wish to announce that the contract with the French company Centrair for the manufacture of the ASW-20 design has been withdrawn.

Further, business relations with Centrair's Managing Director Marc Ranjon have ceased.

Centrair C101 — New French Glider

Centrair — well-known for its licence-built ASW-20s, is soon to launch a glider of its own design — the C101. The wings were scheduled to be test flown on a slightly modified ASW-20 fuselage, but the production aircraft will have an entirely new fuselage. The cockpit has been designed by Robert Broyer, who was responsible for designing the Renault 14. The cruciform instrument panel looks unusual, but offers the same amount of space as the conventional panel whilst improving forward lateral visibility. On the console which forms an extension of the armrest-fairing on the right of the cockpit, a keyboard is mounted belonging to the GPS 811 on-board computer, another new Centrair product which is about to be marketed.

Rolladen-Schneider LS-6 Out Soon

Schneider hope to launch their new 15m Class glider, the LS-6, before the end of the year. It is not developed from the Standard Class LS-4, but is the result of an entirely separate study. — *Aerokurier.*

New Private 15 Metre Ship

Jacques Boulay of Beynes in France has completed the Condor Racing Class glider which he has been building for the last six years. — *Aviasport.*

Modified Blanik

The Blanik production line is due to reopen in 1982. The design has been modernised with a slightly modified wing section and a cleaner fuselage.

Answers to the Observers Questionnaire on p282

1 A; **2** C; **3** C; **4** C; **5** C; **6** C; **7** B; **8** B; **9** A; **10** C; **11** C; **12** B; **13** B; **14** B; **15** C; **16** C; **17** A; **18** C; **19** C; **20** B; **21** A; **22** B; **23** A; **24** C; **25** B; **26** C; **27** C; **28** C; **29** *B; **30** B; **31** B; **32** B; **33** C; **34** C; **35** B.

*A Silver C distance may only be claimed for a **straight line** flight consistent with the IY difference of height requirement. However the new **Sporting Code** contains two changes which make it possible to fly the Silver C distance as a **part of** a triangle or O/R, namely

. . . a change in the definition of a straight line flight which may now terminate at a **finish point** and not at a landing place as previously.

. . . introduction of a **remote start point** and a **remote finish point** concept.

It is important that both the start and finish points are clearly declared before the flight. **(Ted Lysakowski,** chairman of the BGA Competitions Committee.)



CLUB NEWS

Richard Blackmore of Yorkshire GC who featured in the BBC North film "Riding the Summer Sun" shown on BBC 2 last month. He was filmed on a 580km Diamond goal attempt in his Std Jantar but sadly landed 20km short. It was directed by Keith Massey, also a glider pilot.

Copy and photographs for the February-March issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 247725, to arrive not later than December 1 and for the April-May issue to arrive not later than February 9.
October 14, 1981 GILLIAN BRYCE-SMITH

AVON SOARING GROUP (Bidford Airfield)
Highlight of the season has been the Inter-Club League in which we flew against Stratford-upon-Avon GC and Enstone Eagles, Stratford beating us to the final by one point. It inspired several local soarers to try cross-country flying and we were particularly well served by Albert Etchells and Pete Jackson in the Novice Class. Peter Light was an efficient task setter and his wife Pat worked hard running the start and finish lines. Our thanks to everyone involved.

We have had several notable achievements — Alan Roberts and Dave Stidwell completed their Silver Cs with distance flights; Mike Hackett, Dave Harris and Jim Dallaway have their Bronze Cs and Jeremy Fleetwood and Doug Venning have gone solo.

Star performer was Andy Fleetwood who went solo on July 7, gaining a couple of Bronze legs and Silver height a few days later. He converted to the Libelle in August and flew Silver distance and had two creditable attempts at five hours, once missing it by 12min.

BATH & WILTS (Keevil Airfield)
There were two soaring weeks in August during which a pilot flew a 300km triangle but with a faulty camera. Moral — take two cameras.

Stuart North came 3rd in Enstone Regionals' Open Class and Andy Smith was 4th in the Sport Class.

Bill Davis is pleased with his new Ventus. Jeremy Menzies visited us with some of his vintage gliders, including a Grunau Baby, Fauvette and Jaskolka, which he allowed members to fly.

On Sunday, September 27, Mervyn Pocock in the Auster and Ron Lynch and Michael Taylor-Beasley on tow in the club Bocian took part in the fly-past at Poulton to commemorate the death of troops who crashed there in a glider in the war on the way to Arnhem from Keevil.

Two expeditions are planned at the end of October to Aboyne and the Long Mynd.

J.L.

BORDERS (Milfield)
We have recently been giving thought to an alternative site. Although we have a lease on this airfield, it is subject to gravel extraction which is already restricting us. We have lost one runway and the remaining two have been shortened so that launches seldom reach 1000ft and there are doubts the site will be usable after the gravel extraction. As this area gives soaring throughout the year, we would like to remain in the vicinity and are hoping to buy suitable fields.

We have bought a Wilde winch in the hope of getting maximum height from our limited site, and Jim Shepherd now has a Vega.

A.J.B.

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B.G.A., C.A.A., P.F.A. APPROVALS

BUCKMINSTER (Saltby Airfield)
Work on the new clubroom and the workshop is virtually completed and they are now ready for the winter.

Our congratulations to Ernie Sherwin and Carl Lees on gaining their Bronze Cs; to Ray Smith (Skylark 4) on flying 86km to Cranfield and staying up for five hours to complete his Silver C; a big cheer for Eric Whittle and Steve West on their 300km triangles for Gold distance and Diamond goal and to Tom Marchant on his MG PPL.

Our K-13 is to have a new canopy and various fettling.

T.C.M

CAMBRIDGE UNIVERSITY
Robert Bryce-Smith celebrated his 16th birthday by going solo in the T-21, thanks to a specially organised flying session.



Robert before his solo in the T-21.

August turned out to be the best month this year with many good flights, Martin Whitehead and Peter Baker obtaining Gold distances and Diamond goals. September saw our annual Mynd Camp having generally good weather but with little wave. Richard Maskell, Colin and David Simmons, Bruce White and John Weeks all gained durations.

Few organisations are immune from economic problems and ours have resulted in the pending sale or lay-up of one of our tugs.

P.E.B.

COTSWOLD (Aston Down)
We have two new committee appointments — Ron Turrell is the airfield manager and Tony Morley the control tower manager. Geoff Cumner, Tony Morley and Ron Turrell join the instructors and Ray Brown is to present fortnightly pre-Bronze C lectures and film shows.

Congratulations to H. Finn, G. Fellender, J. Holland, A. Ferguson, E. George, Alison

and Tony Rumbellow, M. Boyall, B. King, J. Franklyn and B. Walker on going solo, the latter on the course week; to John Howard on completing a notable Bronze leg in wave; Johnathan Beard and Arthur Hook on their five hours; Stan Etherington, Geralyn Macfadyen on Silver distances and to Tony Parker and Paul Kevern on completing their Silver Cs.

P.K.

COVENTRY (Husbands Bosworth)

Congratulations to our president, John Cadman, on winning the "Glass" in Competition Enterprise. Our team in the Inter-Club League only managed third place, but had some most enjoyable soaring.

Congratulations to Gordon Murray, Jim Jesty and Johnathon Walker on completing their Silver Cs.

Our open day at the end of September was successful with seven new members signed up on the spot and several more since.

The second half of the season has made up for the poor start with many long flights recorded.

Our "Thank you" party is on October 27 for our farmer friends. Any member landing out gives a printed invitation to their unexpected host.

The annual pilgrimage to the Long Mynd is at the end of October.

B.R.

DEESIDE (Aboyne Airfield)

The visitors and wave appeared at the same time this autumn and a generous sprinkling of heights to and above 20 000ft have been distributed amongst them.

The clubhouse has been erected and we await the arrival of mains water. The fleet of private owners is expanding with Ian Donnelly's Astir and Bruce Cooper's DG-202 due soon. We are hoping to make a permanent trailer park.

J.R.B.

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DERBY & LANCS (Camphill)

We have produced twice as many Silver distances as heights this year, even though we normally pride ourselves on the site's height gain opportunities. Congratulations to Mick Donoley on going solo and to Chris Williamson on completing his Bronze C.

During one of our better spells of weather, three pilots flew Gold distance and Diamond goal and there were seven flights of more than 150km and 13 in excess of 90km on one day.

It is difficult to express the shared regret at the death of our chairman, Stan Armstrong. He, his good sense and his years' of experience are felt as a great loss.

S.G.

DEVON & SOMERSET (North Hill)

Although we only had three competition days, our August task week was enjoyable, ending with a fantastic party. There was a large Woodspring contingent with their Skylark 4 coming third. The overall winners were Chris Dobbs and Ian King (K-6CR) with Julian Hine (DG-100) second.

Duncan Babington (K-8) has Silver distance and Ted Wilcox (Skylark 4) Silver height and duration, Duncan claiming his duration in late September. Eric Shore completed his Gold C with a Gold distance, Diamond goal flight at Zell-am-See.

Julian Hine and Tim Parsons are full Cats, Julian becoming deputy CFI. His membership secretary job has gone to Reg Welch.

I.D.K.

DONCASTER (Doncaster Airfield)

Congratulations to Martin Ellis on completing his Silver C, a year after starting to glide with a 70km flight. Peter Woodcock combined a distance flight with a duration for his Silver C. Roy Moxom and Andy Parris have gone solo and Chris Townend has his PPL.

Since its return in August the Falke has been the most used machine in the club fleet, encouraging more visitors to join us. Current membership stands at 140.

The annual dinner-dance was held in October with John Williamson as guest speaker. Phil Turner retained the height cup with 10 400ft, the lowest height to win for many years. Chris Townend won the Durdy cup for the longest flight in a club glider, made while waiting to fly his own machine.

With the possibility of moving to a new site we are selling some of the club fleet, the best being the Scheibe Sperling tug.

E.T.R.

DUNKESWELL (Dunkeswell Airfield)

A report by the secretary to an extraordinary general meeting in September brought news of an impending change of ownership of the airfield. Our future may be affected and the well attended meeting was asked for its support for the coming year, although there is no guarantee of security for the club. The vote to continue was unanimous.

Unfortunately inflation has caught up with us and we have had to revise our subscription rates.

We held an enjoyable barbecue this summer, are installing a reverse-pulley system in search of better launches and had a special day for the disabled which went very well. Our congratulations on going solo to Alan Garland, Jonathan Ward, Les Curwen, Hugh Sumner and Vic Marshall and for re-soloing to Mike Sampson, Dave Morhen and Len and Steve Charlton.

R.P.G.

ENSTONE (Enstone Airfield)

Once again our Regionals, directed by Gordon Camp, was very successful and blessed with good weather.

Our congratulations to Brian Forrest on flying his Oly 463 round a 300km triangle and Andrew Lees on completing his Silver C while still only 16 years-old. Other Silver Cs were gained by David Eardley and David Johnson and Silver legs by Pat Blackburn and Ken Sparks. Charles Skinner and Tony Cox have their Bronze Cs. Philip Butt has become an instructor.

We had a very productive open weekend, gaining several new members, due to the hard work of many members and an impressive aerobatic display by Andy Gough.

P.D.

ESSEX (North Weald)

The season ended on a high note with over half the cross-country flying achieved during the last two months, enabling us to exceed our target of 15 000km by a very comfortable margin. This included Silver distance legs for Bill Pottinger, Paul Sullivan, Nigel Smith, Gordon Horsecraft and Geoff Nicholson. Peter Manley achieved his Gold distance and Diamond goal just two days after a frustrating 299km flight when he landed with the airfield tantalisingly beyond his reach.

Due to the enormous efforts of Lionel and Carol Callow and Peter and Kathleen McElarney, our courses have been a great success with 98 per cent of the places taken up. Also their public relations activities have included an open day and flying for invited groups. We have given 1200 air experience flights during the season resulting in several new members.

Our chairman, Mike Audritt, and his committee have successfully negotiated

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with our landlords, the Epping Forest District Council, a licence to operate until March 1983, which is our longest period of tenure in 21yrs.

The Inter-Club League weekends have continued to cement friendship between Dunstable, Saltby, Husbands Bosworth and ourselves and we thank them for their hospitality and challenging flying. Congratulations to Dunstable on winning this year.

Our annual expedition to Aboyne is now underway and early reports indicate excellent flying conditions with several height gains in excess of 20 000ft.

S.C.

ESSEX & SUFFOLK (Hadleigh)

The Easter Inter-Club League finished with the 4th round at Crowland and the 5th at Tibenham. We were placed 4th overall despite excellent efforts which gained CFI, Pete Wilby, a first and Alan Hall a second flying their Pirat in the Pundit's Class and Tristran Llewelyn-Jones (BG-135) a second in the Intermediate Class at Crowland, with Paul Rice (Libelle) first in the Intermediate Class and Mark Mathieson (Skylark 4) second in the Pundit's Class at Tibenham.

Congratulations to Simon Commercial and Philip Laycock on going solo; to Peter Smart (Oly) for a Silver distance and height and to Clive Wilby on gaining his instructors' rating.

Our August flying week was as unproductive as the task week in May as far as cross-countries were concerned.

V.H.

HAMBLETONS (RAF Dishforth)

The Astir is back in good health and with a replacement engine for the Cub our fleet should soon be at full strength again.

Congratulations to Ken Jones, Ray Whitham and Sue Walmsley on their Silver distances — Sue completed her Silver C with a duration the following week. Ken's flight was his last from Dishforth before going to live in the USA: we wish him good soaring at the gliderports.

There have been several Bronze legs and conversions and some members flew in the Northern League. Clive Roberts, Mandy Edis and Martyn Pogson have gone solo.

J.P.

HEREFORDSHIRE (Shobdon Airfield)

August weather was better. Les Kaye completed his Bronze C and Tony Greatrex flew his Pilatus to Nympsfield to complete his Silver C. The Rockpolishers came for the third time and they actually flew. Tony Maitland (Mini Nimbus) won one day with a 300km triangle, but the series was won by the Mynd. We tied second with Usk.

Jane and Mike Randle brought their big Kestrel for a holiday with us. Mike did an O/R to Bala and Jane got her Gold height.

Graham Mason and Bruce Hunter have their new DG-101G; John Lord has bought into the Pilatus syndicate and Les Kaye and Andy Williams are now in the K-6CR syndicate.

Congratulations to Dennis Johnson on being a full Cat and to Robin James for going solo. Mark, our tug pilot, has finished his season and gone crop spraying in the USA. Good luck Mark and thanks.

R.P.

HIGHLAND (Dallachy)

We have two new instructors in Martin Knight and Colin Haddon. Andy Muir, Ron Simpson and Neil Anderson have gone solo, Neil on his 16th birthday to join his glider pilot parents.

Jerry Robson made Silver distance after several 49km attempts and John Watson has his Bronze C. Bob Reid went solo and achieved all Bronze C requirements except the 50 solo flights during his visit home from Zambia.

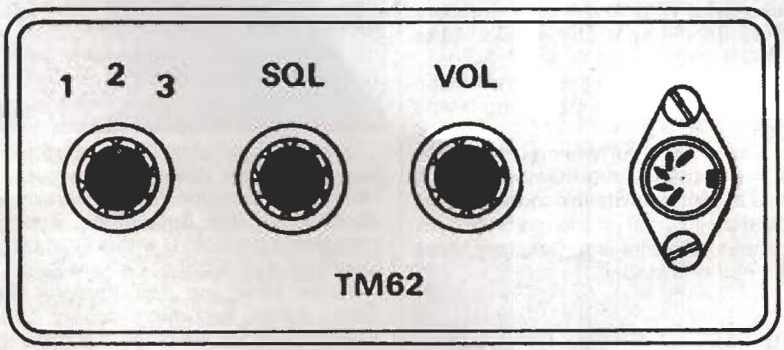
Neil Collier flew 190km of a 300km attempt and increased the site duration record to 6hrs 4min. John McFarlane (K-6) was bungy launched in a strong northerly wind. We have replaced our Oly 2B, damaged in the spring, with a K-8.

J.C.T.

KENT (Challock)

August 16 and 17 represented summer at Challock. Tom Docherty dropped in from Portmoak in his Nimbus, Hugh Cotton, Paul Petty and Ed Johnson arrived from North Weald and Mike Moulang, from Ringmer, and Doug Berry, Parham, flew in for Silver distances. Mike Johnson and Alan Garside landed just a few kilometres short of 300km.

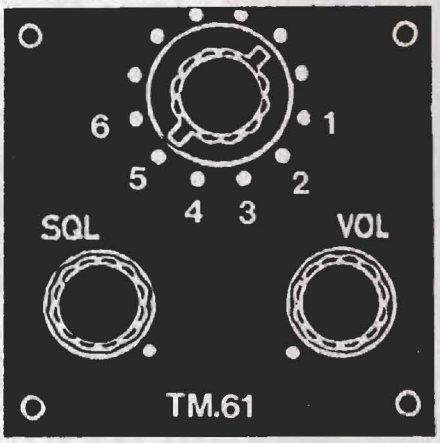
Congratulations to Tim Fletcher on going solo and to Dave Selwyn on completing his instructors' course.



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Many groups have visited us during the year but none could have enjoyed it more than a party of disabled and a group of elderly blind — despite their handicaps they loved every minute of the day.

Our second open weekend this year in September was an even bigger success. We gave nearly 300 air experience flights and signed on many new members as well as creating a lot of goodwill. Our thanks to the organisers, Alan Garside, Jill Hoye and Mike Kemp, and the many members who helped. Our thanks also to Jean Austin and her staff for the clubhouse catering and cleaning.

J.H.

LONDON (Dunstable)

"I am beginning to enjoy cross-country flying", Louise Coates wrote in the cross-country log after using her Weihe to humiliate most of the K-6s in the final of the Inter-Club League. Many others have belatedly come to similar conclusions this season with many flights now recorded thanks to the impetus of weekend tasks and competitions.

August 16 was particularly good, with 300km tasks over various courses completed by Mike Bird with Charlotte Wilson in Caproni, Tony Southard (ASW-20L), Francis Russell (Kestrel), Graham Smith (Std Jantar) and Simon Redman in his LS-3. Shorter flights included a creditable Silver distance by Jim Stephens. Lloyd Forsey, having flown 300km from Booker on the 16th, came to Dunstable the next day to take his ASW-20 round a further 310km. Top pundit must, however, be John Cardiff who is to be congratulated on getting into the Team Squad.

On October 11 we finally had another opportunity to enjoy bungy launching. This was great fun; but it was the landing on top beforehand that gave the real excitement.

F.K.R.

MARCHINGTON (Marchington)

Congratulations to Les Torkington on gaining his assistant instructor's rating and to Mike Fuller on completing his Silver C with a distance flight to Saltby. Mike had a relight and was dumped over the boundary fence as the tug has engine problems, forcing him to land in a ploughed field, fortunately safely.

The tug hangar is nearing completion.

S.D.B.

MIDLAND (Long Mynd)

Our task week was a great success, masterminded by Chris and Carol Day. There were six contest days with 7277km flown. Ben Watson (Libelle) from Lasham won with Mynd pilots Malcolm Allan and Chris Alldis, sharing their Std Cirrus, second. Bob Scarborough flew a team of three pilots in our K-21 to finish 5th.

We were delighted to finish first in our Inter-Club (Rockpolishers) League, and even more so when, at the League winners' weekend, we took 3rd place overall.

Bob Scarborough has retired as CFI to relax in the deputy position. When he took command this was mainly a training and hill soaring site and he put tremendous effort into encouraging cross-country flying as the ultimate goal. The now annual task week he arranged with this intent. He instituted the professional winching system and has been pushing for aerotow launching as well. A tug syndicate has now been formed and aerotows are available — at weekends only at present.

Congratulations to Paul Ratcliffe, Piers Tremlett, Judith Noon and Helen Wingfield on going solo; to all Bronze and Silver pilots and to Chris Alldis who achieved his Diamond goal during the Booker Regionals and has just taken over as our new CFI.

J.S.

NENE VALLEY (Winwick)

We think this is our first entry in S&G. We joined the BGA in 1980 and now have a T-21 and a 30ft caravan for a clubhouse.

Well done Neil Scanlon and John Hipple on going solo. Neil had ½hrs on his fifth flight in the T-21.

We thank Doug Phythian for helping Ian Smith with the instructing and engineering work which has increased our efficiency considerably.

I.G.S.

NORFOLK (Tibenham)

With the improvement in the season we have done a fair amount of cross-countries, culminating in the Eastern Inter-Club League, which we won from Cambridge by one point, and what must have been our best task week. However we had a problem with a tug which, thanks to Eric Titman's energy and enterprise, now has a new engine.

Conditions were so good that Roy Woodhouse set the same 310km triangle three days running. John Winsworth (Pirat) was the only one to complete the task the first time, although several glass ships got round the second day. Much to everyone's surprise Andy Powling completed just over half the course in the Swallow. Karl Heimrich (Skylark 4) landed in a field next to his work at North Walsham — just to show his mates what gliding is all about.

Kay Lee ran a successful barbecue and another party is planned in late October. We are grateful to Ron Brown for his work in extending the clubhouse.

M.J.R.L.

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NORTHUMBRIA (Currock Hill)



David Bellamy, the botanist and TV personality, trying out the Northumbria GC's Skylark 2 on show at a "Come and Try It" day for the disabled.
Photo Tony Moss.

We had some good wave flights in August and September, Brian Holburn and John Westwood got to 13 000ft and 12 000ft respectively. Justin Wills landed on one of our good days after a flight from Portmoak. Craig Lowrie got to 8200ft in the club Dart; its first good flight since we got it.

It has been a good summer for Elaine Routledge; she gained her distance and five hours to complete her Silver, has started her PPL and married Andy Townsend in October.

Bronze legs have been achieved by Bill Mair and Dave Mitchell and Haydon Jenkins has gone solo.

Gwenda Greenwood put on one of our periodic dinner nights which are proving very successful. The only distance flight lately came from Derek Staff who flew to Sutton Bank. This flight cost him £1 there and £40 return.

One of our Skylark syndicates is changing to an SHK and the chances are that the club will be buying the Skylark. The new burglar alarm is proving a great success and the last two break-in attempts failed before anything could be taken.

The annual party and prizegiving is at the end of October and the Ladder has more claims on it than for some years.

J.W.

OUSE (Rufforth Airfield)

Now that we are getting used to being landowners we are thinking about some of the necessities, with planning being sought for a hangar and alternative site access.

Following recent press coverage we are still attracting new members. Congratulations to Doug Sharpe, Chris Stockton and Richard Thompson on going solo. The Skylark 4 managed 20hrs flying including a duration during four days at Portmoak.

S.R.L.

OXFORD (RAF Weston-on-the-Green)

The second half of the season was quite good and we have flown over 10 000km, double last year's total. Gold badges were completed by Brian Evans and chairman, John Giddins, at the Enstone and Booker competitions, and by Jane Randle with a height claim from Shobdon. Fewer pilots entered competitions this year, the best result being John Giddins' 5th place at Booker. Martin Oldfield had to fly his Silver distance leg twice after problems with a faulty barograph, and Pete Darnbrough completed his Silver C with five hours in a K-13. Glen Bailes has also flown the distance leg, but Ian Mailer landed after 49km.

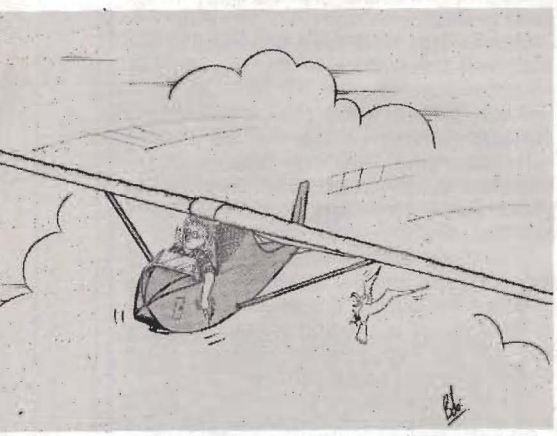
We have celebrated 25yrs at Weston-on-the-Green with some local publicity which brought in a rush of visitors for a few weekends.

P.H.

RATTLESDEN (Rattlesden Airfield)

Our flying week in September was blessed with continuous sunshine and thermals abounded. Our club double triangle was flown twice on several occasions. Congratulations to Brian Griffiths (K-8) and Bob White (K-8) for Silver distance and height; Humphrey Chamberlain (K-6E) for completing his Silver C with a duration; Dave King and Charles Portway for Silver height; Paul Steggles for completing his Bronze C and gaining Silver height; Dick Histed and Eamon Steggles on gaining two Bronze legs and to Paul Handover and Neville Theobald on going solo and converting to the K-8.

The Grunau Baby 3, bought primarily as a fun machine, is a firm favourite for its superb soaring ability. The record is a 3hrs with a ceiling of 5200ft flown open cockpit by Paul Steggles in his shirtsleeves.



Paul Handover's K-7 is also a welcome addition and he has generously insured it for club use on condition his company's name is painted on the side.

R.W.

SHROPSHIRE SOARING GROUP (Sleap Airfield)

We occupied Chetwynd grass airfield, kindly loaned by RAF Shawbury, during the first part of August and took nine gliders, with three from the Staffordshire GC. Our Chipmunk did 136 launches for 282 gallons of four-star resulting in 234½hrs of soaring with 21 cross-countries totalling 3197km. Four 300km O/Rs were attempted with three landouts at near maximum distance, plus other creditable flights.

The current period has ended with several pleasant days and challenging local flights.

P.L.U.M.

SOUTH WALES (Usk)

Nigel Jones and Sid Walters have their Bronze Cs. A job change means that Richard Dixon, deputy CFI, and his wife Mary have left us to fly at Parham.

We were pleased to welcome the Vintage Glider Club at the end of August for a most enjoyable weekend.

A most successful open day was hosted during which CFI, Peter France, and chairman, Ian Edwards, were introduced to ballooning. Unfortunately the field is becoming a swamp again during the autumn rains.

P.A.C.

STAFFORDSHIRE (Morridge)

Our winter lectures opened with Len Kirkman, Shropshire Soaring Group, showing excellent slides taken at over 20 000ft in Sierra Nevada, USA. Barry Gilman followed with two professional tape/slide presentations.

Mike Golder had a good soaring week at the Mynd, going solo on Monday, having a bungy launch on Tuesday and gaining his B and a Bronze leg on Friday. Two disabled were flown at the request of the local Lions Group — their obvious delight was a tonic to us all.

One of our instructors, Tony Boyce, left us recently for Oxford and his parting gift was a manual "Soaring at Morridge" in which he has indicated the areas where thermal, hill and wave lift can be expected during each wind direction.

Frank Davies (Olympia 419) flew from Chetwynd to Shobdon for Silver distance.

P.F.

STRATFORD ON AVON (Long Marston Airfield)

Congratulations to Don Hale on completing his Silver C and to Bill Annan, Ian Featherston, Ken Walls and John Leonard on gaining Bronze legs. Peter Gaunt flew Silver distance twice, having discovered his barograph wasn't recording the first time. Membership looks very healthy and one of our newer members, Peter Black, has gone solo.

Although launches are down on last year due to drag meetings, we have an increase on cross-country mileage and success in winning the Inter-Club League against Avon Soaring Group, Enstone and Oxford GCs. The pilots were Dave Findon (Nimbus), Jim Tyler (Std Cirrus), Gerald Kelly (Libelle) and Tony Edlin, Chris Roberts and Tom Smith (K-6E).

We were sorry our CFI, Gary Print, has taken a business appointment in the USA, although we wish him every success. His hard work and dedication to the club training programme was bearing fruit and has set a firm foundation. We welcome Gerald Kelly as CFI and Geoff Grainer as deputy.

The air experience evenings were a great success, and special thanks to Bill and Linda Annan, the booking secretaries. The courses were again fully booked.

H.G.W.

STRATHCLYDE (Strathaven)

The improved summer allowed us to complete a drainage scheme through our bog which hopefully will enable us to extend our runway.

A syndicate Rallye Minerva tug has improved our soaring potential though we still await our first respectable cross-country from the site in a club aircraft.

John Ruff, Leslie Madden and Diane Shearer have gone solo; Allan Kennedy (Astir) flew a 300km triangle from Portmoak and Paul Aspin has his Bronze C.

The club Swallow has had two further visits to Feshiebridge where Andy Walker did his five hours and Bob Petrie went to 10 500ft in wave for Silver height.

P.A.

SURREY & HANTS (Lasham Airfield)

The Royal Wedding week heralded a very welcome improvement in soaring weather around Lasham. Between August 11 and September 27 Surrey & Hants club gliders flew 7000 recorded kilometres from 46 cross-country flights and probably many more unrecorded ones. Silver badge legs blossomed and John Bastin collected his Diamond goal, taking the Kestrel round 300km on August 11.

Chris Lovell squeezed a 500km triangle round West Devon and Didcot in the Mosquito when a shallow high pressure area crossed Southern England on August 10. The super unstable northerly day of August 16 took Chris Starkey, Hugh Hilditch, Ted Lysakowski and Alan Purnell on a 400km O/R to the North Midlands.

The Portmoak pilgrimage has had to suffer almost 100 per cent flooding with white horses threatening the clubhouse then heavy snow getting uncomfortably close and whitening the Ochils at the start of October. However there was an excellent wave day on October 7 when Steve Bicknell and Dennis and Joan Powell gained Gold heights, John Gilbert a Diamond and Gold height and Keith Lines and John Bell Diamond heights. Alan Purnell did one of

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his customary tours of Scotland — Glasgow, Aberdeen, Perth etc — covering some 400km, occasionally at 22 000ft or more.

There are more moves afoot in the club fleet. Another K-8 has been sold along with the K-6E and if a request from the Sports Council is successful a second Vega should be with us around Christmas. C.L.

SWINDON (South Marston)

We were pleased with our performance in the Southern League, coming second to Lasham. Recent achievements include a Silver C for Josie Butcher, Silver distance for John Hanwell and a five hours for Brian Payne. Ian Collingwood has gone solo and Phil Gaisford came third in the Lasham Regionals, flying the club's Astir.

Our barbecue and second open day, both in August, were very successful due to a great effort by the organisers.

We were shocked and saddened by Don Sharpe's field landing accident; an unfortunate end to a skilfully flown 300km. He is recovering in the Sturges Ward of the Nuffield Hospital, Oxford.

R.L.

VINTAGE NEWS

A hoped-for guest of honour at the Vintage Glider Club's annual rally at Camphill on September 26-27 was Harald Penrose, who had turned up at the 1935 Nationals at Sutton Bank with a home designed and built glider called Pegasus, which subsequently made a cross-country flight along the line of hills inland from the Dorset coast, but soon disappeared from the news. But he failed to turn up, even without the Pegasus. More recently he published a book **British Aviation: the pioneer years 1903-14.** However, at the annual dinner on the Saturday night tributes were paid to Frances Furlong, who has acted as secretary ever since the club began and has had to give up the job at last. She was presented with a Georgian silver cup. Chris Wills, president, was also awarded a cup for his services to the club.

On the Saturday it rained all day till just before sunset and nobody rigged, but film shows were laid on. On Sunday a soaring wind blew up Bradwell Edge under an overcast sky but nobody got away.

Vintage gliders present were: two Weihe 55, two Grunau Baby, and one each of Rhönbussard, H-17A, Mu 13D, Meise, T-31 and Skylark 1. Among vintage pilots from other clubs were John Sproule and Jack Dewsbery.

A.E.S.

WELLAND (Middleton)

Congratulations to Don Martin on achieving both Bronze legs followed a week later by a splendid 5hrs 33min, and to Norman Martin on going solo.

Horace Bryant has his full Cat and has been appointed CFI.

We have a "new" Ford Dexter tractor to assist our aged Lister and Perkins models. R.H.S.

WOODSPRING (Weston-Super-Mare)

Congratulations to Jonathon Massey on going solo on his 16th birthday, also to Ken Buckingham and Trevor Bailey on their first solos.



CFI, Barry Hogarth, briefing Jonathon Massey before his 16th birthday solo.

We are grateful to the Sports Council for their very generous grant of £1500 towards our Skylark 4. Stan Jennings, an instructor and social secretary for several years, has been posted to RAF Benson. His enthusiasm will be greatly missed.

We are exploiting our local ridge, the Mendips, to full advantage. Several forays have been made to Wells and beyond in the recent south-westerly winds.

C.B.H.

WYCOMBE AIR PARK (Booker)

We had an eventful Regionals with one task producing ten Gold distances and eight Diamond goals. The following day Dave Watt completed 500km, the only competitor to do so. By way of contrast, on the last day everyone finished, 14 of them within four minutes. There was also a flying display by the Marlboro Team and Tony Bianci in the Spitfire, which was much appreciated.

Our task week was a great success; the most notable flight being 134km in 5hrs 4min by Bev George in his vintage Bergfalke.

Congratulations to our pilots who took part in the 15 Metre Nationals — four out of the top five fly from Booker!

It is with much regret that we have to report the death of Dick Walton in a gliding accident at Booker. He will be greatly missed and our deep sympathy goes to his wife Georgina.

C.B. and A.C.

YORKSHIRE (Sutton Bank)

The weather improved briefly to give us a couple of good days when Phil Lazenby completed a 300km O/R in his Oly 463. The same day allowed three glass gliders to cover more than 400km each. Another good day gave Vic Eden his Silver distance with a flight of over 200km in his M-100.

Jim Grainger's attempt to celebrate his 25th year of gliding with a completed Gold C failed by just 2km.

The courses have been a great success and our thanks to everyone involved, especially Carol, Jean and Christine.

W.R.B. and J.R.

SERVICE NEWS

BANNERDOWN (RAF Hullavington)

We have had nine solos and 19 Silver legs since the last report. Ray Brownrigg and Keith Buckner have their Diamond goals, Tom Eagles just missing out with 299.6km in the K-6E.

Andy Hancock came 7th and Micky Webb 6th in their respective groups in the Lasham Regionals. Tom Eagles, sharing with Mel Dawson, won the Sport Class at the Enstone Regionals with Al O'Fee and Tony Clarke doing well in the Open Class.

Another bus has just arrived to be converted into our third winch which will be completed before the new season. After a record breaking 10 000 launches last year, we are on target for 11 000 this year.

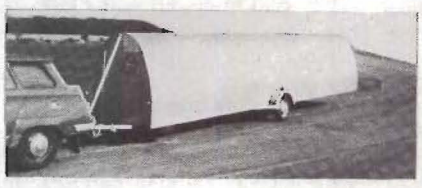
M.D.

BICESTER (RAFGSA centre)

August continued to give some excellent cross-country weather and successful badge flights including Gold distance and

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Diamond goal for Whitsun Bush senior, Frank Chapman, Pete Griffiths, Steve Holding and John Charlett-Green, John completing his Gold just after Mary, his wife, finished hers during Enstone Regionals. Other long flights included several creditable attempts at 300km, the most unlucky being Andy Queen who landed just 2km short.

The less experienced also made good use of the fine weather — Lucy Caunt, Whitsun Bush junior and Brian Magee did their five hours while Gary Buckner, Gerry Garner, Eric Lake and John Staley completed Silver Cs with distance flights. The Janus was much in demand for advanced training and on one good day was taken round a 140km task by three different crews.

An expedition to Aboyne is planned for the end of the month.

J.W.

CHILTERNS (RAF Halton)

This first year at Halton has been good. We are utilising the ridge and congratulations to "Porky" Conyers on his 300km, "Spiney" Wright on a duration and Simon Paish, Richard Bevarage and Clive Bernard on going solo. John Attaway and Chris Franklin are now assistant instructors.

We said goodbye to Bob Spiller, a hard working member whose efforts as MT member will be greatly missed.

Our club fleet is back to full strength with the return of the Sport Vega after a slight prang and the K-7 after being recovered.

A.B.

CRANWELL (RAFGSA)

The improved weather has again given us a crop of badge claims and numerous Bronze and Silver legs. Caroline Wiseman has gone solo and Bronze Cs have been achieved by Ted Richards, Mark (Wilbur) Wilson, Val Ramsay, Bill Vietch and John Blackburn, with Silver Cs by Don Beech, Doug Ramsay, Ian Barrow and Martin Bland. John Hull has converted to the tug and Steve Brownlow has his assistant instructor rating.

Barry Briggs won the Vintage Glider Club cup for the best distance in a vintage glider — a trip to Enstone in the Weihe at Easter.

Apologies to Stu Hoy who is a full Cat instructor and not an assistant as I stated in a previous issue.

G.A.B.

EAGLE (Detmold)

Helen Skelly, Rick Bell and Steve Sawyer have gone solo and completed Bronze legs, Helen and Rick being two of our ever increasing and very welcome American contingent from a nearby US base. Geoff McVey, Simon Wallwork and Shaun Graves have completed their Bronze Cs. Robbie Knight did his 300km in late August in the LS-3.

The usual winter "Wetmold" weather has set in and we have been using the ridges more over the last two months and reaping a few five hours into the bargain. A few of our members joined the association's annual expedition to Vennebeck for two weeks in October. We are busy planning the club's annual expedition to a wave site for March, probably AOSTA.

The winter servicings are now underway with the K-13 and K-6E on majors. Our AGM was in November.

J.F.B.

FENLAND (RAF Marham)

We had a very successful two weeks' soaring at Swanton Morley with Four Counties GC in July-August when Andy Hill gained a duration.

In August Paul Shannon, Jim Sartain, Tony Barker, Dennis Hein, Katharine Ludlow (aged 16) and Matt Nichols went solo. Bob Middlemass and "Smurf" have their Bronze Cs, "Smurf" qualifying for a Whitbread bursary. Simon Ludlow gained a duration, Stu Lawrence flew a 300km triangle from Tibenham for Diamond goal and Ralph Dixon came 14th in the 15 Metre Nationals.

Unfortunately we lose Tony Povey (again), this time to Pegasus GC.

S.L.

HERON (RNAS Yeovilton)

At our task week on April 11 we had visitors from Culdrose, Lee-on-Solent, Keevil and Dorset GC. We had reasonable weather with some completed tasks. Dave Clarke flew Silver distance twice (the second time with the barograph switched on); there were also Silver distances for D. Menzies, B. Collins and D. Jones (Dorset GC); Harriet Livesay and Val Carter gained both Bronze legs and Trevor Johnson, Chris Hyett and John Eatwell became full Cats. We also ran a training course for people from Dartmouth and Mannadon and sent four solo.

It was a good social event, aided by the new clubhouse and the culinary skill of the wives, with a barbecue on the last evening. Our thanks to the ATC for their co-operation and John Beattie for the successful organisation. John has been posted to Culdrose and will be sadly missed.

Stew Wright came 14th in the Inter-Services Regionals' Standard Class, his first competition. Steve Pacey, Stew Wright and Ian Timms have their PPL; "Ging" Quinn, Tony Costello and "Taffy" Eagan have gone solo, "Taffy" since gaining both Bronze legs, and Geoff Mayger has his Bronze C.

V.C.

HUMBER (RAF Lindholme)

Dick Gibbs (Skylark), who flew a 110km triangle during the Northern League and completed his Silver C, was the first pilot to get a Silver distance under the new rules. Sheila Gildea completed her Silver C a week before her 17th birthday with a flight to Syerston, the same task which also gave Steve Wilson his Silver C. Steve's wife, Leslie, and Conrad Wace have gone solo, Conrad converting to the K-8, gaining two Bronze legs and a Silver height, this time taking a barograph. Ron Bertram and Mitch Mitchell have Silver heights, Mitch stretching his flight to include a duration.

We have two new instructors, Cliff Edmundson and Bernie Shaw. We welcome Jed McKnight from Germany and say farewell to Mitch Mitchell who is posted out there.

K.M.G.

PORTSMOUTH NAVAL (Lee-on-Solent)

Bunny Hale has taken over as CFI and is busy re-organising everything. A more dedicated programme for *ab-initio* training has been instigated with talks every Wednesday evening after the afternoon's flying.

Congratulations to Nobby Clarke and Ken Stevenson on completing their Gold Cs.

J.M.D.

TWO RIVERS (RAF Laarbruch)

The soaring season started well with 11 members going on the RAFGGA expedition to Sisteron. We totalled nearly 3000km and gained two Silver heights and a duration.

Back home there were several Silver heights and Sandy Powell completed his Silver C with a duration and distance trip. Mick and Jayne Lee went on an expedition to the USA where Mick gained a Diamond goal.

Several new members have gone solo and converted to the K-8 and many have their Bronze Cs. Simon Hutchinson completed his Silver C by carrying on his flight for five hours after winning the Club Class task in our August mini comp over the Bank Holiday. The comp was well attended by service and civilian clubs and had two good gliding days with film shows and barbecues in the evenings.

Jerry Nield, Calum McCall and Chris Romney have returned to the UK, their committee posts being filled by Geoff Thompson, Simon Hutchinson and Dave Mintey.

D.R.M.

WREKIN (RAF Cosford)

Well done to our chairman, John Crouch, who went solo along with Em Owen and Spike Jamieson. Also to Rhod Evans and John Lambert on completing their instructors' courses.

Our thanks to Harry Chapple for keeping our fleet airborne thoughout the year and to Dave Cottle for keeping our MT moving, also for the hard work put in along with station workshops in converting our new bus winch.

Goodbye to Bic Smith who goes to Lossie, to Bam-Bam who returns to Wattisham and goodbye from your scribe John Richardson who leaves for civvy street.

J.L.R.

WYVERN (RAF Upavon)

Penny Smith completed her Silver C with a flight to Odiham, John Ashcroft gained his second Bronze leg, Silver height and distance in the same week and Angie Pears completed her Silver C with 50km in the K-8. There have been numerous first solos,

the most notable being Kathy Collier whose aerobatic displays hold us all captive.

The Smiths, Harkins and Hardy families have all been on an enjoyable if not wholly successful expedition to Orleans, a new site for our club members. John Hawkins back from Ulster has taken over as secretary from Lloyd Roberts whose new wife has banned him from the airfield.

An *ab-initio* course has just finished and we have an influx of new hopefuls. Alan and Terry Millson take the credit along with Barry and Phillipa Perks for running the course so smoothly.

Graeme Sharp is the new CFI with Howard Jarvis having retired because of lack of time. Ian Benzie and Russ Russell have recently qualified as assistant instructors with their places as passenger carriers taken by Keith Robinson and John Hawkins.

J.R.H.

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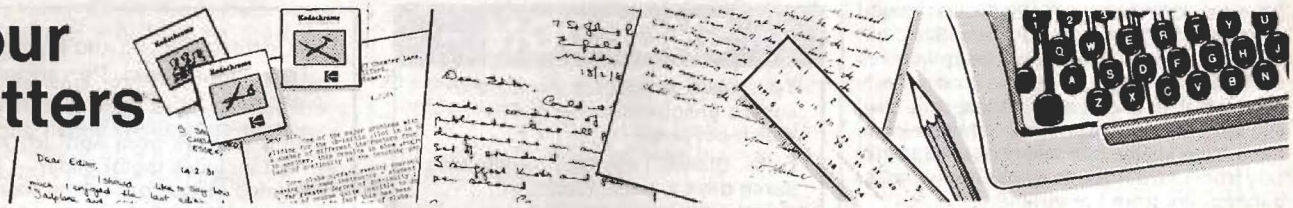
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Your Letters



15 METRE CLASS

Dear Editor,

I think I can claim to be a long supporter of 15m span gliders and the performance which is now achieved from these is, I think, remarkable. I do feel, however, that it is of doubtful value to have two FAI 15 Metre Classes because the performance of the two is so close. I wish to suggest, therefore, that the wing span limit of the 15 Metre Class should be increased to 16m but no more than that. This would have the following advantages:

1 Performance should be increased significantly.

2 If the wings were built in two pieces the cost penalty should not be too great.

3 A 16m glider with empty weight of less than 250kgs and a 28ft trailer could still be easily managed by a family.

4 It should be possible to modify most of the existing 15m gliders and they would not therefore become redundant.

No doubt there will be many people who will say if we are to change let's have 16.5m, 17m or even 18m spans. I would strongly disagree with all these because many of the advantages above would not apply. I would like to ask anyone who agrees to write to the chairman of the BGA Competitions Committee with a view to taking the proposal to the CIVV meeting in March 1982.

SIMON REDMAN, **Astwick, Herts.**

REVIVE THE SPORT CLASS? — NO!

Dear Editor,

Readers of S&G are entitled to know the outcome of criticisms of the BGA Competitions Committee which I raised in these columns (August 1978, p190, April 1981, p90, August 1981, p196) and which were so clearly challenged upon the last occasion by the chairman of that committee, Ted Lysakowski.

I wish to thank Ted for inviting me to attend his committee's meeting on October 6, which I was happy to accept. Since no support for my views was forthcoming there, or in correspondence to the committee or S&G, I must acknowledge that I was in error in assuming that such support existed in the first place, and recognise that mine was a lone voice bleating in the wilderness.

CHARLES ELLIS, **Ilford, Essex.**

VMC AND IMC RULES

Dear Editor,

Surely Mr C. J. Chapman (letter in the last issue, p244) isn't serious in his contention that powered aircraft VMC and IMC rules are essential knowledge for glider pilots so as to know which way a collision danger is coming from! If he is, then I hope nobody else takes him seriously.

BERNIE MORRIS, **Newbury, Berks.**

GLIDER OWNERSHIP ON THE CHEAP

Dear Editor,

With reference to Brennig James' letter "Cost and pleasure in gliding" in the last issue, p244, I would like to give my story on getting set up.

From the start I have been anti-syndicate, having seen members of initially ideal syndicates arguing over various major and minor matters concerning the use/modification/instrumentation of their jointly owner investment, so contrary to some colleagues advice and opinions I decided to set up as a one-man band.

Being fascinated by old gliders, I bought a Grunau Baby (BGA 1410) in need of some restoration which it duly received over the winter period,. My workshop/hangar consists of a 24ft shed in my back garden. An open trailer and a parachute became available. The total cost for the glider, renovation, C of A, parachute, trailer, insurance and shed came to £935. Incidentally the insurance was £55 for third party only. If I break it, I'll mend it.

It is a beautiful machine, a fine performer under the right conditions, it adds colour to the site and evokes memories among the older members who recall "the good old days when gliding was fun." That epitomises it — it's fun.

I was frequently told that I would never get anywhere. Where was I supposed to get? Am I morally bound to buy something better and struggle up club ladders, leagues etc? No, I'm happy doing my own thing, thank you. One day when conditions are right, I'll do a 50km downwind drift for my Silver distance, just to prove that the old machines are perfectly capable of badge flights.

When I arrive at the site on that day, I know it will be my priority day — every day is.

JOHN INCE, **Pocklington, York.**

THE CARDEN-BAYNES AUXILIARY

Dear Editor,

Jack Dewsbery's account of his first test flight in the Carden-Baynes auxiliary engined sailplane (October issue, p226) must be the first ever to appear in S&G though the flight must have been made in 1935 since the description of the machine was published in S&G for June that year.

It subsequently went to Dunstable Downs, where the usual "experienced aeroplane pilot" saw it, bought, and took-off against a powerful east wind blowing down the hill, with the apparent intention of climbing over the hill and far away. Too late he realised that he was not going to make it, and tried to turn aside, but as he had not even enough height to put bank for the turn, the result was a crash. A vintage club group has now acquired the wreckage and rebuilt it without the motor.

The lesson is: don't allow "experienced aeroplane pilots" without soaring experience to fly motor gliders on soaring sites.

A. E. SLATER, **Cambridge.**



Following the article by J. P. Dewsbery on the Carden-Baynes Auxiliary in the last issue, p226, Martin Garnett has sent us this photograph of the Auxiliary taken in 1935 showing the 250cc Villiers two-stroke engine erected for powered flight. Martin writes that it subsequently had its engine removed and is still in existence. The second Auxiliary, actually completed without an engine and renamed Scud 3, has also had a long life. Following a lengthy restoration, Martin said it was regularly flown at Nympsfield by his father from 1976 until his sudden death in May this year. It is now based at Duxford. See also the letter above from Doc Slater.

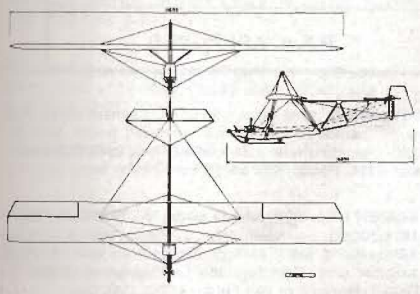
GRASSHOPPER FOUND

Dear Editor,

In answer to A. E. Slater's letter in the last issue ("Grasshopper mislaid", p244), what about the Slingsby T-38 Grasshopper designed for the ATC? There were 115 built from 1952 and several still survive.

GERARD TERRY, **Preston.**

Roger Bull, sales manager of Slingsby Engineering, confirmed they built 115 Grasshoppers in the 1950s, mainly for the ATC and schools and it was their version of the primary trainer. "The aircraft" he writes "would appear to have been 'semi metricated' since the wing span is given as 39ft 0in (11886mm) but the tailplane span is given as 9ft 10.18in (3000mm)! The AUW was 550lb, the stall 26kt and the speed for best gliding angle was 29kt."



We are grateful to Peter Fletcher for this drawing of the Grasshopper.

COMMENTS ON S&G

Dear Editor,

May I ask what has happened to the BGA Accident Summary reports which used to appear in every issue of S&G? I used to find these highly instructive and a most preferable way of learning about the causes of accidents, despite the brevity of the reports. Would it be possible to bring these back, please? Even better, how about a selection similar to that which appears in *Pilot* magazine called "Safety Matters" which gives a detailed review of recent accidents.

By the way Derek Piggott's articles on "Which Glider?" have been most interesting and helpful. It is nice to see material of interest to early solo pilots alongside the very extensive competition reports.

DAVID O'HARE, **Lancaster.**

(Would anyone else like to see the accident reports reinstated? It is always helpful to have comments on the content of S&G to take into account when planning future issues. ED.)

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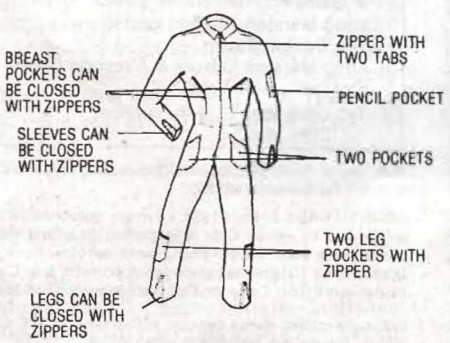
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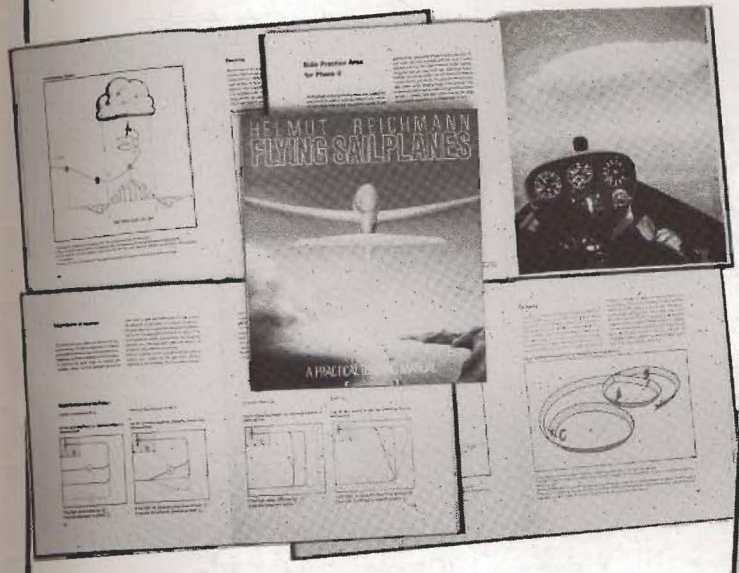
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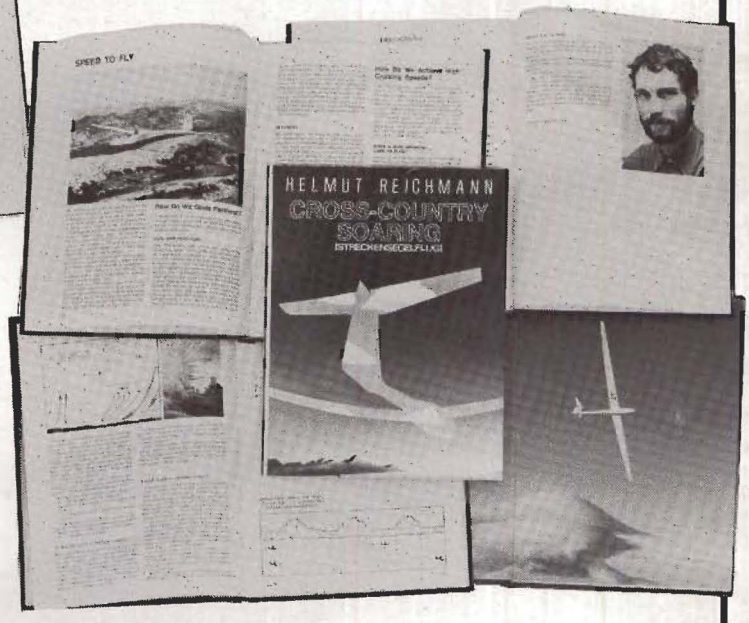


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