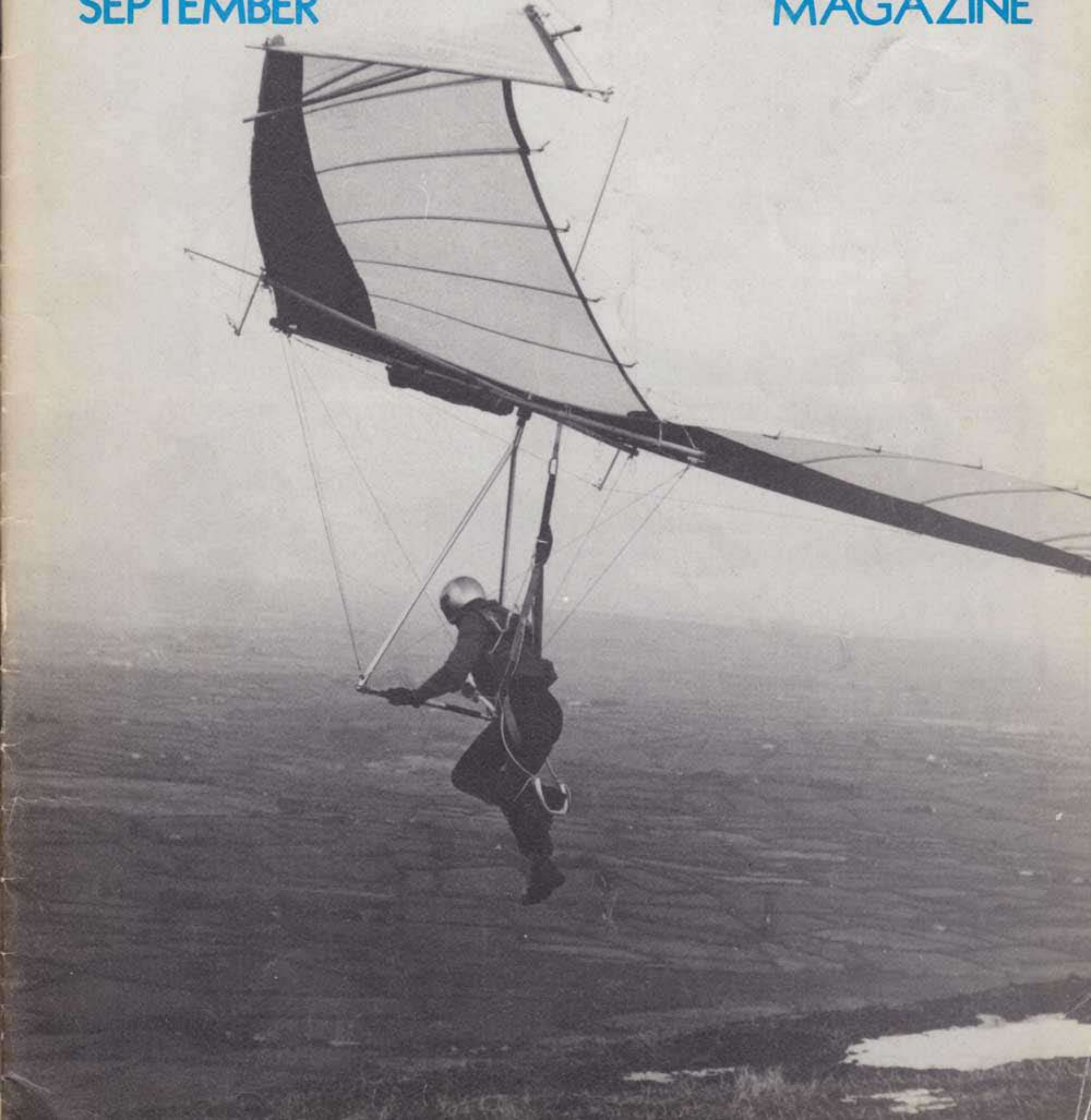


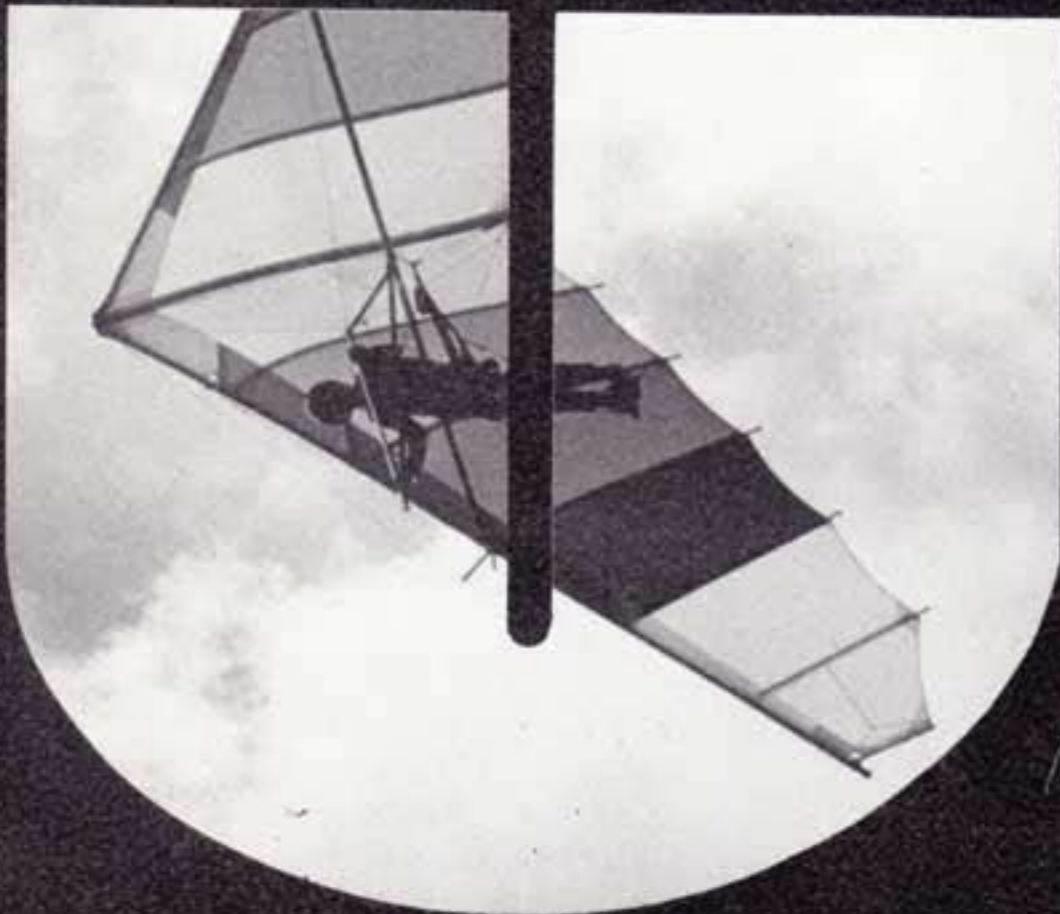
# WINGS!

SEPTEMBER

MAGAZINE



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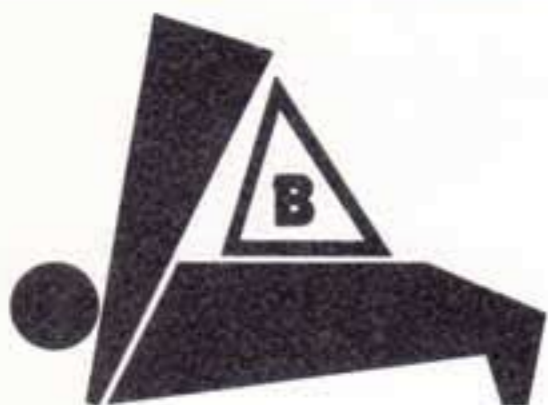
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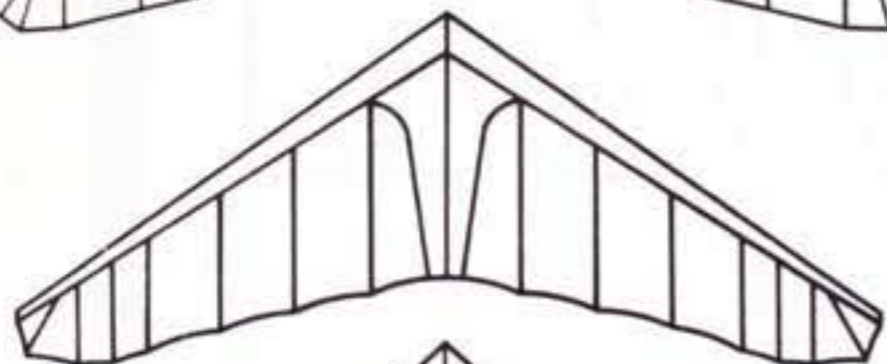
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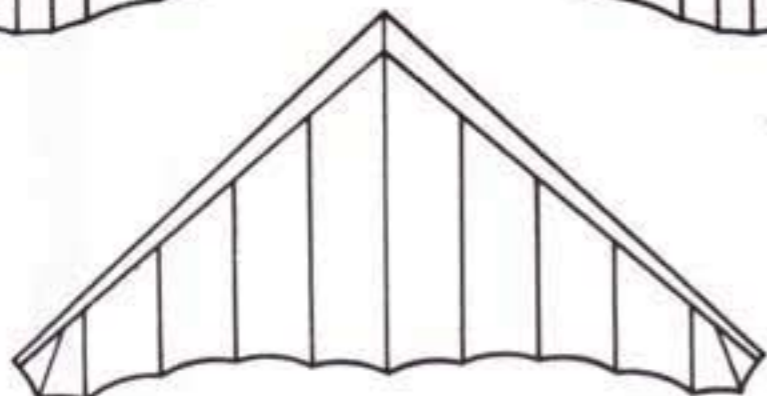
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# WINGS!

The official magazine of the BHGA

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Cover: BEEJ Harrison takes off on the Weapon at Claragh in Ireland. Photograph: Keigh Cronshaw.

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*Wings!* is published by the British Hang Gliding Association. The views expressed in it are not necessarily those of the BHGA Council, its Officers, Members or the Editor. Contributions are welcome. Articles should be typewritten if possible; photographs and cartoons should be accompanied by the appropriate captions and any material which is to be returned should be accompanied by a stamped and addressed envelope. The Editor reserves the right to edit contributions where necessary. *Wings!* may be obtained, either by joining the BHGA, or on subscription from The BHGA, 167a Cheddon Road, Taunton, Somerset at a cost of £7 per annum. All enquiries other than to members of the magazine staff should be sent to the Taunton address.

# Council Matters

## Council Meeting 16th July, 1978.

The method of assessment of the Association's subscription to the Royal Aero Club had been made known, and it was decided that the balance should now be paid. The Treasurer was authorised to pay \$250 to enter a team in the Canadian, Grouse Mountain, invitational meeting. Also it was decided that teams entered in overseas events by the Association should be insured to cover personal accident and medical expenses.

The Treasurer announced that Flight Promotions had secured a sponsor for the final league meeting in September. Council asked the Treasurer to accept the sponsorship offer by Atlas Express and to sign an agreement with the BBC for exclusive TV

coverage rights. Atlas will be allowed free colour cover on *Wings!* in the near future. The Treasurer's suggestion that we mount another lottery to raise money for the Americas Cup team was agreed. The prizes for this lottery will be two hang gliders. A simplified method of issuing cheques within agreed competition budgets was arranged.

Council minutes will be made available to Clubs without charge in future. A Records and Ratification Committee was set up to handle record claims. In future the Editorial Committee will be responsible for reviewing all publications marketed by the Association. Council reaffirmed that information on sites should only be made public by the BHGA where Clubs had agreed

to this.

The Airworthiness Scheme was now to be introduced and it was decided that Airworthiness certificates should be awarded to a type or model, subject to no objections by any of the individuals responsible for checking submissions. The Avon Club's proposal that Observers should be given an identifying badge was agreed. The Flying Committee will decide whether this is to be a flying suit or helmet badge.

Council were given a Disciplinary Committee Report concerning flying by Steve Fensome at the Ladbroke competition. The findings were endorsed and Steve Fensome's Pilot status was taken away with provision made for re-entry into the new grading system after the end of 1978.

It was agreed that the Association's solicitor Anthony Maclaren should be paid for his time at cost when he was commissioned by the Secretary or Chairman. Council passed a vote of thanks to Anthony for the enormous amount of work that he had done for us so far. Considering our representation to major landowners, the Council co-opted Gordon Wyse to co-ordinate our efforts in approaches to them for the use of sites.

Council decided to support the Southern Club in their legal fight to get the Mill Hill anti-hang gliding bye-laws repealed, subject to a limit being set on the total amount and proportion of the cost. Other Councils are waiting to see what happens in the case, so the matter is of national significance. **Chris Corston** ☘

Some clubs, the North Yorks, Cumbrian, North Wales and Merseyside, Avon and Peak, for instance, have already produced excellent guides; and other clubs hand out some very useful bumf. They tell you the map reference for notification procedures, the nearest telephone and hospital, all the hazards of their sites, if there are any air corridors or danger zones within cross country range, the rules, the sensitivity of the site, how good it is, the size, the best place to take off, and so on, everything you need to know.

Other clubs think like medieval churchmen: keep the masses ignorant to hold them down. I have been a member of the S.E. Wales club through all its metamorphoses of the last two years, and still am not trusted with site information, in case I pass it on. Club secretaries do not always reply to enquiries. You hear all sorts of excuses. The situation is always changing. They have had a lot of trouble from visitors.

Some people therefore feel ALL clubs are hostile, curse the BHGA for not doing anything about it, and become cowboy fliers. Their wives do not want to spend their only holiday of the year being driven round in circles just to please some people who only seem to be obstructive, so what the hell! Considerate clubs then get similar punishment, and communication breaks down with the culprits. It should be superfluous to explain why: the weapon of ignorance only fires one shot. Then people pass on what they have learned to save others frustration, instead of recommending as they do in the Long Mynd case, just contact Paul or Lesley Bridges, who have no secrets if you only do them that favour. A few sites become running sores. 120 people turned up

## BHGA SITES GUIDE

by **Barrie Annette**

the other day at Hay Bluff, although there were other north westerly sites within reasonable range hardly being flown. No wonder the farmers and graziers become worried, when they hear about such scenes!

As an answer to such problems, the Southern Club has voted in favour of a national sites register being produced. They would! I can see the Welsh and the Dalesmen reacting.

Much of the opposition does not deserve respect. There is the traditional country suspicion of townies, for instance the feeling in the Dales that Leeds and Bradford people will never stop climbing over walls however much you write it down, because they are a lot of w . . . s. And there is fear of change, which causes people to strike stances. There are no sites anywhere in Wales secure enough to mention in a national guide, the Welsh Federation informed me, desperately. I checked at the Blaenau Ffestiniog slate quarries, Gloddfa Ganel: the manager was delighted by my proposal to publish information about his site in a BHGA guide. The site faces east, and can often be flown in nil wind, because the thermal lift is constant, two miles wide. It is also thrilling for the kids. Check with Mid Wales club for details. And there are other examples.

On the other hand, in North Yorks, the Dales, the Lakes, most of Wales and the south east, etc. it is not the practice to pay farmers, who have been persuaded that the club system insures them against inconvenience. If people suddenly started turning up swinging guide books, it would

obviously change matters. One farmer would want payment, another and another, and it would become too much -- half these clubs have more sites than members -- except at the price of squeezing visitors, again provoking cowboyism, reaction and counter-reaction; so visitors would actually be worse off, the chief sufferers when there is trouble. Consider Firle: now Southern members only.

Also you have to respect the benefits of everybody first of all having to make contact with some club. Even the most retiring clubs are friendly once you have overcome the initial problem of rooting them out -- the test that you are okay -- and they realise they have got you anyway. True, some sites are members only, by private agreement or unacceptably expensive; but not a high proportion of the hundreds in the country. It pays to make proper contact every time. The sport would lose something if people stopped doing that. It is difficult to answer those concerned that a guide book would have that effect. Often these people have done a lot of work to procure sites, and don't know how anyone could really go against their wishes.

Take the Cumbrian Club, for instance. They lent me their guide for the week, no charge, except 50p insurance; although they naturally like regular visitors to become full members, and that is only about £3. Fair enough! No editor could betray trust like that. You would have to refer the reader to the system.

I don't know what to think, however, when I have had to pay £7 for

full membership to become fully informed, because many visitors would balk at that, and it is unacceptable they should be more at risk, just because clubs cannot get together and work out reciprocal arrangements. It happens on a small scale to prove it is possible.

There would also seem a good reason for something to be published where there are situations to be put right. For instance, the overcrowding and the trouble it has caused at Mill Hill is bad news for everyone; and it would not be so bad if more people went to the Wessex area, which is excellent for winds from south to west. The sites have not yet been negotiated on a many-visitor basis, because there has never been any need, so it would be catastrophic at the moment if crowds suddenly rolled up without going through the correct procedure; but it would do no harm at all to put that club under pressure to accommodate more people. There are miles of cliff to fly, and places where you can jump off straight into see breeze convergence. The potential makes the south downs look a bit silly from that quarter.

And there are other aspects of the matter; but I think that sums up the basic situation. It is hopeless expecting to win them all. But with endeavour like this you want to please as many people as possible, that is the whole point of it. Perhaps it can only be fair if people have a chance to say what they want.

Any ideas, opinions, objections, information, etc. will be received gratefully. It will be your handbook, so make the most of this chance.

**Barrie Annette,**  
116 Colne Road,  
Twickenham, Middx.  
TW2 6QN. Tel: 01 894-6374

## REFLECTIONS IN A SUFFOLK PUB?

Dear Editor, I cannot let the Dave Cook article (July '78) pass into history without comment. David is well known for his arguments in favour of rigids and not without some justification in these parts but, for a more impartial opinion read the George Worthington column especially 'Operational Freedom'. However, David goes on to say "Flexwings are holding up the development of hang gliders", "most of the technology has been screwed out", "weight shift is unnatural and no birds do it"!! Sorry mate, I have got to dissociate myself from your views.

Without the flexwing, the sport as we know it just would not exist. No-one knows why it took more than half a century for the humble free flight kite to take off, whilst previous efforts to continue interest in foot launch were confined to rigids and semis, without much more than localised enthusiasm. Volmer Jensen's efforts went largely unnoticed for quite some time until the rogallo revolution. The technology has only just begun and to condemn those "four toobs and a bit of dacron out of hand is a debt of ingratitude.

As for weight shift, I know you have missed the essence and beauty this form of control affords. Of course, many birds in gliding flight exercise weight shift all the time. Just observe, the movements are minimal but their wings adjust relative to body position, effecting the manoeuvres with which we are familiar. We do not see them wings outstretched, rigid, operating ailerons and rudders with a twiddle stick! Surely birds are, after all, the ultimate in flexwings, even to the point of derigging and portability.

Come on David, your prejudices are unsound; we have a convention in rigid technology but the horizons are wide open for the flexwing in a form we may not know as yet.

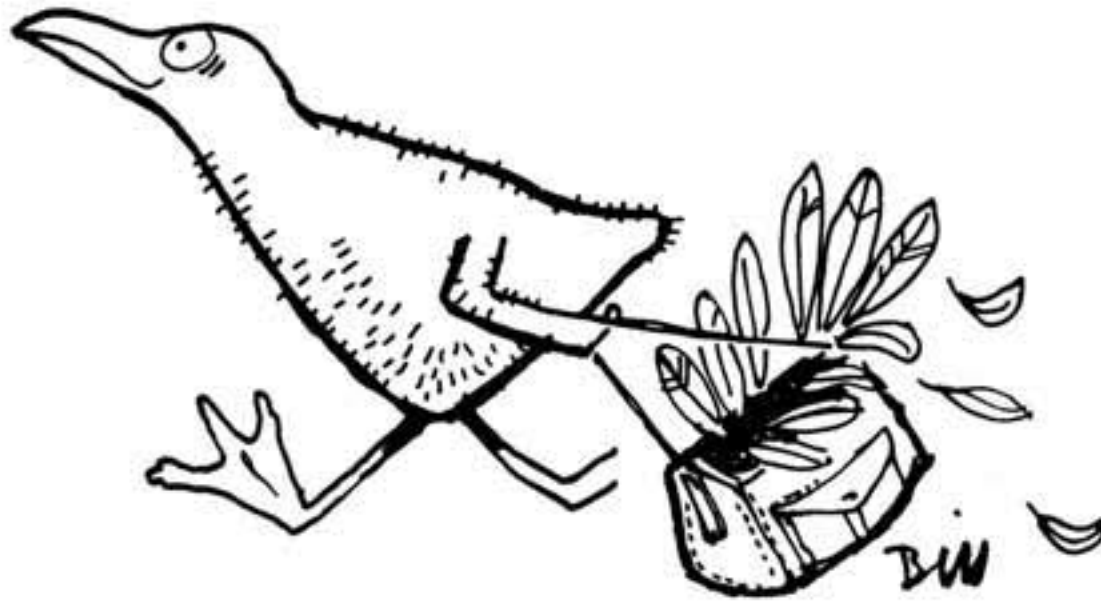
**Brian Pattenden**  
Suffolk

## WAS THAT ME?

Dear Sir, The July *Wings!* article 'Dave Cook' about myself did not really express my full views on hang gliding. I do not mean that the editor (interviewer) printed anything I did not say, but more he did not print everything I did say. I have a great admiration for flexwings and their pilots and repeated that during the interview many times. I am not narrow (rigid) minded. Editors by profession like controversy because it creates a healthy response from the membership. *Wings!* can do with a much greater contribution from member pilots. Thus I submit our worthy editor did not include my genuine interest in flexwings but rather made me a controversial character aligned only to rigids. The editor is doing his job!

We all have fun hang gliding, this is what is important to us and it is a shame that the sailplane world hasn't a

The ultimate in Flexwings . . . .  
even to the point of derigging and portability



# AIRMAIL

greater liaison with us for there is much to learn. We are following precisely the same development as did the gliding world. At the moment we fly to the extent of the limitation of our hang gliders (mostly ridge lift). Only experts can achieve 20 mile plus flights. Pilots who want to go places need better performance hang gliders. This will come — it is only my opinion that to do this, rigids are required. This opinion is not necessarily a fact.

George Worthington's super article in *Wings!* does however, show some of his limitation. Fifty types of flexwing flown, only one type of rigid. The very important 'Operational Freedom' we all have, he says, disappears with L/D increases. That's a fact, but it need not be. Kites, three years ago were much easier to spot land but no Operational Freedom has been given up by today's kites with major L/D increases. A Mitchell wing flies much faster than a kite and lands faster too but I noted someone put a flap on one in the U.S. and flew alongside a Phoenix 8. They flew side by side, slower and slower, the Phoenix 8 stalled first. A flap — more complications may be echoed but it should be noted more 'Operational Freedom' was gained here.

The well known phrase, 'simple things are usually the best' may reflect to some of us, as the essence of a flexwing. Hang glider flexwings certainly astounded the 'flying world' by virtue of their simplicity and performance and I am as thrilled about it as anyone. However, to go further in development I think hang gliders will have to become more and more complicated. Don't let's kid ourselves that a soaring type bird is a simple thing. It is one of nature's ultimate achievements of complexity and the beauty of nature is that she makes the bird look simple! A soaring type bird has intricacies that science is only

bordering on understanding, e.g. the alula is an anti-stall device; diffuser tips are substituting for aspect ratio; variable geometry is only now being copied by aircraft designers, the vortex-lift phenomena used during zero speed landings is only slightly understood. Birds are purely aerodynamic, they have the equivalent of 'controls' all over them but better than aircraft controls in their intricacy.

What I am indicating is, that to get better flying performances it is unfortunate that more complications have to occur in the long run.

I think the rigid wing, versus flexwing arguments, are silly and unconstructive. The two types ought to complement each other and provide variety to be enjoyed. We all have fun hang gliding and this is what really matters.

**D. Cook**  
Suffolk

## COUNCIL MATTERS

Dear Sir, I write with reference to the 'Council Matters' column in last month's *Wings!*

In previous weeks I had heard rumours of a possible prosecution by the CAA over my powered hang gliding, but no-one was able to furnish me with anything more than 'something they had heard'. The British Hang Gliding Association chose to let me know via *Wings!* which also informed between two and three thousand others at the same time. I don't object to others knowing, I would just like to be told myself first.

The implications of this and BHGA's attitude regarding the case are serious. As the body represents all hang glider pilots in this country I would have expected them to contact me at the very first suspicion of trouble with the CAA — to find out from me what had happened so that it could if the situation demanded defend and

support not just me but a branch of the sport which they have undertaken to control. Instead of this I still have not had any official communication from the BHGA council. It seems that their attitude is opposite to the much coveted British justice of innocent until proved guilty, and indeed they imply that they will assist the CAA in the prosecution.

Even if the BHGA are convinced that I have broken Civil Aviation law they should as a matter of principle have made some stand in order to show that they *do* control hang gliding. I used to belong to the British Gliding Association who in similar cases made preliminary investigations themselves, if necessary made available their legal advisor and only as a last resort supported the CAA in any action. They work with the CAA but if they disagree with them they are not frightened to say so and have in fact defeated the CAA over the extension of controlled airspace into gliding areas. This is the way the BHGA should be acting. It is all very well to be seen to be doing something but it is rather hollow when they don't do something that needs to be done!

When the investigating officer from the CAA came to see me and ask for a statement I had, in self defence, to tell him that I felt I had been singled out to be made an example of as I knew of a considerable number of fliers who had carried out airwork. He has details of one instance which the BHGA virtually endorsed by printing the story in *Wings!* and has asked me to furnish details of the others. I extend my apologies to the pilots concerned and ask them to understand my position. I would like the BHGA to stop acting like big brother and start acting like the national body it is supposed to be, to help and protect its members. I suggest that they say to the CAA that as there is no commercial pilot rating for hang glider pilots, that some other method of ensuring capability must be found, and that it be found within the hang gliding fraternity.

**Gerry Breen**  
Welsh Hang Gliding Centre

## FLYING FLEAS

Dear Sir, The report of the recent Council Meeting in the July edition of *Wings!* together with recent correspondence and articles on the subject of Powered Hang Gliding, gives rise to considerable disquiet in the minds of those of us who see Powered Hang Gliding 'as not only a totally new concept of Hang Gliding, but also of aviation itself. Not since the fortunate extermination of Henri Mignet's Flying Flea has the aviation enthusiast been offered such a convenient and practical method of getting off the ground and being able to consistently control the rate and location of descent. Undoubtedly this new concept will introduce many new enthusiasts to the sport, and the BHGA would do well to put their house in order to welcome them and to

ensure that their initial impression is one of a responsible, helpful and co-operative host.

The report of the meeting leaves a strong impression that someone is either 'gunning' for Powered Hang Gliding or Gerry Breen personally. If the latter, then I am sure that Gerry is competent to look after himself.

It is worth pointing out that 1978 is the year that the BHGA's declared aim is to produce good publicity for the sport, and Gerry has probably done more than any other person to take Hang Gliding to the people in the form of his frequent Air Display appearances.

If the former is the case, in that the BHGA are to attack Powered Hang Gliding, they will no doubt succeed in ensuring that it is strangled at birth. All potential powered pilots must progress from the unpowered kite, irrespective of their previous flying experience, unless a suitable powered dual kite is developed and used for training.

If the BHGA is to ensure that there is no place for powered flying within its organisation, then Powered pilots will inevitably form their own. Such a movement would be a tragedy in that, it would split the control of the airframe between two organisations whose family history would certainly be stained at conception.

If the birth of the powered hang gliding movement were a result of the BHGA and CAA becoming bed fellows in the prospective prosecution of Gerry Breen, then let the BHGA be warned that the CAA is a handsome and becoming friend, but a very mean master.

The CAA is a responsible administrator of the airlines and airways, unfortunately its treatment of General Aviation over the years, while it was the ARB, and particularly recently, has shown that it is totally incapable of understanding or willing to accommodate the strength of light aviation, its enthusiasts or the depth of their pockets.

The CAA lives by law and regulations; the more it regulates, the more it has to police those regulations and employ people to do it. As it is supposed to be a self-financing authority, it has to charge fees, commensurate with its costs, and its charges have to be felt to be believed.

The BPA and the BGA have survived by presenting a united front and ensuring that their self-disciplinary procedures are adequate to cope with the vagaries of its members.

The BHGA's declared intention of climbing into bed with the CAA over Gerry's prosecution, indicates that it neither has the strength or the will to police its own sport. The CAA will undoubtedly recognise this weakness and persist in its activities until it has penetrated the very core of Hang Gliding.

The BHGA exists to support its members, not by denigrating either the strength of enthusiasm in the sport, or one of its greatest and best known exponents.

**Jonny Secombe**  
London

## SAIL PAINTS

Dear Sir, re: the Vincent Van Gough enquiry some screen printing inks have been developed especially for Terylene. They can be obtained from Sericol Group Ltd., 24 Parson's Green Lane, London SW6 4HS. Tel: 01 736-8181. Drawbacks: 1. they tend to sell it by the gallon rather than the pint. 2. It is really difficult to get a good finish — I ended up spreading it on with J-cloths — brushes are useless.

**Richard Lawson**  
Avon

## NIGHT FLYING MADNESS

Dear Sir, Having just returned from vacation, I looked forward to catching up with events in the July copy of *Wings!*

I find it difficult to fully express my horror and disgust when I read Dunstan Hadley's article on night flying (p. 25). I consider it totally irresponsible that such an article should have appeared in the magazine columns of an Association which is allegedly promoting safe and responsible flying.

Written by almost any other person would have been bad enough, but to publish an article written by the Association's Medical Adviser and council member, implies in my mind at least, that approval of night flying activities is endorsed by the BHGA council.

How can a body which publishes details of a do-it-yourself flarepath for night landings be considered to be promoting safe flying beats me, and I am certain many of the 'knockers' of our sport will gleefully latch on to this monumental blunder as an example of how our sport is 'controlled'.

In the name of sanity, surely the writer and all connected with publishing it should be given the biggest rocket of their lives, or better still, made to console the families of the pilots who will inevitably become the victims of night flying madness.

No! Mr. Hadley there are quite enough problems flying a hang glider in good visibility without the additional hazards of darkness to contend with. What are the BHGA council thinking of to allow such an article to be published. For God's sake let us walk before we can run!

Last Sunday I sat around all day at Tinto with another fifteen pilots who were unable to fly because of low cloud which restricted visibility to 25 yards on top of the hill — were we *all* wrong in deciding not to fly? Let us have an official answer to this from the Council!

**Gordon Murray**  
Lanarkshire

## CONDOR COSTS

Dear Sir, It is good to hear that the Malvern Club have negotiated the use of Castle-Morton and that no charge is to be made to visiting fliers. But is this apparent generosity so unusual? Is it not the general practice that where no club payment is made to the controlling authority, no charge is

made to the visitor? We in the Condors have numerous first class soaring sites which, in some cases, have taken considerable time and effort in negotiation, but where no payment is made to the controlling authority; we ask no site fees.

However, if any visitor flies our National Trust site at Bossington, he will be expected to pay 50p per day. We think it is generally realised that club payments to the National Trust for the use of their property are considerable, and this nominal charge for the use of one of Britain's top soaring sites is generally considered fair and justified.

These days fees can appear unfair when a visitor frequently visits a fee paying site. After all, it takes but 10 days of 50p-a-day fees to equal a year's full subscription as a full-time member. So, in fairness to visitors, we have introduced the temporary membership charge. This gives, for the payment of £3, membership (and free usage of National Trust sites) for six months, and a site information pack on all Condor's sites.

The point raised by Theo Wilford (Malvern), regarding the high cost of flying around is well taken. It could be expensive — especially if membership payment was a prerequisite to flying the site. However, we consider the *choice* of either day fees or temporary membership as an essential freedom for any travelling visitor. We welcome both groups to our sites and hope all enjoy the experience.

**Brian Smith**  
Hon. Secretary,  
Devon & Somerset Condors

## FREE FOR ALL

Dear Sir, With reference to Tommy Thomson's letter (*Wings!* July issue), it is evident that he has not thought ahead and cannot see the implications of a 'free for all' use of public sites.

Clubs who use or control the majority of our public sites are doing so for the benefit of YOU. Look at Beachy Head! Having tried to pass a bye-law and failed, it seems the council in question are now seeking to negotiate a 'licence' arrangement with the local club to control flying there. Therefore that club must, repeat must, impose such limitations as it sees fit to ensure that only responsible and safe flying occurs and so keep use of the site. That of course does not apply to just this one site, but to any public site.

Of course the controlling club cannot legally keep you off! But if you go ahead regardless and cause an open affront to that club, then the council will see that its licensee cannot control flying and the site will go.

It may be that a competent flier has a written letter from his club secretary to state his standard of ability. That would be up to the club to accept. But if you go to the trouble to get a letter, why not join the BHGA and get a rating?

When I first started flying three years ago, I was aghast at all the rules and regulations appearing. But now, seeing things slot into place, seeing legal battles won, and belonging to this

national association of ours, I feel proud of our progress.

It is for the benefit of us all, who want to fly, to join the BHGA and co-operate in its drive to preserve sites and obtain new ones. It does the sport no good at all if a minority will insist on trying to undo all the good work done for the sport by the rest.

**Dave Chambers**  
Hants

## BOY SCOUTS COLLECT BADGES

Dear Sir, All power to Tommy Thompson! I'm sure that there are a great many of us who feel the same way as he about the new pilot rating system that's about to come into force. (*July Wings!*). Let's hope that those who represent us take good note of what he says. This rating system must be great for fliers with the competitive urge to better themselves and each other but for those of us who fly for the sheer enjoyment of it nothing will encourage us to be tested, observed or examined. As far as I am concerned, Boy Scouts do tests to collect badges and hang glider pilots fly.

This sort of alienation is probably the reason behind the decline in BHGA membership which must be worse than is immediately apparent considering that all the schools and manufacturers seem to be doing OK and by consequence the number of fliers must be increasing dramatically. In time this will lead to the BHGA representing only their own hierarchy. Remember, no-one has invested any authority in the BHGA so there is no obligation to tow the line and no reason except self interest. In this situation, regulation will only succeed as a result of general consent, not by alienating stipulation. If the BHGA is going to represent hang gliding in the UK generally, it needs the support of everyone who owns a hang glider, not just some of them.

What could be done for every flier's benefit has been suggested in the pages of *Wings!* several times in the last few months. Theo Wilford (July) has taken the idea of national site access for all members furthest with some very constructive thoughts. C.W. Freeman (May) and John Hudson (March) have also been making moves in a similar direction at more local levels. Let's see our council throw its weight behind a national scheme of this sort and achieve something of real value to everyone.

**James Moffatt**  
Cambridge

## GUILTY OR NOT GUILTY?

Dear Sir, Nick Regan's spirited defence of his 'freedom' to do his own thing in his own way poses an interesting dilemma for all of us.

No one denies Nick's competence (to take off from the cliffs) or Bob's or Greg's or Sid's or Pat's or Rob's or

*Continued on page 25*



# WING TIPS



*The Method: Far left: balance glider on shoulders and prepare for acceleration. Left: Shoulders into the A frame and accelerate the glider as you run forward. Glider rises from shoulders and straps tighten. Bottom: With sufficient airspeed, you're off cleanly.*

## Easy Take-Offs

Ian Trotter describes his method of take-off, challenging what has seemed to become the accepted 'straps tight' take-off. If you have problems with no-wind take-offs, try them both and let us know your opinion.



I can't stand it any more! I can keep silence no longer! Not half long enough, did somebody say?

Quote Dennis Pagen (*Wings!* May '78)

"The take-off in any situation should begin with the harness straps tight. This prevents a situation where the glider is rising and jerks the harness tight. When taking off seated, the pilot must hold the glider well over his head, making pitch control difficult. Running speed is limited by the awkward holding position and seat itself".

Quote Graham Slater (*Wings!* Dec. '77):

"Straps tight, try to lift yourself off the ground. Difficult you may say, but think about it — keeping the straps tight on take-off means you can rotate the nose slowly, using your link with the kite as a fulcrum".

Quote Cockroft, Breen or Slater (*Wings!* May '78), re: the Maxi:

"This glider is heavy, i.e. 64lbs. therefore needs a good deal of strength to hold up at proper take-off attitude. . ."

Why, oh why, are all these experienced people so insistent on keeping the straps tight at take-off, despite all the difficulties which they themselves admit?

What's wrong with sitting the A-frame on the natural place, the shoulders?

Before we go into what's wrong, let's note what's right: Pitch control is vastly easier. So are yaw and roll.

If the Maxi weighed 164lbs. you could still support its weight for ages.

Pressing the shoulders into the A-frame will accelerate the glider much more effectively than any other way.

The five requirements (acceleration, pitch, roll, yaw, weight) are kept separate; there are no side-effects.

It works as well on free-floating sails as it does on enclosed keels, fast kites or slow, seated or prone, nil wind or howling, gentle slope or steep.

It allows you to choose your moment.

So what are the criticisms?

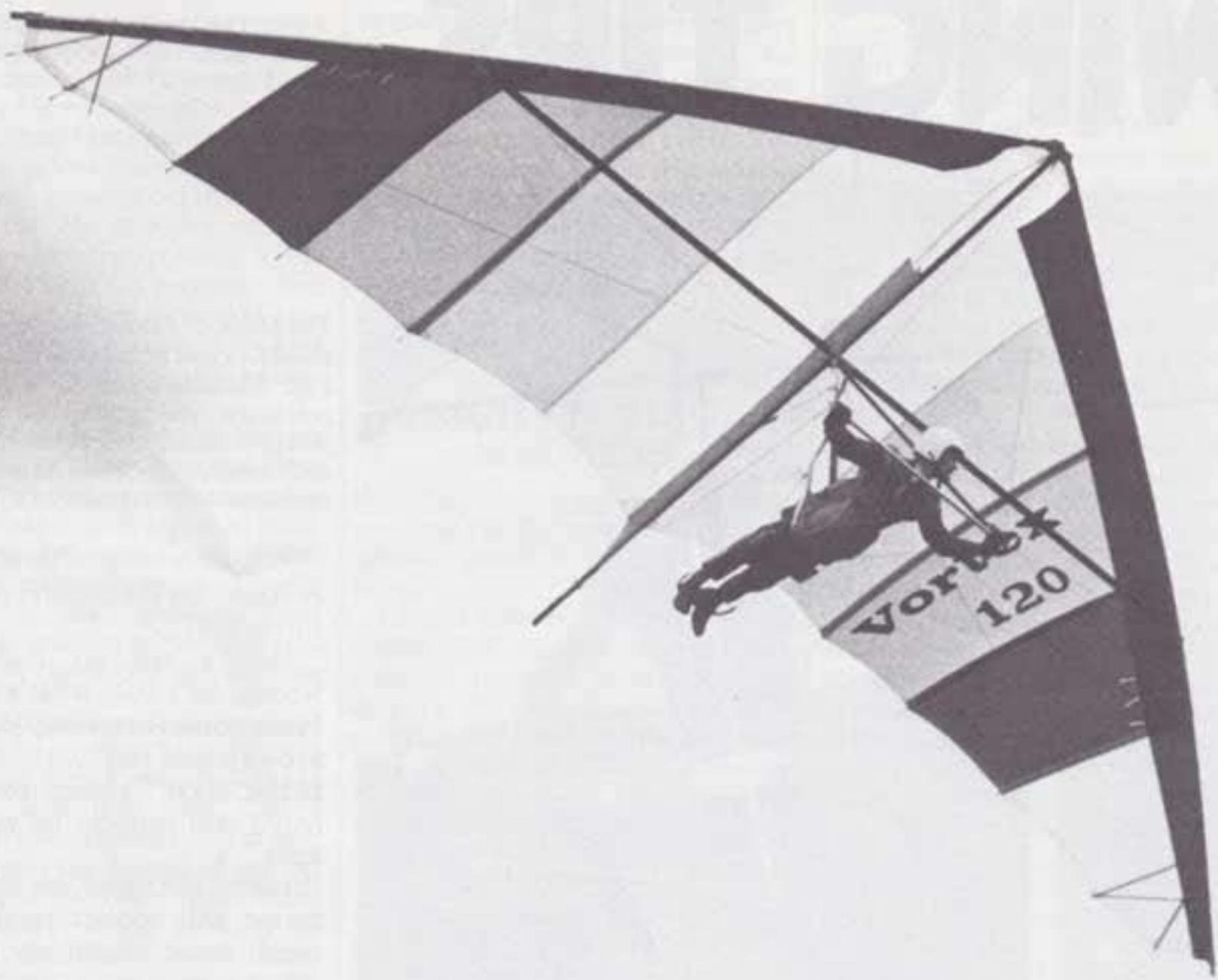
"It jerks the harness". Only if you let it. And if the harness can't stand a controlled minor loading like that, I'd hate to be in turbulence.

"It could open the Karabiner". No more likely than in turbulence. Use a screw-gate.

I've been using this method for two years, on Chargus 18/50, Cloudbase, Falcon 4 and Super Scorpion. Two schools use it I believe. Apart from the learning stage I've had no problems in a wide variety of sites and conditions, including downwind on a gentle bouldered slope in an undersize skew-tuned excessively reflexed glider. That last would have been a real comedy, though not for me, if I'd been trying to keep the straps tight.

The aim must be to keep the glider under control on the ground, get it under control in the air and keep the intervening time as short as possible.

Might this not be the best way?



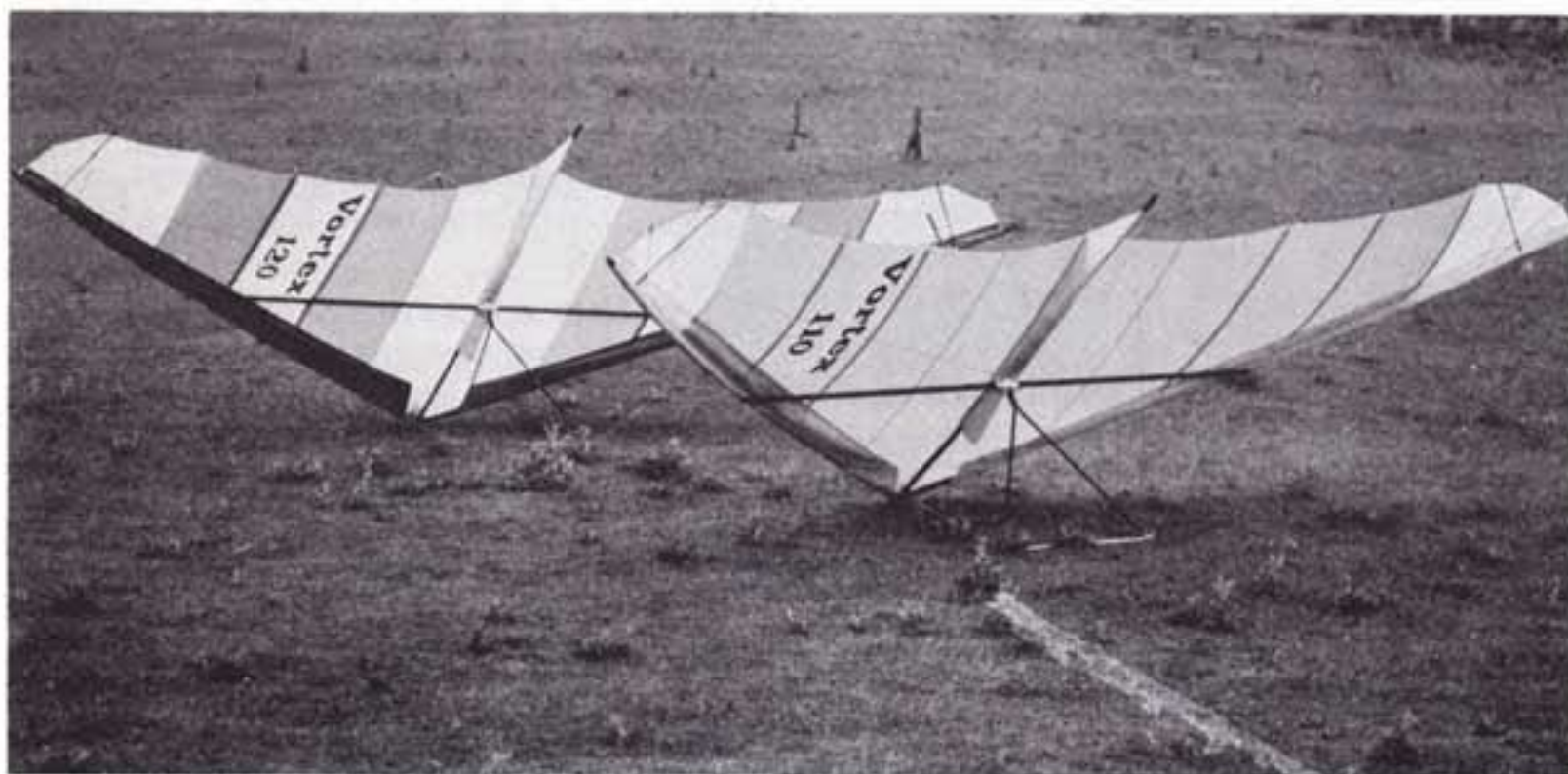
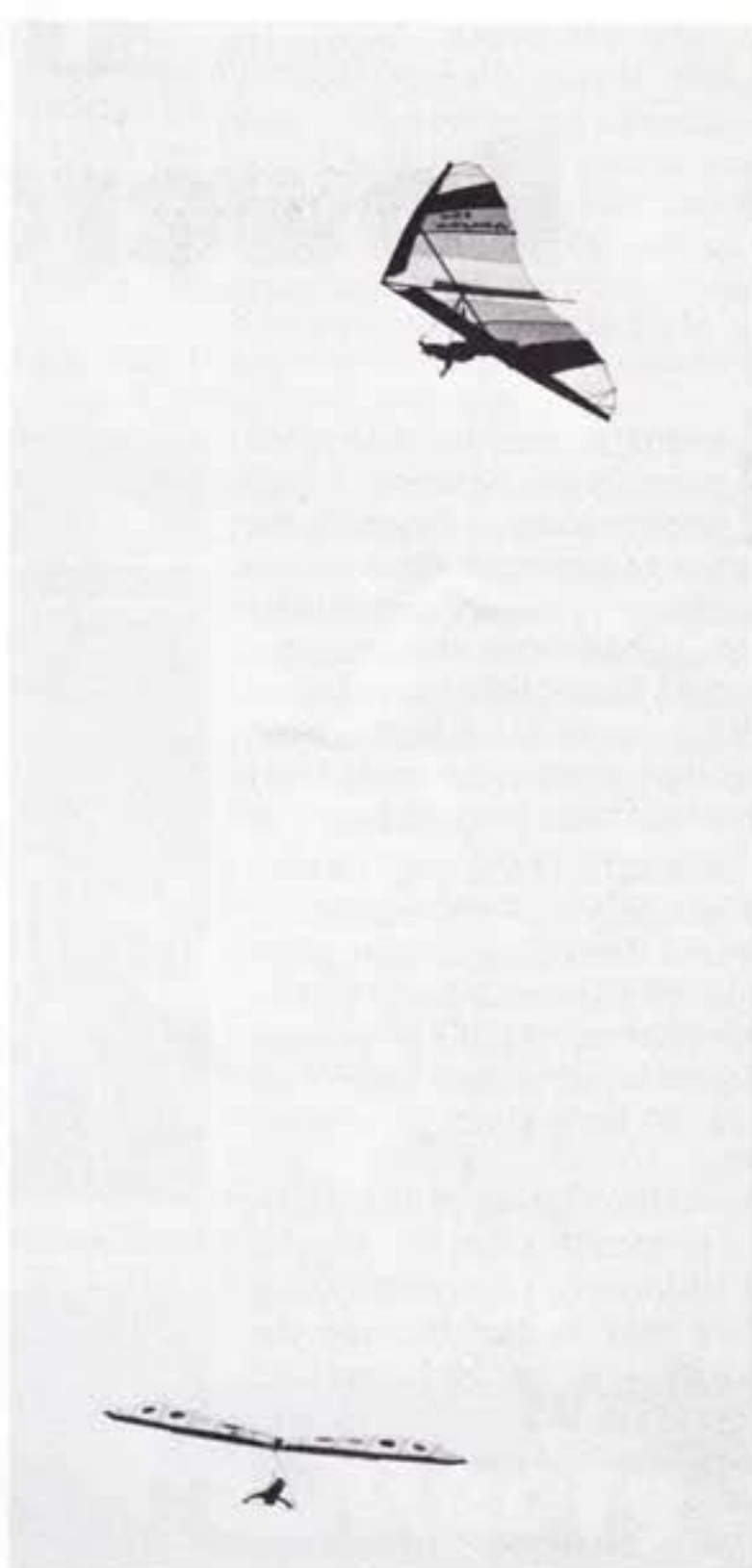
# Class without Clutter



**'VORTEX' 110**  
**£397.00 including**  
**bag and VAT**

**'VORTEX' 120**  
**£415.00 including**  
**bag and VAT**

Richard Kenward Photography



The 'VORTEX' 110 and 120 herald the advent of a new breed of high performance hang gliders and incorporates two totally unique features, 'VORTEX' generators and a permanently attached minimum washout control, known as the 'Bow String'. The 'VORTEX' takes a step up in performance and a step down in cost/complexity. No wing wires mean no tuning problems, the tuning is built into the sail and stays there.

Although aimed at the intermediate/advanced market, EPC holders will readily take to the 'VORTEX' 110 with its light/coordinated pitch/roll control, stable slow landings (one of the benefits of 'VORTEX' generators) superb sink rate and a very wide speed range ('VORTEX' generators make possible the use of an efficient elliptical plan/form with its inherent low induced drag).

The 'VORTEX' 120 couples a higher aspect ratio and a larger wing area, giving the advanced pilot the performance he needs. The 'VORTEX' 120 has been soared in up to 40mph winds at Dunstable, a site not known for its gentle behaviour and yet at the lower end of the wind scale it will 'out sink' the best of the 'superships'. With the state of the art as it stands in 'simplified' gliders the 'VORTEX' has without doubt the best high wind and low wind performances available today.

Advances in design simplicity and sail manufacturing techniques allow CHARGUS to offer you the chance to own one of the most economical intermediate and high performance hang gliders on the market today.

**'VORTEX' Generators**

CHARGUS have been researching into high/lift devices for well over a year now. The idea of slots, flaps, etc being

discarded because of their vulnerability and cost. Our design team then heard of present work being done in America involving a series of holes being cut into the sails of boats giving substantial increases of performance, CHARGUS obtained all the information available and then modified it to suit the requirements of the 'VORTEX'. The attraction being an increase of performance with what amounts to a decrease in weight. To give an example of the performance gained we built the prototype with the 'VORTEX' generators cut in but taped up. For its initial flights the glider was trimmed neutral and flown several times by one pilot. During landings it displayed definite tip stall tendencies due to the low wash out employed. We then removed the tapes and the C of G needed to be shifted two inches rearwards to compensate for the extra lift created being at the tips. Tip stalling at low speeds has also completely disappeared.

Benefits are then 1) Excellent low speed, high lift/handling characteristics and 2) low induced drag without inherent tip stall problems.

**'Bow String'**

The main design parameter of the 'VORTEX' was high performance with simplicity, this means throwing away the wing wires, which in themselves are an easy way of controlling L/E T/E shape, but introduce a lot of extra drag; weight and constant adjustment. Doing without wing wires requires a carefully cut sail matched exactly to the flex rate of the leading edge. Having done this it is then obvious that any change in the optimum pilot weight is going to introduce either more or less flex in the leading edge and therefore lighter pilots can suffer from tip stall and heavier pilots induce too much wash out and hence drag. CHARGUS neatly overcame this problem by

increasing the wing stiffness to extend beyond its normal pilot weight range and then impose a permanently attached wire from the wing tip to heart bolt area, that holds in the correct minimum wash out.

Dimensions	110	120
Span	30 feet rigged	32 feet 8 inches rigged
L/E	19 feet	19 feet
Root Chord	11 feet	11 feet
A/R	4.6	5.23
Billow	.68	.68
Area	196 square feet	204 square feet
Knock Down length	13 feet	13 feet
Normal packed length	19 feet 1 inch	19 feet 1 inch

**Delivery**

3-4 weeks upon receipt of £100 deposit.

**The following items are supplied at no extra cost**

Fully anodised Air Frame — Quick knock down facility — Push Pins — Fibre glass tapered battens — Howe and Bainbridge sail material. Fully zipped bag

**Chargus**

**Gliding Company Limited**

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 Telephone Buckingham 028 02 4321

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# The case for Powered Hang Gliding

by Mark Woodhams

I heard a rumour that quite recently in America a poll was run to try and identify the number of powered fliers within the hang gliding community there. It had been assumed that powered hang gliding constituted only a lunatic fringe when measured against the main body of conventional hang gliding.

The results of the poll showed that not only was the number of powered fliers a significant proportion of the total hang gliding community but that the proportion was growing at a much faster rate than total hang glider participant figures.

An extrapolation of this information would seem to suggest that ultimately unpowered hang gliding may in fact become the minority interest and that the dream of 'popular aviation' may at last be made real by powered fliers.

This is quite reasonable if you consider that before very long it will be possible to buy an aeroplane with the capacity for extended flight in most weather conditions, that needs no hangar, that can be flown off and landed anywhere in an area the size of a cricket pitch, that costs less to run than a car and that is cheaper to buy than a motorbike. Against this you have an unpowered hang glider that has to be hauled to the top of appropriate hills that have to face into wind. The hills are usually subject to a continuous wrangle between lovers of open spaces, owners of open spaces and local government. The wind and magic ingredient lift are actually rather unreliable quantities. And then, when the conditions suddenly become suitable, not only do you rush into the air but so does the rest of the club. Flying skills for today's hang glider pilot are not so much to do with staying up but weaving in and out.

So the purists will say hang gliding is about pitting one's skills against the elements, soaring silently along kept aloft by the sun's energy alone. It is certainly true that on a good day these sentiments seem to express exactly the joys of flight, but how



*Ian Grayland gets a little help from his friends.*



*The moment of take-off.*



*Dale Clothier prepares for touchdown.*

many good days do you really get. Hang gliding must inevitably be about flying, and consequent to that; the most flying for the least effort. The growth of the industry is inextricably involved with this concept — like it or not.

Powered hang gliding seems to be enjoying a spectacularly bad press at the moment. Perhaps now is the time to examine some of the main criticisms and see if any of the obstacles really are insurmountable. The current list of 'againsts' reads something like this:

**They are too noisy.** Yes, they are. The main problem is that because a hang glider's flying speed is very slow, the noise is around for rather a long time. For the time being, flying over built-up areas with a powered hang glider would seem to be an error of judgement. But you can be certain that acceptable noise levels will be with us in the not too distant future. A lot of people are working on noise reduction and it would be unreasonable to assume they will fail. Remember that power units for hang gliders really are in their infancy.

**They upset landowners.** They don't yet, but they certainly would if they used the same sites as ordinary hang gliders for take-offs and landings under power. This criticism rather misses the point to powered hang gliding though. With a viable unit you simply don't need to go to the big hills. Shallow slopes or even flat ground nearer home will do very well.

**They will be subject to restrictive regulations.** Yes, they will, and a good thing too. The last thing hang gliding needs is a swarm of unprepared anarchists buzzing in and out of the air lanes. Hang gliding is growing up and the performance of the pilots themselves must mature alongside the development of the new machinery.

**Powered hang gliders aren't hang gliders.** This is the moan of the purists, the difference between power and sail at sea etc. Definitions of what is and what isn't a hang glider have a tendency to bend even the most objective logic. Suffice it to say that to date

pilots of powered craft always come from within our sport and not from outside. Surely that's the clue as to whether it's hang gliding or not.

**They are dangerous.** The problem is that most of us have been brought up on Rogallos and their derivatives which are incredibly forgiving of control error when compared with conventional aeroplanes. The result is that we expect any new development to be just as forgiving. A powered hang glider probably is more dangerous than an ordinary hang glider in the sense that it is something extra to go wrong and something extra to understand. But is that increase in potential hazard unacceptable? Personally I don't think it is — but I do think considerable caution and thought is required particularly when the technology is so young.

**They will antagonise the public.** This is the most difficult criticism to counter because you are dealing with people's entrenched attitudes rather than problems with physical things like engines. If an engine performs satisfactorily, it is relatively easy to identify the problem and then

solve it. But people's attitudes are not quite so accommodating. For any new development there will always be a vocal minority whose first reaction is 'It ought to be stopped'. Only time and familiarity with an idea will change this. If the public believes that the gift of flight is there to be enjoyed by all and not just the privileged few, then I think you'll find that the initial objections will wither and die.

If you add all these 'against's' up, does it amount to a vote of no confidence in powered hang gliding. Surely it doesn't. We're on the threshold of one of the most exciting developments in hang gliding since Francis Rogallo patented his flexible kites. Let's not stifle the baby before it has drawn breath.

One of the best ways we can encourage the development of power is to ensure that progress and regulation happens within the BHGA umbrella. If we ban powered hang gliders, as has been suggested on several occasions, it is likely that the followers of power will form their own organisation. The prospect of separate powered and unpowered organ-

isations fighting for grace and favour from the CAA, government and sponsors is horrific to consider. It is the clear duty of the BHGA to enlarge its sphere of influence to cover all aspects of 'popular aviation', and not to limit itself to rather narrow self-imposed definitions of responsibility.

A recurrent day-dream that I have best expresses the case 'for' powered hang gliding. Imagine you've just finished work on a late summer afternoon. The wind has been light to moderate all day and the lapse rate is high, making the air very buoyant. All major thermal activity is now ceasing, the wind has dropped to a whisper and the yellow early evening light heralds the presence of vast areas of gentle convection. The conditions are too light for soaring unpowered so you clip on your power pack and lope off the local football pitch into the clear evening air.

The setting sun throws long shadows in front of the Downs as you gently roam the length of the scarp slope from Truleigh Hill to Lewes and over to Cliffe Hill. You remember that's where

Kronfeld flew the first English cross-country from back in 1930. At 2000ft. above sea-level the ground beneath crawls past at snail's pace revealing its secrets to you. Chalk pits and valleys you'd never known existed lie exposed for the first time. As you spiral gracefully back over the Glydebourne ridge towards Firle you are amazed that this experience is so easy to obtain.

By the time you reach Firle you will have covered about twenty-two miles and have been flying for an hour or so. You look down and see that your friends have already arrived at the pre-arranged landing spot. The engine cuts and you are suddenly aware of the utter silence as you glide down in the glass-smooth air. A neat landing in the field by the pub car park completes this unforgettable journey.

As you sip your Harvey's listening to the tales of the big-ups, phases of amazing sink and crowded skies related to your hang gliding friends, you suddenly realise that you'll be able to do it all again — tomorrow.



Photograph: Bettina Gray

## THE AMERICAN EAGLET

I am building an American Eaglet (I have no financial connection) ultralight sailplane. It has a 12 horse power engine for self-launch and for air restarts. Basically, for me, engines in gliders destroy the challenge. As an experiment, I am making this craft (the Eaglet) an exception to my rule of not wanting to own a glider with an engine. The L/D is 27, but that is relatively unimportant. What is important is that a great number of these craft are certain to be built in the U.S. Therefore we can have, in a year or two, wonderful "class" competition, much as we do have now with the Schweizer 1-26. Can you imagine the following scenario: Eighty American Eaglets gather at a dry lake in the Southwestern part of the U.S. They have a sailplane contest for 10 days, with a format identical with

modern sailplane championships. The difference will be that instead of being towed up to 2000 feet, each Eaglet will be given two pints of gas and then have the gas tank sealed. Using a combination of power and thermals each pilot will try to solve the equation of the fastest time over a prescribed course. Instead of needing expensive tow planes and the attendant narrow requirements thereof, the Eaglets will have greater "operational freedom".

The Eaglet will not replace my love of hang gliding, but it might be a fun addition to the concept of motorless flight. And it will cost only \$2700 to build.

### Do You Carry an Ego that can Kill You?

A recent crash of a motorized rogallo resulted in a crash leaving the pilot permanently paralyzed from the chest down. It has been only one of many incidents which have led me to want to fly even more conservatively than I have in the past. It makes me want to re-examine, here, along with you, the concept of ego and danger.

This particular fellow had been amazing all of us for months by his bravado and daring and skill why flying a hang glider. His nickname, which all of us used, when referring to him was "Dangerous Dan". His favourite strategem for gaining our "awe" was to come in for a landing on top of the cliff at Torrey Pines, close to the edge of the cliff, and "parachute" his

Phoenix 8 in to a soft landing from a height of about 10-20ft. I never saw him fail to make a spectacular and stand-up landing in the 30 times or so I saw him do this over a six month period. He did get my attention, and I did admire his machine and his skill.

A few months ago he got into flying a motorised rogallo. He was just as daring, just as skilful and aggressive in this "new" flight regime. He made level ground take-offs in 3 and 4 mph winds. He did hammer-head stalls with full power. He landed at spots calculated to most impress us. In short he became contemptuous of the aerodynamic pitfalls which, through the last 80 years have claimed the lives of countless intrepid aviators.

By coincidence, I flew the very same machine in which he crashed. I had been watching him fly three or four flights and he offered me a chance to fly the machine. I accepted because I planned to make the take-off from a super take-off site, into a direct upslope wind of about 8 mph. I flew for ten minutes and then landed in a huge ploughed field below the site. I found that particular motorised rogallo to be very controllable and docile, and felt that I had added another chapter in my

# The George Worthington Column

library of personalised flight.

A week later Dangerous Dan crashed. No hang glider crash was ever so well documented on film. A television crew was at that moment there at the site, for the express purpose of filming Dan's motorised flying. Their film of the crash was photographically perfect. It seemed obvious to me, in viewing the film, that, at about 40ft. Dan stalled, pitched up a bit, full power on, fell off on the left wing, the nose then falling through the vertical, the rogallo then tucked under, tumbled one revolution, structural parts failed, then hit the ground right side up.

I have always respected the stall and all other potential pitfalls associated with flight. I have been guilty, over the past 39 years, of showing off outrageously in the air, at times, much like Dan. I'll admit that unlike Dan, I was very lucky. But the question persists; Is your ego likely to kill you? I can't answer that question in my own case because it would be too subjective. In

# Recent Accidents

by Tony Fuell and John Hunter

## Mid-Air Collision: July 16th 1978

**Site:** Walla Crag, Keswick.

**Pilots:** Ian Grant, Ian Dawler

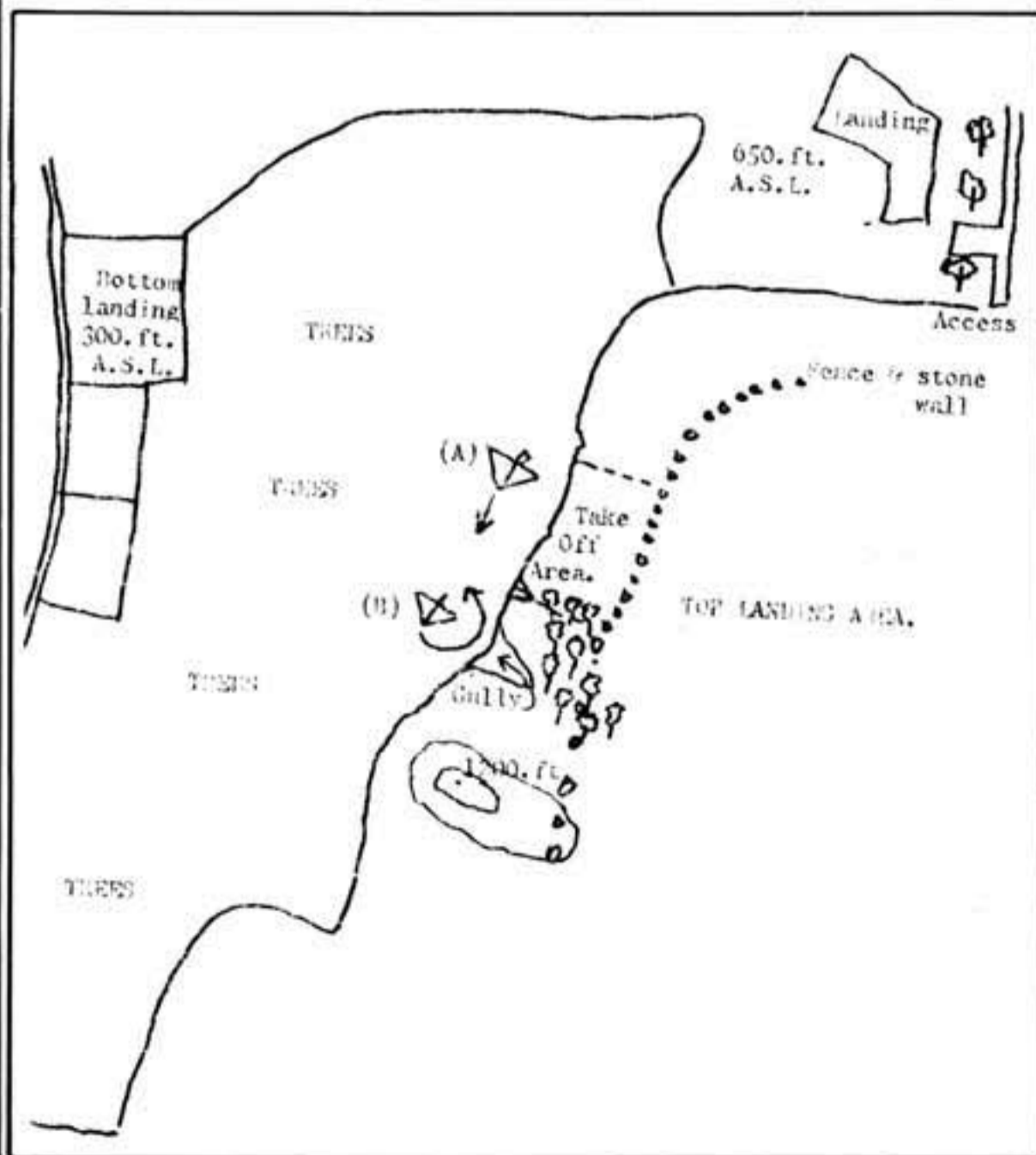
**Gliders:** Hiway Scorpion 'C'; Flexiform Spirit.

**Conditions:** Good soaring conditions; wind 10-16 mph NW; strong thermal activity.

**Description of Accident:** The two gliders were soaring — four or five gliders were in the air at the same time. The incident took place at approximately 200ft. above take-off, 900ft. AGL. The exact causes of the accident are still under investigation, but it is known that the collision occurred after a 360° turn had been initiated by Ian Grant. After the impact, both kites separated, one with the wing folded, and one with a broken cross tube. The first glider spun down, the second descended in a steep dive. Both kites impacted on the hill. One fell 200ft; one fell nearly 500ft. Both pilots got up and walked away. (Ian Dawler had a cut knee).

**Comment from T. Fuell.**

Clearly, the two pilots concerned are the luckiest men in Britain! The odds against both of them surviving this incident must have been astronomical. The whole hang gliding community must heave a sigh of relief — it is easy to imagine the damage that a double fatality could have done to our public image. There have now been at least two mid-air collisions during 1978 — one at Devils Dyke in January, and now this one. It is perhaps surprising that both have occurred when only a small number of gliders have been in the air. Remember — you are NEVER, EVER alone in the sky. Always keep a good look out, stay at least 100ft. from other gliders, and KEEP LOOKING AROUND. Don't float about directly behind someone else, and never initiate a turn until you can see that you have clear air to fly into. If you enter a thermal that someone else is using, remember to TURN THE SAME WAY as him. Also, I strongly recommend any pilot who has reached the stage of soaring to obtain a parachute and never fly without it.



Dan's case I'd have to say yes.

And yet, does this mean that we should all become paragons of conservative flying? No. Each of us must continuously re-evaluate our private mixture of caution and aggressive learning, of showing off and yet being very aware not to get too close to the high risk area of flying. In short, we can, I think fly aggressively, audaciously, and take calculated risks, providing we continuously monitor our performance, our shortcomings and maintain a great respect for the aerodynamic pitfalls such as the stall.

If you talked with Dan today, about his accident, he would tell you that he didn't simply stall. He'd say that "there was something out there, a rotor or a thermal. It caused the accident and there was nothing I could do". Dan can believe that, and maybe his psychological well-being demands that he believe it. You and I must not believe it. Dan was on the windward side of a hill, in the stable marine air which comes in off the ocean two miles distant. The air there has shown a remarkable stability and consistency for years and years. Even that fact is not the vital one. We've all flown through rotors and shears and in thermals. Maybe we've kept control of our craft by staying watchful and alert and by adding a touch of speed when the conditions got rough. I feel that Dan could have flown that area in that glider forever, without crashing, if he had been sufficiently respectful of the laws and dangers of aerodynamics. His ego outweighed his feeling of danger.

### Motorised Hang Gliding

As we all know, there is a phenomenal growth rate in the number of pilots adding power to their hang gliders. I personally find this trend fascinating to watch, but, as I said earlier, for me, it takes the real challenge out of hang gliding. The proponents for power argue that it eliminates the need to find a mountain to use for take-off purposes. In huge flat areas of the U.S., I can understand that argument. But so far, these same pilots haven't written much, about shutting the engine down, for soaring flight, once they have climbed up to altitude. And if they don't shut the engine off, up in the air, they are really just building and flying another low performance airplane, and their argument of eliminating the need for the mountain loses its truth. But, I can see the fun they're having, and vicariously I share in their fun. And I am fascinated by their achievements. It is still very amazing to me that a pilot can set up a machine weighing only 90lbs., start a motor in it, lift it up, run with it and fly off into the sky. However, I wish to point out that this seems more like installing wings on a motorcycle than it does hang gliding.

In conclusion, may I say that I have a great respect for the British hang glider pilot, gleaned from reading three or four issues of *Wings!* I'm sure that he is very good and getting better all the time.

The "World's First Cross Country Hang Gliding Championship Meet" has been held. For brevity I will hereafter refer to it as the XC Classic. It was a smashing success. Over 4000 cross country miles were flown by the average of about 30 pilots who competed. One flight of 76 miles and one of 72 miles were made, during the meet. Fifty pilots entered, but eight of them mysteriously failed to show up. During the eight days of competition another 18 "fell" by the wayside for one reason or another. The largest group to withdraw were six Mariah pilots who decided not to continue after Gary Patmor's Maria broke up after a turbulence induced dive, tuck, and tumble. Kevin Kernohan also had his Mariah dive vertically after encountering turbulence. All of these pilots were aware of several other Mariah diving accidents, and it was not difficult for them to make the decision to stop flying that ship. In addition to these six, one pilot broke his arm during a take-off stall, some pilots quit because they were so far behind in scoring, etc. and so on the last day of competition there were only 24 pilots left. These 24 "survivors" were asked for their comments regarding the meet. Each of them said in effect that it was the best meet of their lives, they never learned so much so quickly, they never flew so high or so far before this, it was a beautifully run meet, and they were eagerly looking forward to next year's Classic.

I personally was saddened that there were no British pilots in the meet. The only non-U.S. pilots were two fellows from Canada.

I have flown about twenty-five additional flights in this area this summer, in addition to the eight days of Classic competition, and I have this to say about the turbulence: In a well-designed and strong glider, when flown by an experienced pilot, and when flown in all areas except (1) the lee of ridges or (2) in canyons, the risk is minimal and entirely acceptable. The turbulence in or near thermals can be rather severe, but it is nothing I cannot handle. I never feel out of control.

I am flying from Cerro Gordo every other day in an attempt to make new world distance records. So far this summer, the weather has been uncooperative as compared with last summer. I had only one decent flight from Cerro Gordo this year. It was in my 10 Meter, was 86 miles in 4-1/2 hours and at times was a real struggle with minimum thermals at only 600-800ft. above ground. But there was one great thermal which gave me a boost up to 17,500 and a new World Altitude Gain Record of 11,800ft. The rest of my flights have been averaging about 25 miles in distance, due to the absence of clouds.

I used to feel that June and July were the months for the best soaring in this area. I have changed my mind and now feel that July and August are the best. I pass this along so that any British flier who wants to fly here next year can know when to arrive here.

# NEWS ROUNDUP



Photocomposition: Major Dudley

## GROUSE MOUNTAIN

The Grouse Mountain International in Canada went off very well with the two top British pilots gaining 11th and 18th place. The event was run off the 4000ft. mountain in still air conditions, the take-off being from a wooden ramp at the summit. At one point competitors were flying over thousands of fans at a pop concert which was being held lower down the hill.

The competition was run on a one on one basis. Two competitors were drawn against one another and had to take off within thirty seconds of each other. From then on it was simply a

task of staying in the air longer than your opponent and landing on a spot. The landing spot was awkwardly placed in a postage stamp landing area surrounded by 100ft. firs. Many pilots suffered tree landings. Reliable reports say that Johnny Carr, Keith Reynolds and Graham Slater all suffered this fate, which says a lot for just how difficult the landing was.

Bob Bailey was to collect a new Wills XC to fly in the contest, but unable to tune the glider in time for the event, borrowed an Alpha. Flying a completely new glider, Bob was unable to find the form that has held

him at the top end of the British Hang Gliding League.

Of the British contingent, Graham Slater and Brian Wood made the final of twenty pilots who started the final fly off with a clean sheet. Ironically the fierce competition to reach the final was discounted and the final flight was based not so much on consistency as luck. Steve Moyes and John Ogden caught the only 'boomer' and managed to thermal from fir covered Grouse Mountain to another bare rock face staying airborne from their 2 o'clock take-off time until the end of the day's flying at 5.30pm. Graham Slater managed

11th position and Brian Wood 18th. This was probably one of the strongest competition fields gathered together yet.

On a day off the British contingent were taken to a 'hot' thermal site where it was said mind-bending flights were commonplace. Bob Calvert eagerly kitted up in his high altitude gear and had his barograph signed. Unfortunately for Bob, he grabbed a perfect sled ride to the bottom where temperatures were in the nineties. To make matters worse a burly Canadian offered to sign his barograph. Needless to say Bob was not amused.

## TWO WEEKENDS IN SCOTLAND

August saw two big breakthroughs in Scottish hang gliding. On Sunday 13th, following a Safety conference, the small SW face of Falkland was working well, as indeed were the larger sites at Tinto and Thornhill. Dave Squires somehow managed to break the old bogey that inhibited pilots from landing or borrowing gliders, and Moonraker '77, Sunspot, Super Scorpion and Gryphon 3 were swapped with confusing rapidity. I doubt if there were any great surprises; differences in handling, sink and L/D were confirmed rather than discovered and the main benefit was probably the psychological one of proving that you could actually take off, fly and land someone else's glider quite competently and that left input actually caused left roll!

The following weekend was supposed to see completion of the Area League but the Saturday on Campsie was wet and the top covered in orographic cloud, though it was soarable provided you could ensure staying below cloud. One pilot didn't and got a sudden view of sheep doing 20 knots. He landed safely. Sunday dawned light and misty, developing into "boomer" weather and at Jim Potts' suggestion, Dave scrubbed the League programme. Who wants to do speed runs along the ridge when you

can be 2000ft. above it?

Campsie has a bottom landing at 350ft. (AMSL), a car-park at about 1000ft. and take-offs at several points, depending on wind strength, between the car-park and the top at 1500ft. There was about 18 on the top and general moderate thermal lift and the only people who went down were either on an off-day or too lazy to carry the glider far enough up the ridge to ensure getting into lift. Paul Miller, an air traffic controller, and a very useful man to have around when you're twelve miles from Glasgow Airport touch-down, fixed a bent deflexor blade and put in a few hours seated in his Cloudbase 21. Bramley Murton, seated in a Cirrus 5, did likewise, and marked a blob, of which more anon!

Of the more experienced pilots, John McKinlay (Oly 160) made the first break, but was probably a little early in the day for he only got about four miles, Dave Squires (Moonraker '77) was next to go, following several moments of bowed-head concentration before take-off. Having gained height he set off due downwind, which required a fair bit of nerve, for this line cut straight across a vast Forestry Commission plantation and a reservoir. He cleared that lot successfully, covering about 8 miles, but the eventual retrieve involved a two-mile walk with the glider and reunion with Liz Squires and the rest of us was about five hours after

departure, causing some concern.

Jim Potts (Oly 160) and I (Super Scorpion), after a few flights in moderate blobs, found our way into the same boomer as Bramley Murton. It must be the biggest single turn-on in hang gliding to get a wing punched up so hard that you're right over for ages heaving it in. I think I was getting about 100ft. per rev., and topped out about 3900ft., seeing Potty heading off. Having announced that I was going if I got 3000ft., I went, and this was where the mistakes started. They told me later I was below a big Cu: I never looked up. Having made the decision to leave the ridge, I left it — straight. Had I continued circling I'd probably have doubled the distance. Anyhow we'll know better the next time. Fintry was reached easily in a relaxing and delightful downwind glide, and I spotted Jim scratching around.

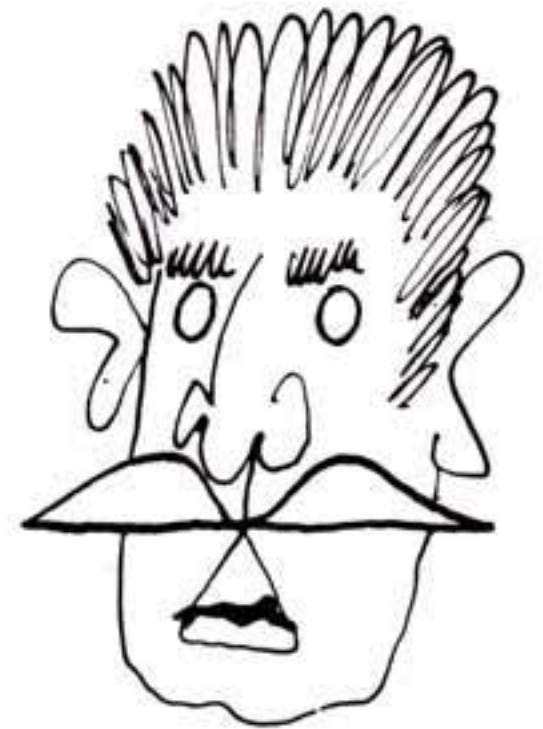
Careful coaxing of L/D got me to a ridge and I managed a beat which maintained height and found gentle general thermal lift, which gave me about 500ft. above Jim. Time for the third mistake. I saw little prospect of going further, so I opted to land near a main road, stretching the distance of a mile by so doing. As I approached the landing, I saw Potty circling away merrily and he got two to three miles on top of my six.

If, like me before that weekend, you haven't yet made the break, take

heart. It's less daunting than you think, particularly if you've 2500ft. above the ridge before you go. I'd forgotten my glasses but even so power lines were easily spotted and I got wind direction clearly and quickly from leaves and subsequently from grass. If you land near a reasonably busy road and chat up the bloke who inevitably stops to watch the landing, you can be back in the air within the hour.

XC must be what it's all about. Have fun — we did!

Ian Trotter



Jim

## MIDNIGHT SUN CUP

Some of the best flying I have ever had in my hang gliding career was in the Midnight Sun Cup, Bodo, Norway, writes Brian Wood. Bodo has both ridge and cliffs 3-4 miles long and about 1200ft. high. Last year with a 25 mph wind straight on the cliffs, the local air base had us on radar at 4000ft. above sea level. Incidentally the air was silky smooth.

This year I wanted to go again, so Lester Cruse, Bob Martin, Mike Atkinson, Rolf Nossen and myself went as the Birdman Moonraker team. This year the weather was much better, but the winds were bad. Most of the time the wind was blowing down the back of the ridge. The boys in Norway had improved a lot and were armed with the latest machines. However, during the free flying, Rolf Lester and I managed to take the invisible trophy for being top of the stack. Mike Atkinson was suffering from his bad neck and to make things worse launched himself down the cliff without glider or harness. Fortunately he only suffered damage to his arm.

At last the wind switched onto the ridge and the competition started. The first task was to fly to a marker and then complete as many figures of eight around two pylons as possible, finishing on a target. It sounds OK, but if the control bar or nose touched on landing you scored zero for the whole flight! And with 1000 points per flight it was a mistake that you couldn't afford

to make. The rules were hard but I liked them.

I was lucky with my landings, as was Rolf, but Lester, Mike and Bob were all dogged with bad luck. We only managed two flights before the wind changed again, so that was the end of the competition. Rolf and I walked away with two nice trophies. Rolf was first and I was second.

I would like to thank the Bodo Club for their effort and hospitality in the competition, Bob Lester and Rolf for the laughs and of course Ken Messenger of Birdman who made the whole trip possible.

## SIGNS OF THE TIMES

The following passage appeared in a paper called 'The New Consumer Review' by Paul Shay, Executive Director, SDI International, California, which was printed in 'Advertising' magazine.

An important emerging life pattern, we think, is that of the Experiential consumer. This is a person who seeks direct experience, deep involvement, intense personal relationships, and a rich, inner life. These people loom large in many of the avant-garde movements; they are active in 'far-out' ideas ranging from astrology, to bio-feedback and yoga, to transcendental meditation, to parapsychology. Their central desire is for direct, often unusual

**'Many of the drives are most easily fulfilled by the young and vigorous. Sensuality and hedonism loom large'.**

'Hockey or Hang Gliding, Boats or Billiards, Tennis or Tiddleywinks. Whatever your sort, two things are certain. First you are going to need sportsgear and sportswear. Second

experience. This leads them to such sports as hang-gliding and camping; to such home pursuits as baking, wine-making, gardening, and crafts; to such pastimes as meditation and study of the occult; and to such activities as politics, volunteer work, and other forms of social participation. Many of the drives are most easily fulfilled by the young and vigorous. Sensuality and hedonism loom large, as do emotion and instinct. Our guess is that about 5 per cent of today's consumers are of this type — a percentage, we think, that could more than double in the next ten years as inward orientation becomes more accepted.

you can buy the best of them simply by playing your Nat West Access card. Go in and win!

So goes the blurb on the latest handout for the Nat West Access card. We would be interested if anybody has managed to purchase a new supership with their Access Card.

*Ed: Three years ago I asked the manager of my Nat West bank for a £100 loan to help purchase my second 229B3. Guess what? — they couldn't possibly see their way to a loan, with various excuses from the danger element to the likelihood of depreciation. Has Derek Evans been nobbling the Bank Managers' Federation I wonder?*

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**IT'S THE GOOD NEWS.**  
 ...machines, perspiration - and your Nat West Access card...  
 ...The answer? Probably something involving track suits, jogging, mild muscle-building...  
**IT'S THE BAD NEWS.**  
 ...If you're not a sporting type - don't like exercise - it may show, particularly around the...  
**It's the sports card**



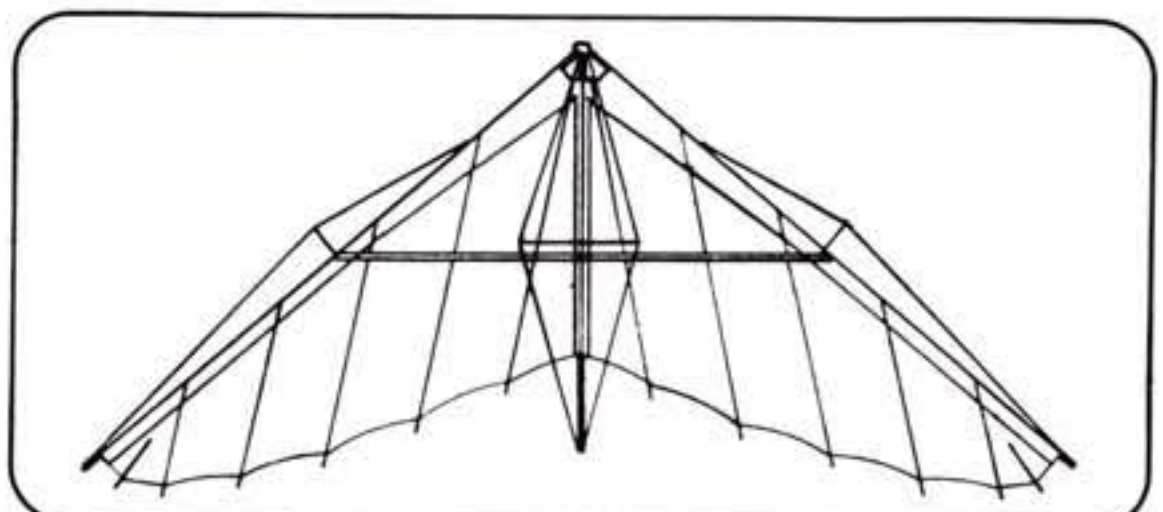
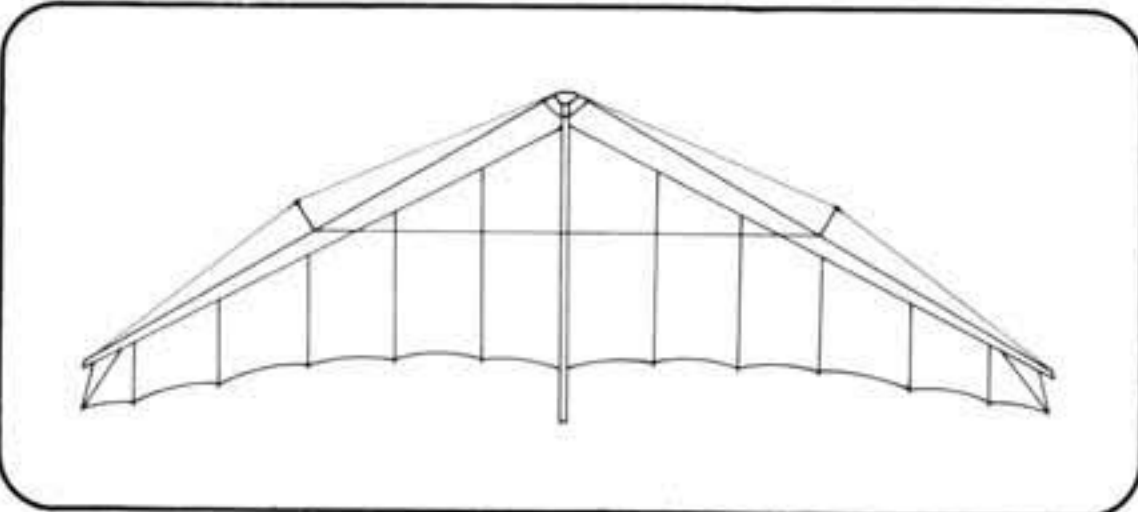
# Sky a Safari

## Fly next year's machine this year

**Safari** Winner of the 5th league, Graham Hobson — 17 miles. Over 18 months of intensive flying of the prototype "Safari" proved to us that we had a winner to follow "Sunspot" and it is now in production. For light winds the medium "Safari" has the min. sink performance to equal the large "Sunspot" and that is saying something. It also has the penetration for strong winds and positive, predictable handling

with immediate response which is so necessary for all kinds of flying. Glide angle at speed is good. The reflexed preformed battens in every seam make the whole wing pitch positive without the need for locked up tips etc. Vertical dive recovery is positive. Safari is a real cross-country machine which easily makes use of thermals and handles the strong turbulence which often goes with them.

For the experienced pilot who demands the best performance but still wants outstandingly good handling. **Sunspot.** Still one of the best all rounders next to "Safari" for fliers of E.P.C. standard. 104° nose angle. A/R 5. Available in two sizes. Prone harnesses and parachutes also available.



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# What We did on our Holidays

## Mount Lachenes

Tony Fuell recounts his holiday in the South of France

The road up the mountain was five miles long. It wound back and forth amongst the pine trees. The air was cool and clean inside the woods. Through the branches I could see patches of bright blue sky. Up at the top, I parked the car in a grassy meadow, unloaded the kite and walked up a further two hundred feet to the take-off point. Mike de Glanville was there, and his Manta Fledgeling was set up and ready to go. The wind was coming onto the NW face of the mountain at about 5mph, although down in the valley it had been a brisk 15 mph. All over the sky were these funny UFO-shaped lenticular clouds. . .

Mike launched. He had to run quite hard but once he was off he floated out over the forested slope and started going up. . . and up. . . and up. When he became, quite literally a mere speck in the sky over the hill, the rest of us lost our amazed trance. I rigged my borrowed Super Scorpion as quickly as I could and stood watching for a while as other people took off. The air was smooth enough, that was obvious — although no-one was getting as much height as Mike. Some, indeed went straight down. And then I realised I'd left my vario in the car. Cursing the delay, I rushed back down the track, just in time to see Mike land the Fledgeling in the meadow. He confirmed that there was wave lift around — he'd landed to put on as



much warm clothing as possible, although it was 'shorts and tee-shirt' weather on the top of the hill (at 5500ft. A.S.L. as well!) He had gained so much height that he'd been really cold. Acting on his advice, I picked up not only my vario, but my altimeter, a down waistcoat and my anorak.

Back at take-off, it seemed that the last three pilots had gone straight down. I gloomily put on all my gear, zeroed the instruments, donned my harness and parachute and clipped in. Maybe I'd blown the best chance of a

good flight I was ever likely to get. From ground observations during the morning, it was obvious that the wave formations were shifting. Lenticular clouds had been forming and dispersing every twenty minutes or so.

I took off into the wind, which didn't seem to have changed at all. No problems. I headed out over the trees — vario on '2 down' — I was in rising air, but not much. Already I was below the top. Resigning myself to a 'sled ride' I headed out from the hill towards a small quarry — just to see if there were any thermals about. Fortunately there were. Soon the vario was blipping on about '2 up' and I was circling in a smallish bubble. A few minutes spent grimly hanging on to the lift put me up to about 500ft. above the top. Something seemed to be happening — the lift area seemed to have got wider, and smoother. Pulling out of my 360's I flew straight out again — still in '2 up', and getting stronger. I went onto min-sink, and thought about circling again, but didn't, since the vario reading was creeping up. It reached about '3 up' and stabilised. I was still flying slowly in a straight line, and I was obviously getting high. The hill was beginning to look a bit small, and the gliders on top were mere

specks of colour. I started to explore the lift, but it all seemed the same — a steady '3-up' over a huge area, the air perfectly smooth. I was obviously well and truly in the wave.

Talking to various people who've done epic flights in hang gliders, one thing that everybody mentions, is that when you get really high things seem to happen very slowly. You hang suspended in a crystal bubble — no sense of motion, no real feeling of airspeed — just the steady buzz of the vario, and the altimeter needle winding up, and up. I had what seemed like endless time to think — I'd read the John Hudson/Bob Calvert article in *Wings!* on wave flying just before I came on holiday. I ran this through my mind for helpful hints. Like John, I was amazed at the smoothness of the air, slightly non-plussed at the height gain, concerned at the possibility of violent turbulence at the fringes of the wave and *very, very* glad I was wearing a parachute.

The view was astounding. Northwards I could see the peaks of the Hautes Alpes with snow

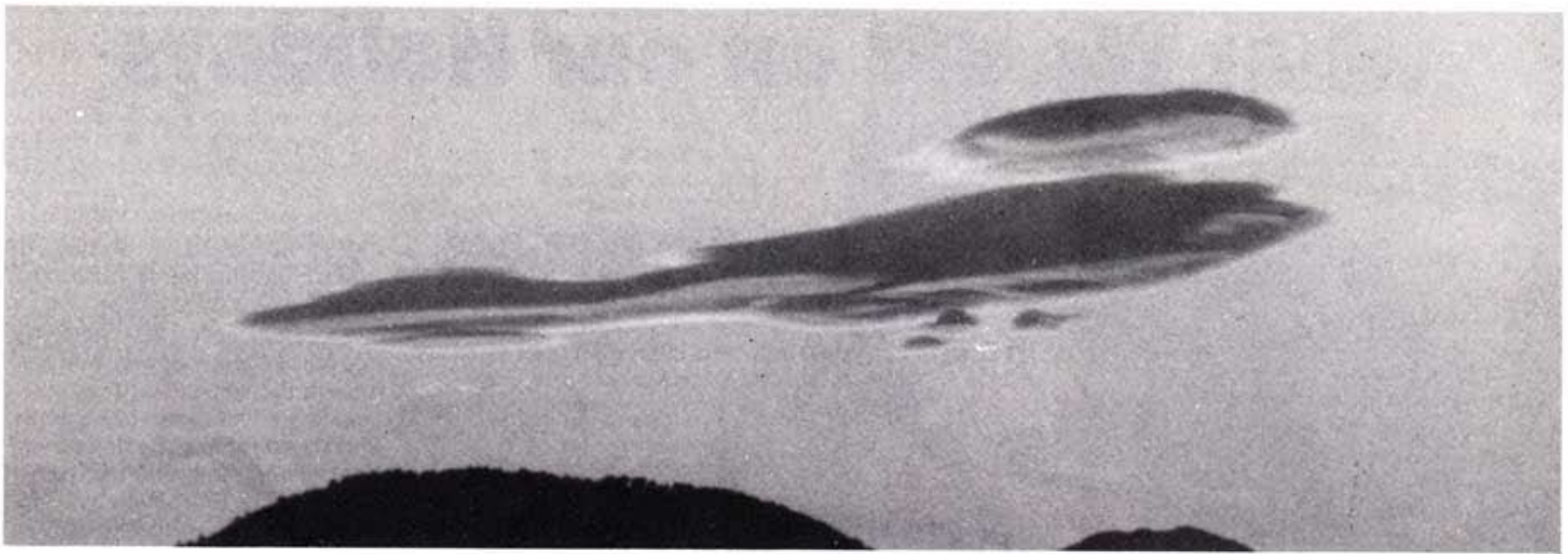


Mike De Glanville lays it down

glinting in their hollows. Southwards I saw the Mediterranean coastal sprawl around Cannes and Frejus. Below me now was the main road — the N85, and the hotel which seemed to be the focal point of the local hang gliding activity, "Chez Marius". I was still flying on min-sink in a straight line, since I couldn't think of anything else to



View from the take-off area



do, and the lift seemed to be much the same all over. Also beginning to run through my mind was the refrain "cross-country, now's your chance, go for it", and thoughts like this prompted me to keep on going away from my hill. Fifteen minutes into my flight, the altimeter said 3100ft. above take-off, which I worked out at 5200 AGL, 8600 (approximately) A.S.L. Certainly higher than I'd ever been before in a hang glider. I was about three miles out from take-off.

How had I got to this fortunate situation? Well, a week or so previously Diane and I had loaded our trusty Ford to the gunnels with camping gear and kids, and crossed the Channel. Newhaven to Dieppe — lots of hassling with the French Customs and police (if you go, make sure that (a) you take the receipts for your glider and (b) make sure that it doesn't overhang at the front of your car — although you can have any amount sticking out at the back). From there, autoroutes took us to Rouen, Paris, Lyons and Grenoble where we started to get into the mountains. Following the N85 Grenoble — nice road for 100km or so, brings you to 'Logis d Pins' — a weeny little village in the outback, overlooked by 2100ft. of Mount Lachenés. The scenery is unbelievable, the weather hot and sunny, camp sites abound. There's a lovely open-air swimming pool — (who gives a monkey's about California?). They only fly this particular mountain since it's got a big radar installation on top, and therefore a good tarmac road up it. There are superlative sites every five miles or so for hundreds of miles around this area, and apart from the ones occupied by the French military, nobody seems to care whether you fly them or not. In any case, they're so big that it's

very difficult to see a rigged hang glider from the bottom with the naked eye, and with scenery of this scale there isn't the visual intrusion that you get on a small hill.

Yes, Lachenés is special, all right. Mike de Glanville runs his advanced flying classes there. I had been very grateful for Mike's advice and help in the week previously. I would imagine that an intermediate English pilot who wanted to combine a family holiday with some unforgettable flying — thermal experience being the main value of the area — they could do a lot worse than signing up on a course there. Getting there is not difficult, although it is a bit costly. Figure for two days on the road (about 750 miles) each way. French petrol is expensive but day-to-day living is not much different from England. Campsite fees are about £10 per week for a family of four. Mike charges about £40 for his courses.

Whatever you do, as an intermediate pilot, don't just blast off onto the Continent and expect to get trouble-free flying. The conditions you will encounter are so completely different from England that you can get yourself into a lot of trouble very quickly. The conditions I was encountering now were completely outside my English experience — wave lift, strong ground winds, wind shears and so on. Two days before, I'd hooked a vario-busting thermal which had given me a 1500ft. height gain in the time it had taken me to do four 360's.

As well as all this, the terrain around Lachenés is, to say the least, variable. Immediately around the mountain are a number of flat valleys which are farmed and which present good clear landing areas — although you have to look out for power

lines. A little bit further out, are forests, and steep ravines with no landing sites for miles. Not to mention the numerous 2000ft.-plus crags which infest the area, and its general remoteness. A downed pilot could be stuck out in the boonies for a very long time. The mountain itself is covered with trees — a Belgian crashed on the north slope early in the week, fortunately quite close to the road. Getting his kite out illustrated just how difficult it could be.

All this, and more was in my mind as I floated over the valley. My reverie was brought to an end, as the vario's tone changed. From a steady hum, it went to single blips, then silence, then 'down'. I immediately turned back, but the lift seemed to have evaporated. There was no turbulence, but I was now coming down at about 400ft. per minute. Time to leave. I turned away downwind, and flew out of the valley along the main road. Twenty minutes or so later my adventure ended in a field about 14km away. I had not found much thermal activity en-route, and while I'd had a glorious ride down from 5000ft., I'd not covered quite as much distance as I'd thought at one time I could. The rest of the day, I was in a daze. I'd been mobbed by French school kids, had my hand shaken by French farmers and I'd spent quite a while asleep beside my glider in 80-plus sunshine working on my suntan while waiting for the pickup vehicle to turn up. The next day, we had to leave for home.

The South of France is a great place for a holiday. The climate is superb (why else do all the millionaires live there?), as is the scenery, the food, the wine, the camping, the women, and the flying. It costs a bit to get there, and to stay there, but what the

hell? It's only money, after all! Apparently you can expect good weather between May and September, although it can get a bit oppressively hot in August and this is when the crowds are at their worst on the coast. From Lachenés, Nice, Cannes, etc. are within easy reach, and there is flying to be had in that direction but one visit to a town convinced us that we were better off in the country. A useful find was that several garages on the N85 take Barclaycards — 'Carte Bleu' — for petrol, which cuts down on the amount of cash you need to take.

Well, that's it really. What we did on our holidays, 1978. Next year will have to be extra-special to come anywhere near it. ☘

*My flight: Lachenés Mt. to Andon, France.*

*Distance: 14km (8 miles).*

*Max. height gain: 3100ft.*

*Glider: Htway/Windmaster Super Scorpion C.*

*Equipment: 'Sky' vario;*

*Thommen altimeter; GQ*

*parachute system;*



# THE EGER KUPA

Dave Worth attended one of the first Eastern Europe National competitions, accompanied by Frank Tarjanyi and Bob Wisely. He relates the story of their visit



Hungary — not the place that immediately jumps into mind when planning a hang gliding holiday, but after reading the invitation to the Eger Kupa in *Wings!* and hearing Frank Tarjanyi's story of the event last year, I decided to go and have a look at what was happening in Eastern Europe. Frank, by the way was born in Hungary and can speak the lingo as well as English. Bob Wisely also came along and with two girl friends, Sandra and Dizzy, the party came to five. In case you didn't know, Hungary can be reached by turning right at Ostende going straight down the E5 for about 800 miles and turning first right after Vienna. By driving straight through Budapest you can't miss Eger, it's sign-posted left just after Gyongyos.

Anyway, our first real stop was at Erlangen (West Germany) when the flywheel of Frank's VW van fractured. After quickly extracting the engine at the services, much to the amazement of the other motorway users who had stopped for a pee, Frank decided it should be replaced and we proceeded to a garage where we spent a very pleasant couple of days camped on the waste ground in the middle of a residential estate. The local inhabitants were very taken by us and spent many an enjoyable moment staring at us, usually from three feet as Dizzy was making some coffee or Frank was taking the engine out for the umpteenth time. (I must buy a VW. With a good engine it only takes 1/2-hour to change the whole van). After a great deal of sparrow German, for that's all it could be called, and the attentions of the large garage fraulein ('Tomorrow ve vill help you!') we

finally got the correct engine and put the old van on it.

We entered Hungary late that night to the strains of Pink Floyd and a Saucerful of Secrets. I had never been this far East and the romantic names of Vienna and Budapest filled me with thoughts about their historic past. So turbulent compared with the relative isolation of Great Britain.

In Budapest we met up with Frank Tarjanyi Senior who was travelling separately with his family and had to leave us at Erlangen. We spent an evening with Ferenc Kiss one of the organisers of the event who very kindly boarded us at a student hostel

where he is a professor. Hang gliding stories were exchanged and translated and as always it was remarkable how the common interest of our sport so easily crossed boundaries of language and culture.

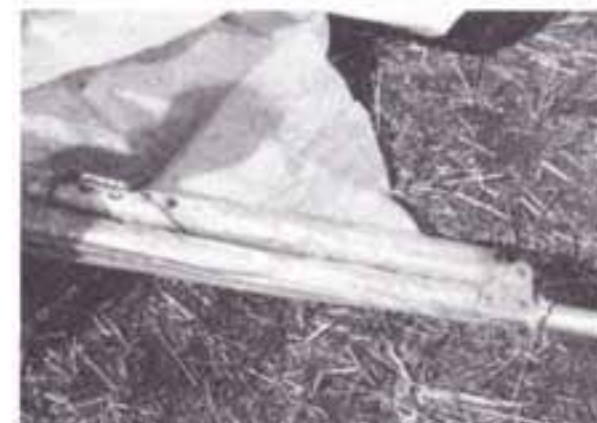
We were impatient for flying, so, with great haste, we travelled on to Eger, spurred by the moderate north westerly wind which rippled flags with an almost monotonous consistency. We knew the main site faced into the prevailing wind and even the tourist brochures pointed out the unvaried nature of the wind patterns. It wasn't long before we were standing on top of the Nagyeged mountain in the same

wind which had followed us for the last 400 miles.

We had all brought Super Scorpions, but Bob and I had machines hot off the production line which had not been test flown. Frank obligingly acted as wind dummy and demonstrated the smoothness of the early evening winds. That evening we felt well satisfied with the flying so far and looked forward to the promise of some better flying. We had purposely arrived a couple of days early for the competition so that we could familiarise ourselves with the site and our new gliders. The main ridge was tree covered and undulated for several kilometres to the right of take off. The rear side of the ridge (southerly) did not have the same drop as the main side (900ft) but was said to be the best thermal producing area. Unfortunately, the two days before the contest were overcast so we were unable to test the thermal potential of Hungarian flying. The North West wind did persist though and we managed some excellent ridge soaring. Top landing meant a very tricky low level approach through a gully of trees at right angles to take off with no room for error. I made an error coming in with too much height I was faced with the unnerving experience of trying to lose height behind a line of trees in a 20 mph wind. Eight feet from the ground the inevitable rotor got me and I was uncerimoniously dumped hard on the ground. The back of my helmet somehow managed to deliver a smart karate chop to my neck giving me temporary amnesia and a definite scatty brained feeling for the next couple of days.

With most of the competitors arrived and the competition about to start, Big D did his stuff and the wind dropped to zero. A large contingent arrived from Czechoslovakia, there were a couple of Russians, (did you know there are 5,500 flyers in Russia), several Poles, a Norwegian, a Swede, us and of course the Hungarians. The atmosphere of the meet was extreme enthusiasm but with a much more relaxed air than marks most of our competitions back home. More like Cam Long Down three years ago. Everyone wants to win, but no one cares if they don't.

In Eastern Europe there is a great lack of materials for hang gliders, particularly sail cloth, which is impossibly expensive. Consequently all the kites were home made (no manufacturers) with whatever materials are available. Polythene sheeting was extremely popular with heat welding for seams. Swaging usually meant passing the cable ends



Top left: A Czech cross boomless with endplates. Top right: One of the plastics. Bottom left: Another cross boomless Czech kite with a 37ft. span. Bottom right: The retrieve lorry. Right: Close up of a plastic showing swaging.

through copper tubing, hammering the tubing flat and twisting into a sort of helix with vices. Kite design was extremely varied, but mostly based on the Flamingo, — trunc tips large amounts of camber and washout.



*A Hungarian cross boomless plastic*

Because all the gliders have to be home built, the pilots mainly seem to come from engineering background and have a sound knowledge of aerodynamics. A sharp contrast from the 'buy and fly' age we live in in the West. A large percentage of pilots also have conventional gliding experience so that despite poor resources the standard of performance of the gliders and their pilots was extremely high. Something which niggled me more than once, when I was parked 100ft below a polythene. With no manufacturers, it is accepted practice to measure up different models with a view to either copying or incorporating design details into their own models. A



large number of finned kites may have indicated the influence of Frank's Scorpion last year. This year, the cambered sail of the Super Scorpion and lack of deflexor type accountments caused a lot of interest and we all received a fair pasting with the ruler.

The competition was run perfectly. Briefings in four languages did not seem to impede the smooth running of flying. One flew whenever one felt

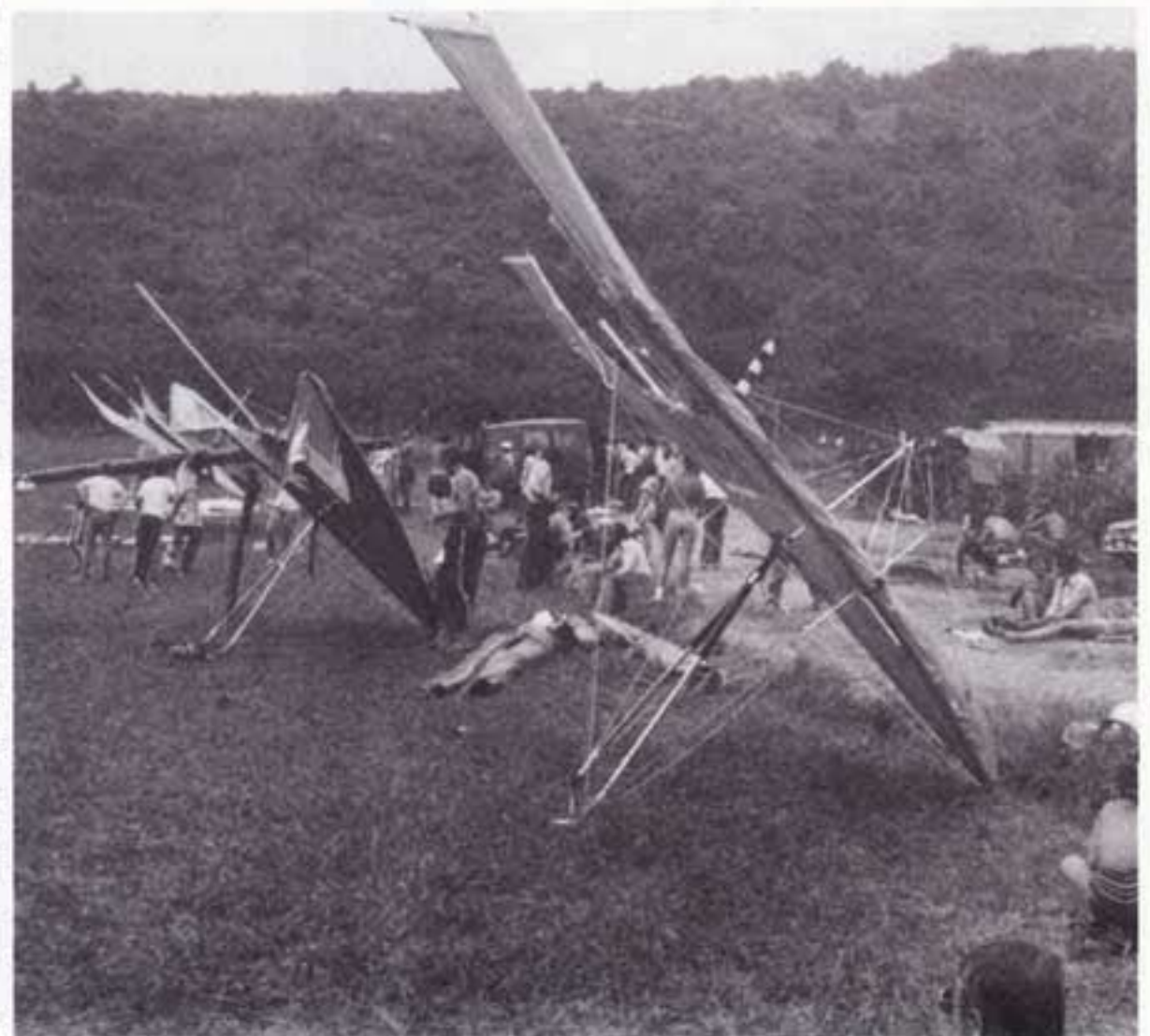
like it. Once on the take-off line, permission for take off was given by the chief marshal, your number taken (and kite colours to avoid confusion) and your exact take off time noted. On landing, a second marshal with a synchronised watch noted your landing time. No complicated pylons, just free flying. The rule book, printed in four languages covered every aspect of the competition rules including air manners, how to fly thermals and details of tasks to be achieved. There were magnificent pot trophies for different achievements throughout the week of the event. The overall aim was for pilots to achieve the FAI Silver C tasks, so cups were awarded for the longest flight, the highest flight (Barrograph necessary), farthest flight, most flights and a goal flight. It was a pity the weather did not favour us because one or two short periods of soaring and a few big thermals made nonsense of the many downhill flights which amassed very little time. We were on holiday as well as flying so we did not go mad rushing up and down the hill. In other words we came nowhere. At the end of each day a bottle of wine could be had for kicking over a sponge bail. Bob concentrated all his efforts into collecting bottles of wine and many a time we would have to wait for him to have one last go at the bail.

The evenings were spent lounging in the warm spas which are found throughout Hungary. Two pounds would buy us a three course meal with caviar (25p) and wine in a first class hotel, not forgetting the gypsy musicians. You could drink all night for next to nothing, in fact it seemed almost impossible to overspend unless you were really gluttonous. Eger is a holiday town for Hungarians and was a charming place with plenty of life and its not impossible to find the odd girlfriend there (ask Frank). There is an open air cinema, discos and wine cellars for wine tasting. It was at these cellars that a barbecue was held for all the competitors. The hungarian form of barbecue is pork fat and raw onion roasted over an open fire. After half and hour of knuckle burning effort I had a smaller piece of pork fat and raw onion burnt on the outside. I am told it is delicious.

At the end of the week the prizegiving was held with several important government officials present. A hungarian pilot received two trophies for height gain and distance. He flew 15 kilometres on a plastic kite after catching a thermal in no wind. I estimated his height gain to be about 3000ft. but my grasp of Hungarian couldn't confirm that. The Diligence prize for most flights went to a Czech and the longest flight of 45 minutes went to another Hungarian. The goal flight was unclaimed. As well as the main cups, a certificate and souvenir tumbler were presented to every competitor and helper. We all had the glory of walking up to the stage, shaking hands and taking the prize under the dazzling of camera flashes. For two minutes I knew what it

was like to be Brian Wood or Bob Calvert.

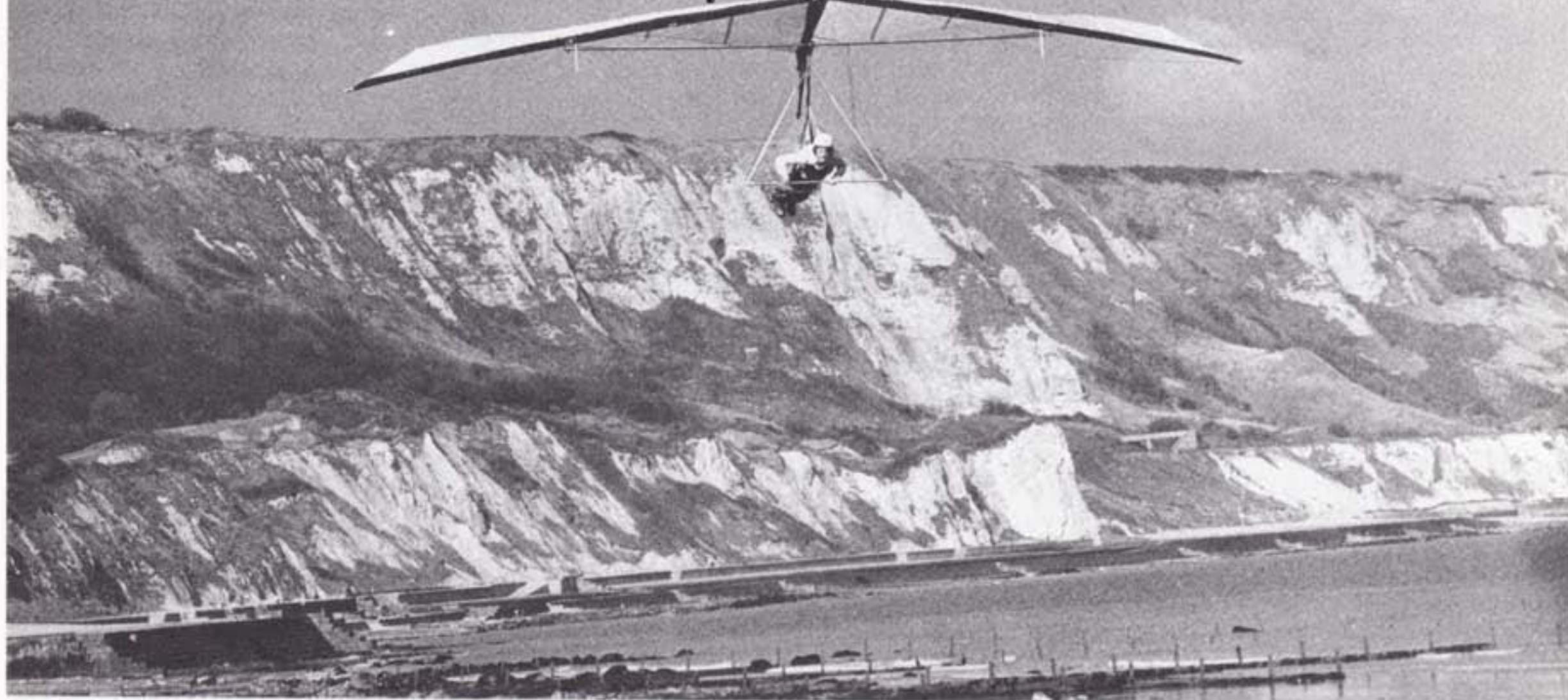
The Hungarians are struggling for official recognition of their sport. This seems imminent and when it does happen there is the chance that the facilities for hang gliding will rapidly supercede those we have in Britain. If this does happen, I think we will soon be looking East as well as West for new strides in the development of our sport. Is Hungary worth going to for a hang gliding holiday? I think so. I won't pretend the sites are the best in the world, but the weather is consistent, the pilots are keen and very friendly, the country is easy on the pocket and you can guarantee to have a good time.



*Top: The Nagyeged Mountain with Dave and Frank thermalling over landing area. Middle: The 800ft. site overlooking Budapest. Frank waits to take off. Bottom: The landing area and two Mariahs.*

# The Dover and Folkestone Hang Gliding Club

by Ivor John



*A rare shot of landing approach, for aerobat Robin Pattenden is seldom captured in level flight!*

Any hang glider who ever has to live in Kent for any period of time can be assured of some good flying with the Dover and Folkestone H.G.C. Kent isn't the Heathrow of hang gliding, but anyone who visits will find there an ever-active group of dedicated fliers (when wives permit!). The sites are invariably busier at weekends than on week days, but a couple of phone calls can usually rustle up a few fliers at any time if conditions are good.

The club has negotiated a number of sites scattered through the North Downs, but most of these tend to be small-ish bowls rather than good ridges, so the three favourite sites are all coastal, namely Herne Bay, the Warren, and Crete Road. These face N, SE, and S respectively, so flying is usually possible at all times unless the wind is westerly, in which case fliers find happy recluse in the Downs.

Crete Road is the most versatile site on the west side of Folkestone, being a 300ft. chalk escarpment 1-2 miles long with easy bottom landing in open fields, reasonable top landing, and a road conveniently running along the crest. Stringent conditions imposed by the land-owners in earlier years have been



*Wireman Roger Honey bravely perches on the cliff-edge to provide Martin Brenchley with assistance at take-off.*

unofficially eased recently, largely as a result of good site management by the D. and F. committee. Parking in the road on the top by spectators sometimes causes undesirable congestion in summer, but this is rarely a major problem when you have a police inspector as your club secretary! This is a good site to make progress on, and although the air gets a bit bumpy in winds over 25 mph it does give good soaring in SE-SW winds. Regrettably, the long-term future of Crete Road is threatened as the proposed M20 extension passes right through the landing area. What a tragedy it would be if the perpetual disturbance of combustion vehicles

should ever replace the sweet serenity of hang gliders at Crete Road.

If the wind backs round to SE at all, then you'll find the more experienced fliers immediately packing up at Crete Road, heading wrecklessly across Folkestone onto the Dover Road, and sneaking hurriedly past the Valiant Sailor pub to the edge of the spectacular 500ft. cliffs that sweep east out of Folkestone and round the 8 miles of coast to Dover. This is the Warren, a site with incredible potential which has regularly proved its worth. It was from here that Ted Salisbury made that memorable Folkestone to Dover out and back flight on

29th January, 1976, an achievement which stands as a notable milestone in hang gliding's short history. It is unfortunate that SE winds are comparatively infrequent, but when the chance to fly the Warren does come the experience of even a top-to-bottom is hard to express in words.

There is no alternative available to the classic cliff take-off, and the wireman is often as nervous as the pilot, but once away, the flight is a dream with air "as smooth as wine". Flying here is a rare experience; if you fly cliff sites like Beachy Head or Constitution Hill then you probably have some idea of what it's like. Perhaps the Warren is unique, though.

But what of Herne Bay? Here is the complete antipole of the Warren! This site could easily occupy a page or two in the Suffolk Floaters Site Handbook, as it is a line of shallow hills and stumpy cliffs extending for 2-3 miles east of Herne Bay being nowhere higher than about 80ft. Soaring is unexpectedly easy in winds of 16 mph plus, and there is the added advantage that going down means only a short walk back to the top! This rather ordinary-looking site has given greater scope to the flying possibilities here.



Flailing feet signify that Ivor John is airborne with the panorama of Folkestone harbour in view.

There exists a friendship in the D. and F. club which ensures that flying is always enjoyable; even the cut-throat atmosphere expected at the annual competition is tempered by pilots' reluctance to place too much significance on winning the event. The club meets in the Swan at

Sturry once a month for a social evening, to discuss important business, to show films etc. (This is just a subtle move to keep the wives and girlfriends happy, really!). It is a practice to be recommended.

It would be an injustice not to mention the names of just one or

two of the stalwarts and characters flying here. Few people in hang gliding today do more work for the sport than does Ted Battersea, who is the club's long-standing secretary and the editor of the recently innovated magazine, Skybird. Martin Brenchley lends a solid hand in

dealing with the administrative duties, and Phil Hart does the essential job of distributing the whisky to the farmers at Christmas. There is a real belief that Robin Pattenden will be the first to cross the channel completely *unassisted*, whilst Bionic Bob was bestowed this topical title for regularly carrying his old CB 240 up the hill more times in a day than most would in a year! Nobby Clark travels miles and miles to fly each weekend — he's got it bad!

Derek Austen has found himself slotted in the Chairman's seat through his warm and unassuming personality and exemplary enthusiasm on the hills. (He even helps with repair jobs if you ask him nicely!) It is a great asset to have Derek and Anne in the club. Hang gliding is set fair in Kent and things can only improve now that Ted Salisbury has sold his shop to run the Kent Hang Gliding School full time. You'll be welcome to come and fly with the Dover and Folkestone — just give Ted Battersea a ring beforehand to let them know you're coming. (Littlebourne 614). ☺



# INSURANCE

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CAPITAL SUM IN THE EVENT OF: DEATH, LOSS OF LIMB, (OR USE OF LIMB), OR EYE, OR PERMANENT TOTAL DISABLEMENT

Code	Cover	Premium
A10	£10,000	£13.00
A15	£15,000	£19.50
A20	£20,000	£26.00

WEEKLY BENEFIT IN THE EVENT OF TEMPORARY TOTAL DISABLEMENT (Totally unable to follow occupation — maximum 104 weeks excluding first 14 days).

Code	Capital Sum Benefit	Weekly Benefit	Premium
D20	£2,000	£20/Week	£10.00
D30	£3,000	£30/Week	£15.00
D40	£4,000	£40/Week	£20.00
D50	£5,000	£50/Week	£25.00
D60	£6,000	£60/Week	£30.00

NOTE: A10 can be added to any of the D Series.

MANUFACTURERS, THEIR EMPLOYEES AND INSTRUCTORS PLEASE ADD 50% TO THE ABOVE PREMIUMS.

No Proposal Form is required, provided you are between 16 and 65, warrant you are fit and declare any serious accident or illnesses during past five years, we can normally give cover immediately we receive your NAME, ADDRESS, AGE, OCCUPATION, GLIDER DETAILS, B.H.G.A. OR LOCAL CLUB MEMBERSHIP NUMBER AND CHEQUE.

### GLIDER ALL RISKS — INCLUDING THE AIRBORNE RISK

As notified in last month's *WINGS!*, it is now possible to cover Hang Gliders for the airborne risk as well at a premium of £10 for each £100 of value, but with a £25 excess. Please send details of your Glider for quotation.

### GLIDER ALL RISKS — EXCLUDING THE AIRBORNE RISK

Full Ground Risks but excluding flight risks and first £5 each claim (£10 whilst Glider is rigged). Includes 30 days use in Europe each year.	£300	£ 7.00
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RATES FOR CLUBS, MANUFACTURERS, SYNDICATES AND WORLDWIDE COVER ON APPLICATION

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There need be no premium loading to cover the Hang Gliding risk for your Life Policy, your Endowment Policy or House Purchase Policy. Just tell me your requirements.

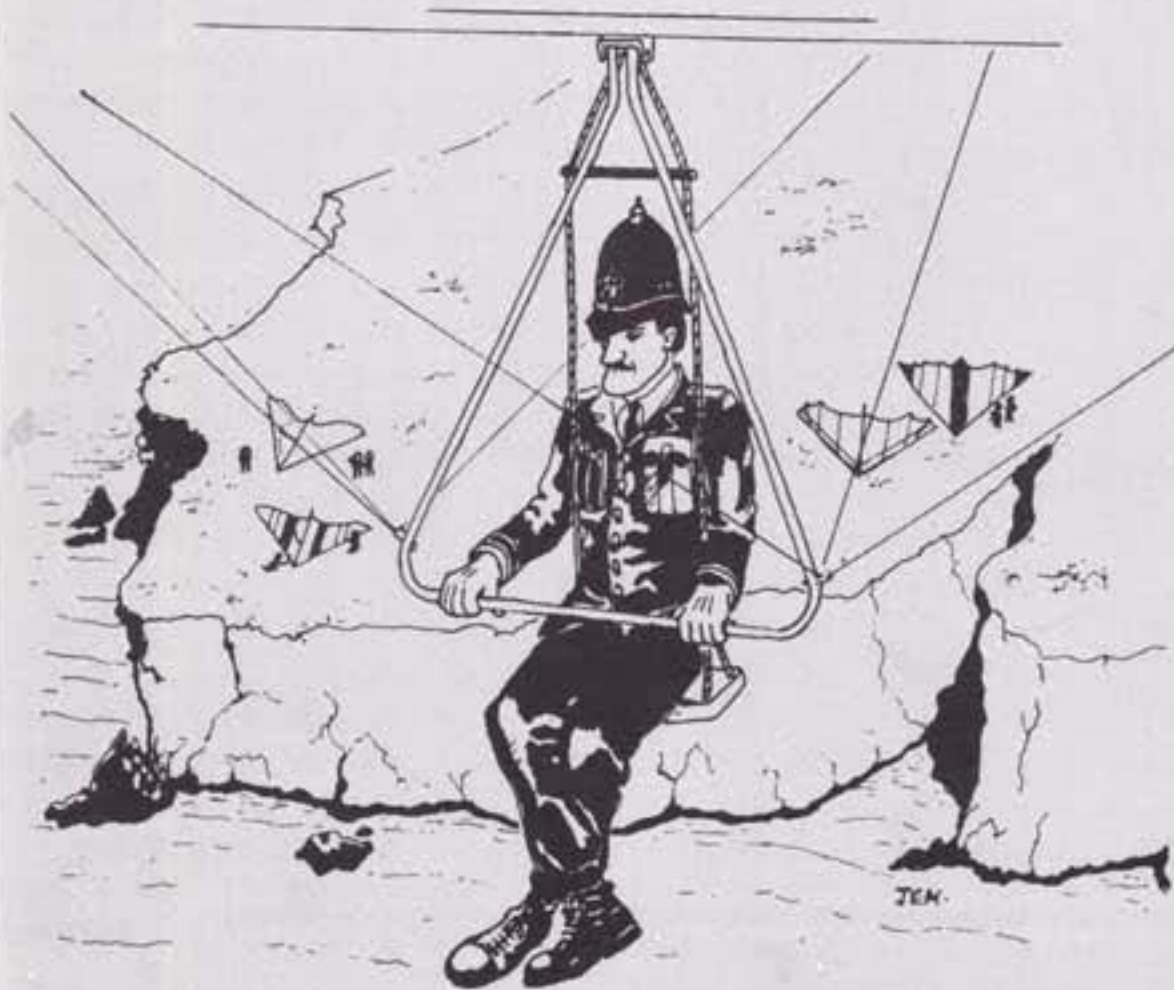
### CLUB LIABILITY POLICY

B.H.G.A. Master Policy provides £500,000 Public Liability Cover for the flying activity of every B.H.G.A. Member. However Clubs are required to have their own Policy to cover Club Committee and Members, Wives, Girl Friends, Associate Members etc. and to meet National Trust, Landowners and Local Authority requirements. Cover is valid throughout Europe.

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# INFORMATION



The Flying Squad 'on the beat'

## WINGS! MAGAZINE

David Worth is resigning as editor of *Wings!* after publication of the October issue.

Applications are invited for the following posts with *Wings!* to take effect from that date:

1. Editor — who must have some editorial experience and a high standard of English.
2. Circulation manager — to be in charge of promoting circulation of *Wings!* by subscription in Britain and overseas.

Please send applications and details of experience, reasons for applying, and personal hang gliding history, to chairman of BHGA Editorial committee:

Jeannie Knight  
10 Spring Gardens  
Washington  
West Sussex  
Tel. Ashington 892770

Closing date for applications is 15th August 1978.

## AMERICAS CUP DRAW

The closing date for the Americas Cup Draw is September 29th. This is your last chance to send your tickets to Derek Evans. Full details of the draw appeared in August *Wings!* First prize and second prize is a hang glider of your choice. (Chosen from Birdman, Chargus, Hiway, Skyhook or Waspair)

## Corrigenda

Turning, Turbulence and Flexwings by Everard Cunion. The bracket in section 2 should read — '(not twist as in washout)' Top right hand corner on page 18 should read — 'tight turn', not 'right turn'.

July *Wings!* If the Seagulls can Do It was written by David Ball of the Lothian Hang Gliding Club, not David Bell as printed.

## PROBLEMS AT HEAD OFFICE

Due to illness, Jeanne Foster has had to stop working completely, thus leaving us without a Membership Secretary until we have appointed someone else (which should be by the time you read this).

Audrey Evans has made several trips to Taunton, thus easing the situation considerably. We are, however, still faced with a backlog of work, which will take several weeks to clear, so please be patient if you are awaiting a reply from Taunton. We will give priority to urgent matters, and deal with routine ones as time allows. Please help us by making sure that Membership cheques are signed and made out for the right amount.

## MEMBERSHIPS

Memberships numbered 8459 to 8749 are due for renewal on 1st October 1978.

## DE-REGISTRATION

At the Council Meeting held on the 20th of August, '78 an Investigation Panel of three Council Members reported that the Birdman Flight Training School at Mildenhall, Marlborough had not complied fully with registration requirements. This was after a full investigation following a complaint by a pupil. Ashley

Doubtfire attended and the matter was fully discussed with him. Council accepted the findings, and removed the Birdman Flight Training School at Mildenhall from the list of hang gliding schools on the BHGA Register. It instructed the Training Officer to make himself available to Ashley Doubtfire to detail the precise requirements for BHGA registration, and to recommend re-registration of the School to the Chairman of the Training Committee as soon as he was able.

## Hang Gliding Guide

Which Hills? Which Kite?  
Which School? etc.

By Mike Adam 50p

Your old glider taken  
in part exchange for new XC,  
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## GROUSE MOUNTAIN 1978 FINAL SCORES

PLACES	Name	Points
1	17 STEVE MOYES	33558
2	24 JOHN OGDEN	31229
3	11 JOHN OUTHIE	28319
4	66 RANDY ROUCK	27986
5	54 JOHN DAVIS	26330
6	35 SEAN DEVER	26071
7	37 TOM VAYDA	22628
8	65 GLEN HOCKETT	22261
9	32 JOHN BRANT	22226
10	2 ROY HAGGARD	22185
11	23 GRAHAM SLATER	21401
12	25 CHRIS PRICE	21314
13	18 STERLING STOLL	21171
14	26 LARRY TUDOR	21105
15	38 DEAN TANJI	20925
16	15 JOE GREBLO	20661
17	22 MIKE QUINN	20570
18	73 BRIAN WOOD	20156
19	10 RICH GRIGSBY	20029
20	42 MICHEL BERNASCONI	19581
21	57 JAMES LAWRENCE	19386
22	27 J.C. BROWN	18538
23	8 GENE BLYTHE	18518
24	16 DAVID BEARDSLEE	18382
25	6 ROBIN PEDERSON	18290
26	20 PHIL MATHEWSON	18039
27	12 KEITH NICHOLS	18032
28	45 ANDREW BARBER STACKY	17997
29	85 BOB CASE	17931
30	39 MARK SCHWINGE	17699
31	49 JERRY JACOBSON	17698
32	47 MIKE JONES	17622
33	31 GEORGE WHITEHILL	17602
34	72 BOB CALVERT	17592
35	29 TOM HADDON	17575
36	5 LARRY CROOME	17546
37	84 RON HANLEY	17475
38	71 JOHNNY CARR	17357
39	1 RANDY CAIRNS	17351
40	77 KEITH REYNOLDS	17006
41	36 JOHN FREEMAN	17003
42	75 MIKE BENSON	16964
43	79 MIKE IRELAND	16874
44	86 BURKE EWING	16671
45	33 MICHAEL GILES	16626
46	28 STEVE REHFELD	16577
47	3 MILES HOPKINS	16242
48	40 JOHN SEARS	16081
49	19 ROB BAILEY	15822
50	41 JEFF FARGHER	15623
51	67 BOB HOLLISTON	15608
52	62 BRYAN ALLEN	15600
53	51 MARTIN DENNIS	15548
54	83 RICK POYNTER	15247
55	44 PETER BROCK	15037
56	14 MARTY ALAMEDA	14958
57	56 GREGG PATRONYK	14903
58	7 GORDON ACRI	14864
59	80 BARRY GORDON	14760
60	68 PETE HOLDEN	14378
61	76 JIM MACDOUGAL	13994
62	46 RON ATKINSON	13964
63	70 CAROL FELDMAN	13781
64	59 JOHN HUDDART	13734
65	34 STEVE McCORKLE	13671
66	64 JOHN DRESSER	13148
67	30 GRAEME BIRD	13144
68	4 DAVE CHERNOFF	12952
69	52 JIM HOOVER	12873
70	60 RON SAFFOLD	12743
71	81 LINDA TRACY	8948
	9 DEAN KUPCHANKO	
	21 CHARLES SAUGHMAN	
	53 DAVE FREEMAN	
	55 DAVE BIGELOW	
	81 MIKE PRINGLE	
	83 TERI HUGHES	
	78 PAUL COURTNEY	

WITHDREW



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# AIRMAIL

continued from page 8

mine or dozens of others — but we don't do it for the simple reason, if we are seen to do it, you may be sure everyone else whether competent or not will be tempted to follow.

We will then be back to the situation of three or four years ago when we nearly lost the site because of the series of incidents which Nick knows all about.

'Rules', whether speed limits or 'Air Laws' are not designed for the outstanding driver or pilot but for the mediocre one and a civilised society is based on the premise that we have to give up a certain amount of our 'freedom' to ensure the retention of greater freedoms. In this case being free to use 75% of a marvellous site 75% of the time; by 75% of the people who want to.

My sympathies are entirely with Nick and J.S. Cousins (thank you for a marvellous letter!) I too hate 'Rules' — and helmets — and seat belts — and bureaucrats, whether crested or otherwise, yet without them where are we?

We are *not* as free as the birds and can *never* be. A bird is free to do its own thing — to let its droppings fall where they will. We are not. We have to think of who is below us and around us.

You say Nick, the Club has nothing to offer you: yet supposing, just supposing, one day you got into trouble — who do you think will come running to your aid — who will summon the Coastguard, call for an ambulance etc.?

If we have nothing to offer you why do you bother to come and fly at Rhossili at all? Ireland is the place for people like you, enjoy it while you can, for the freedom they have there now is a wonderful thing, long may it last!

But when they find as they will eventually — that some fliers can be very inconsiderate, that they do climb over walls, land in crops, disturb sheep, leave their rubbish behind etc. etc. then gradually fliers will find they are not so popular or so welcome.

Nick, you may not do these particular things, but the example you set will cause others to show the same contempt for 'Rules' and could eventually result in us losing that freedom that we still retain.

We are supposed to be responsible people and you Nick — especially you of all people, should accept your share of that responsibility by learning to conform — just a little — much as you hate it.

I must agree that perhaps Rob's letter was not strictly necessary — that perhaps the judicious use of a blind eye might have saved us all the trouble of writing.

But then Rob takes, quite rightly, his duties most seriously. He makes a far better site officer at Rhossili than ever I did.

He has collected far more site fees

than ever I did. Let anyone beware of coming to Rhossili without a Welsh Club Sticker whilst our Rob is around!

Nick — I think you do have a point about the restrictiveness of the Flying Rules at Rhossili and I do feel they should be completely redrawn. They were after all produced under great pressure when all we had were standards and we had to produce something, quickly, to satisfy the authorities and preserve the site.

At the time — the rules were first class — now with the new machines we have at our disposal, they must be modified to enable us to make the best use of the site.

After all — Rob, if we are entirely honest we have to admit that the 'Rules' are being 'bent' by more and more of us because of their very antiquity and inappropriateness.

When the Rules are not respected by the majority of experienced fliers the time comes when we have to change the rules and not discipline the fliers.

So after all this — what is the answer to the question — is Nick Regan Guilty or Not Guilty? Damned if I know.

Mike Adam  
South Wales

## RULE OF THUMB

Dear Sir, Who could disagree with Robin when he says in *July Wings!* Airmail column that there is no substitute for careful design. However, there is a factor which he left out of the equation.

True, for any tube of given material specification and mass per unit length the internal diameter, external diameter, and stiffness become greater as the wall thickness becomes less. That is all very well, but the stiffer tube is less able to tolerate local forces such as are imposed at bolt and wire attachment points. In fact as the wall thickness is reduced, there comes a point at which the extra stiffness is useless because such fittings then need multiple fixings with sleeving and a little further along in the scheme of things, a change to glued jointing would become expedient. Structures with redundant members indeterminate forces also warrant consideration in this connection.

Plenty of good engineers are capable of producing good gliders by copying commercial products to the letter. However, once the home builder shifts a dimension by as much as a 1/4 in. or changes a material specification, then he is designing no less than if he produced the whole design and he has to be something different from the average good engineer. Bolt specifications are extremely important, but facts and figures are not the end of the story.

I rate 'rule of thumb' very highly. This phrase sums up an individual's total design experience. The central nervous system integrates, differentiates, and handles all sorts of mensuration as though Lunar Module computers were bicycle torches. 'Rule of thumb' built the Chinese 'jeep' almost overnight by a process of

putting it together, seeing what happens, then cutting bits off and welding bits on and seeing what happens again. All the technical knowledge around the World is unable to put together a few Integrated Circuits capable of driving a Motor Car on our roads reasonably well and yet people manage the task. Concorde designers knew its maiden flight unstuck point to within a few feet — but it still needed a test pilot. If it were possible to calculate completely the behaviour of flying structures then airliners would come off the production line without testing and start hauling passengers immediately.

'Rule of thumb' will often produce an idea which needs checking out with the pocket calculator, but generally speaking, 'if it looks right, it probably is right' is a concept usually valid in its own right although figuring little in the design of many consumer products. I would not say one technique should be the slave of the other but practical testing of experimental structures, application of the appropriate equations, and 'rule of thumb' are all useful when integrated together. Striking the right balance is central to the designers' art: especially concerning aircraft where, for those who are not so clever as they think they are, there is the ultimate price to pay. Speaking of Dave Cook, I would be happy to test his prototypes any time he is silly enough to give me the opportunity.

Vernon Girling  
Norfolk

## RESPONSIBLE USE OF MONEY

Dear Sir, I note from the resume of Council Matters in the July issue of our magazine that large sums of Association monies are to be expended sending teams to compete in the European Championships.

I fail to see how enhancing the flying skills of already experienced pilots can further the interests of the BHGA or be of assistance to the rank and file membership. It is my contention that the money would have been better utilised either partially offsetting the cost of MERE or initiating a feasibility study and survey for the proposed National Hang Gliding site.

Whilst the need to keep pace with developments in the sport is accepted, surely one BHGA observer to review progress in kite design, flying techniques, etc. at these championships would have served the same purpose.

Members have a right to expect that the Council use their money responsibly and where there is doubt in major issues such as this, to seek the views of the members they purport to represent.

In urging the Council to reconsider this matter may I point out that these are personal observations and do not necessarily reflect the views of my club.

D. George  
Isle of Wight  
Hang Gliding Club

## WET RUNS

Dear Sir, As diving officer of Hydro-Quest Underwater Group — a member of the Sub Aqua Association, I and two other members have recently taken up Hang Gliding. We know and understand the problems and fears of BHGA members who are likely to fly over the sea.

As diving officer, I would like to offer the opportunity for any pilot who is interested to: (1) Learn the correct use of a life jacket. (2) Arrange to meet at a local quarry for a winched drop into clear water — not salt or chlorinated with their glider, with full diver back up. Escape requires practice and training.

For a seated flier, any of the life jackets carrying an air cylinder (ABLJ) would prove adequate, but no one would want to fly prone with a 10in. cylinder in their guts.

Similarly inflating the life jacket whilst under a sinking sail will not help you, it will reduce your chances of escape by slamming you into the sail. The best system would be to suspend the life jacket from the heart bolt with velcro tapes and in an emergency rip the jacket from its location and breathe off the cylinder until clear of the glider, then fit the jacket correctly.

Compressed air has to be treated with respect — or it *will* kill, so if you live in the Birmingham area — 8.35pm Thursday evenings at Spark Hill Swimming Baths, it will cost you 40p per session. Or contact me at 021 632 6758 daytime.

A word of warning, putting on a face mask is addictive — once the underwater world grabs you — you become hooked, and as most sports, diving is done at weekends and there could be a division of loyalties.

Ian Hazlehurst  
(Diving Officer)

## LIFE JACKETS

I read the article regarding sea landings. A couple of years ago I went in for a competition that required landing in the water of the River Severn. At my first flight I did not use a life jacket and found that I was able to unclip and get out quite easily.

On my second flight I was asked to wear a life jacket. I found that as soon as I released from the hang-point the life jacket kept my head above water. However to get away from the glider I had again to submerge, and had difficulty in keeping under long enough to get free. I also found that the life jacket tended to catch on the back wires.

Experienced divers were present in case I got into difficulties, also the river was quite smooth so I had no trouble with wires.

Personally I think the wearing of a life jacket is important when flying regularly over the sea, but the self-inflating type would definitely be the best, so inflation can be initiated when clear of the glider.

J. Briggs  
E. Yorks

# small ads

For your own safety, if you are purchasing a second-hand glider, check that it is a registered BHGA model, see it test flown, test fly it, and inspect it thoroughly for damage or wear to critical parts. If in doubt seek advice from the Club Safety Officer.

All small ads should be sent to Lesley Bridges, Commercial Editor, Wings, Yard House, Wentnor, Nr. Bishops Castle, Shropshire. Ads sent to any other address will be redirected and therefore delayed.

**Galaxy Flier Helmet** now with the new British Standard 5361. £16 plus £1 p & p. Frank Acton, 53 Royston Park Road, Pinner, Middx HA5 4AB. Tel: 01 428 2686.

**New Bowland Altimeters** 2in. x 1in. x 2oz. Clear scale 4000ft. or 8000 £15 cash. New training receivers. 4oz. chargeable crystal tuned 129.9 m/c £55 cash. Electronic 'Grayland' vario £50. 'Streamline' A.B.S. Fairing protects all instruments £10 c.w.o. Charlwood Park Lodge, Horley, Surrey. 02934 6611.

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**Amplifier aerobic hang glider kit.** 28in. span, 140° nose-angle. Only 60p. Also Simplifier standard, 40p, or one of each 80p. Prices include p. & p. Send to:- R. Keddie, 41 Townsend Pl., Kirkcaldy KY1 1HB, Scotland.

**Birdman Grasshopper.** 208sq. ft. Good condition. £110 o.n.o. R.L. Soulsby. Tel: North Curry 688 (Somerset).

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pilot in anything over 12mph — will penetrate up to 30mph. £360. Bob Mackay Tel: Skewen 813318.

**Stratus Varia** for sale. Only used once. Bargain price only £45. Contact Brian Wood, 27 Lennard Road, Bromley, Kent. 01 462-5212

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**Pellet Variometer.** We are the UK agents for Makiki Electronics. Self-contained variometer model 2 is only 4in. x 5½in. and weighs 15ozs. Just as sensitive as electronic variometers. £36 incl. p & p and VAT. Dealer enquiries invited. Mainair Sports, Shawclough, Rochdale.

**Clearance Sale.** Avon Swift, Miles Gulp, McBroom Cobra, Breen Hifli, Toucan, Midas C, Hiway 260, 240, 200. Phone quickly. Merthyr Tydfil (0685) 3780. Wanted Falcons, Scorpions, Spirits.

**Spirit, Vector Skyline.** One of our gliders is right for you. Contact us first, for the best. Flexi-form Skysails, 061 707-1389.

**Electra Flyer Olympus 160.** Superb high performance machine for soaring, X-country or motor. This kite is in 'as new' condition. Just £445 o.n.o. (over £150 less than new price!) Contact Alan Barnard, Crewkerne 72478.

**Commer 16cwt. van.** 1970, taxed, MOT, Ex. G.P.O. Low mileage. Would make ideal pilot's home. £350. Bridges, Linley 322, (Shropshire).

**High performance bargain.** Cross-tubeless high aspect ratio prototype. Superb handling, eats everything, a joy to fly. Bainbridge yellow and blue tailored sail. Fibreglass battens. £340. Phone: Martin Farnham — Hemyock 580.

**Genuine Seagull III,** orange and white, 240sq. ft. sail. Two spare leading edge tubes plus harness. Four years old. £150. Wasp C4, black and gold 202sq. ft. sail plus bag. Tel: Reading 862970 (Harry Prestidge).

**Wasp Gryphon III.** One of the best examples of this glider in the country. The machine of the 70's. As new condition. Must sell, £500 o.n.o. Mike Hibbit, Reading. Tel: (0734) 864543.

**Avon Swift.** Suit 11-15st pilot. Good sink rate and excellent soarer. C/w bag and seated harness. £220. Tel: Ken Ryder, Gloucester (0452) 417014.

**Gryphon III,** very good condition, multi-coloured sail. As seen in June *Wings!* (p.14). Reasonable offer secures. Tony Fletcher, (0685) 875630 (home) 874221 (work).

**Osprey 565,** blue and white sail, with seated harness and helmet, £125 the lot. Owner going overseas. Ian Paterson, 116 Priesthill Crescent, Glasgow G53. Tel: 041 881 3084.

**Hiway Standard 220.** Ideal for beginner. Colours, purple, red, yellow. Sail a bit tatty, otherwise in good condition. Complete with bag and seated harness. £110 o.n.o. Phone Resolven 868 (West Glam.) ask for Eric.

**Skyhook 3A,** blue and white sail, complete with seated harness, carrying bag and rigging tools. £100 o.n.o. Reason for sale

— owner buying intermediate. Ronnie Cheetham, 33 Halliwell Road, Prestwich, Manchester.

**Olympus 160.** The lightest handling machine you can buy. Over £660 new. This state of the art glider is an instructor's personal wing, is a thermalling dream. £450. Ian Curren, Ultrasports Hang-Gliding, Staxton, N. Yorks.

**Midas Super E** — as new. White, red and yellow sail. £400. Tel: Paul Bullock, Church Stretton 2884.

**Midas Super E.** Assymetric sail in top condition. This excellent machine has several 2 figure flights to its credit. Factory tuned. Changing to '78 therefore must sell. £400. Stephen Hicks. Tel: 0485 26202.

**Lost, stolen or strayed,** from Mill Hill on 22.7.78. Green Airstream Harness with red stripes, white named helmet, black leather gloves. Contact Steve, 0485 26202.

**Birdman Albatross.** Blue and red sail, little used. For pilot over 12st. £80. Thatcham 64317.

**22ft. Spirit** with pulley system. Yellow, green and black sail. Complete with bag. £290. Ring Leeds 673861.

**18ft. Avon Swift.** A second generation kite suit 9-12st. pilot. Seated or prone. £260 or exchange for 22ft. Avon Swift. Phone Whitehaven 830375.

**Scorpion B** rigged prone, but with seated rigging as alternative. £350. Ring Greg Burgess, Swansea 6438 home, Swansea 461231 or 462240 work.

**Custom Midas E,** with immaculate white sail. This glider flies exceptionally well, and must be one of the best in the South-West. £390 o.n.o. Phone Mervyn, Crediton 3262 (Office hours)

**Firebird Prototype,** flies like a bird, ideal for beginner. £170 o.n.o. Richard Lawson, Bristol 632409.

**A bargain! Wasp 229.** Good condition, many spares, including carrying bag. Ideal for beginners. £85 o.n.o. William Smith, 143 Lower Meadow, Harlow, Essex. Phone 0279 2953 Ext. 126 (days).

**Wasp CB 240** kossen model. Good condition. Prone or seated. Seated harness. New control frame and lower rigging. £160 o.n.o. Good strong soaring machine, suit beginner. More advanced machine required. Tel: Baz Williams 01 223-0983.

**Brunel Suspension Harness** — unused £30. **Galaxy Flier Helmet** — hardly used £10; serious injury forces sale. S. Smith, 43 Clarendon Road, Edgbaston B16.

**Wasp Falcon III,** 9 months old. Ripple free, multi-coloured sail. Excellent beginner to intermediate glider. Soars well. £340. Phone Medway (Kent) 0634 241095.

**Skyhook 3A** 13ft. A very strong kite, ideal for beginner up to 8st., with blue and white terylene sail. (No prangs) £90 . . . includes seated harness! J. Crane, 53 Burman Road, Allerton, Liverpool, L19 6PW.

**Birdman Grasshopper.** Standard rogallo wing, seat harness and safety strap, little used. Excellent condition £100. Phone St. Marybourne 330.

**Cloudbase 20ft.** Dacron sail. Attractive kite in good condition. £250. Steve 01 998-1342 evenings.

**Moonraker 77.** 11 months old, excellent condition — no damage, all white sail. Very good sink rate with 'Go places' L/D. c/w bag. Will rig seated or prone. £375. o.v.n.o. Hiway prone harness £25. Tel: 031 443 8925.

**Wasp C4 221,** test flown, carefully stored, virtually unused. Tel: Tunbridge Wells 24076. Open to offers (or exchange boat, bike or banger).

**Wasp Falcon III.** Low mileage, 360'd but

never raced. One careful owner. £300. Phone John King on Hagley 2950 evenings or 021 705 6888 ext. 427 during working hours.

**Scorpion C.** Red, white and gold. New kite forces sale. Bargain at £300. David Shaw, Wilton 3316 (home), Salisbury 3746 (work).

**McBroom Argus** 18ft. with bag. Ideal for beginner. £65. Tel: Bob Davies, Leigh Sinton 32880.

**Gryphon 3.** Offers around £585. Workington 3503, Cumbria.

**Hiway Cloudbase.** Keel out. Dark green, light green, yellow and white. Complete with new seated harness and carrying bag. £200. A.W. Hunter, 10 Myrtle Villas, Keswick, Cumbria. Phone Keswick 72816 Mon-Fri between 8am-4pm.

**Skyhook 17ft. Cloud Nine,** good condition, fully battened sail, rigs seated or prone, bag and seated harness included. Ideal intermediate and ideal to convert yourself to prone. £200. Tel: Guisborough 34447.

**Scorpion C.** 6 months old, flown six times. Chrome anodised cross boom. Seated harness, B bar. £400. Mint condition. Chesterfield 72798 after 7pm.

**Moonraker** — very good condition — low hours, tended with loving care. Complete with bag and prone harness — bargain at £345. Brian Griffiths, Ipswich, 0473 50232.

**Wills Wing Cross Country** small. 4 months old, little use hence condition as new. White/gold sail. £550. Tel: Bowen, Ferndown 893318 (Dorset). Office hours.

**Cobra 222** in excellent condition. One of the latest Cobras made. Black/coloured sail. Flies and soars well. Bag and seated harness. £200 o.n.o. or exchange car/varn. Ring Dave on Worlesdon 3153.

**Midas E** only £320 o.n.o. Buying new kite. Phone Donnie Carson at Inverness 222256.

**Wasp Falcon IV** with seated harness. Beautiful flier, no prangs. £380 o.n.o. Tel: Warrington (0925) 56573.

**Birdman Firebird 'S'** 190. Beautiful sail, excellent condition. Includes bag, seated harness, spare 'A' frame and deflexors. £350. Rod Trelease, 19 Mildmays, Danbury, Chelmsford, Essex. Tel: Danbury 2646 evenings.

**Wasp Falcon III**, excellent condition, little used. £300. Also Wasp prone harness (stirrup) available £30. Contact Dougie Short on 0946-830255.

**Birdman Firebird 200**. Pilot weight 8½-11st. Very good condition, soars well, ideal beginner to pilot kite. Gold sail with purple leading edges. £210 with bag and seated harness. Judy Gilbert, Doncaster 855700.

**Super Sunspot** — 9 months young, heavy weight sail, can be rigged seated or prone, ideal intermediate/advanced pilot, 12st. plus. £395. Derek Austen, 17 Harmon Avenue, Lympne, Kent. Tel: Hythe 69005.

**Flexiform Sirocco**. Good soaring intermediate machine in good condition. Ideal for 9-11st. beginner. Seated or prone. With bag £210 o.n.o. Tel: Ian 061 861 8098.

**SST90 Universal**. Immaculate condition, never bent, fantastic performance. Very easy and safe to fly, seated or prone. White/blue american sail. Very light to carry. £360 o.v.v.n.o. Tel: Dave, Beeford 537 (N. Humberside).

**Lothian HGC Surplus Kite Sale**. (Prices o.n.o.) Birdman Hawk £70, Albatross (seated/prone) £85, Chargus 18/50 (new sail) £75, Wasp 229 £50. All checked. Wasp 229 sail £25. Robin Laidlaw, Edinburgh (031) 334 6356 (home), 031 443 4422 (business).

**Wasp Falcon IVB** in excellent condition.

Complete with seated harness. £310 for quick sale. Write to Martin Laver, 33 Artist Row, Portland. Reply by return of post.

**Hiway Cloudbase 20 De Luxe**. Yellow/green, c/w bag. £300 o.n.o. Also **YATCH MIKADO**, Clyde 30, 42ft. LOA. Lying Belfast, extensively converted for cruiser/racing. Very well maintained. Contact David Dick, Belfast 54072 daytime. **MIDAS C '007'** white sail. £300 o.n.o. Telephone David Bedding, Princes Risborough 7186 (evenings).

**Scorpion B**, as new, 6 months old. Breakdown, dacron sail, triple deflexors. £450. Tel: 031 336-4148.

**SST100 B**. Rainbow dacron sail, excellent condition. Will deliver. £400 o.n.o. Phone Mel before 6pm. (Ipswich) 0473 57075.

**Eclipse 210** — A kite built the 'Wright' way. Superb intermediate soaring glider. Blue & white sail. Rigged seated/prone. £275 (incl. bag). John Fitzpatrick office 0264 62141. Home 09807 780.

**Wasp Falcon III** in very good condition, complete with prone harness. £300 o.n.o. 01 789-4099 evenings.

**Skyhook 3A** — good condition, with seated harness, suit beginner. £85 o.n.o. 6 Roxholme Grove, Leeds 7.

**Prone Stirrup Harness**, new in carrying bag. Never used. £30. Phone Tranent 610201.

**Scorpion C** flown once. Best offer over £400. Phone Tom Stark, Tranent 610201.

**Midas C**. Fast, high wind kite. Well flown. Gold colour, suit pilot 9-10st. New kite forces sale hence £240 bargain. Phone Alan 01 928-9292 Ext 2350 (day) or Leatherhead 77258 (Surrey).

**SST 100C** (for 8½-11½st pilot). 18 months old, blue/white sail, flies beautifully, spares. £365 o.n.o. Phone Pete

Hinkin, Ascot 24036 (home) 01 580-9657 (office).

**Wasp 229** standard. Ideal beginner, v.g.c. including harness and bag. **Grasshopper** including harness and bag. £130 o.n.o. Will separate. Tel: South Benfleet 50025 (Essex).

Five year old **Delta Wing** built by Edwards (Brighouse). Orange/green sail, perfect condition. Never bumped in its single season use. £200 for fast sale. Ring 0282 33710 evenings. Mike Leonard, 3 Honister Road, Burnley.

**21ft. Cloudbase de luxe**. Chordwise battens. Purple and gold sail. Ace, high flier this kite is suitable for beginners/intermediate fliers. Complete with bag and seated harness. £250. John Bowman, tel: 0642 87769 (Middlesborough).

**Gryphon III**. Latest model, multi-coloured sail. £550 o.n.o. Peter Tindley 51 Brackendown Ave, Weymouth, Dorset. Tel: 0305 832758 evenings, 03057 74661 day.

**Phoenix Super 8 Junior** c/w instrument bar and bag. Airstream Harness with parachute. Willis variometer and Diplex altimeter. All in excellent condition, only three months old. Cost £1077, for sale £795. Tel: Bristol (0272) 659022.

**Skyhook** early model, suit beginner. Red/white sail, seated harness. £75 o.n.o. Ring Bradford (0274) 615730.

£100 off list price. 6 flying days old. **Wasp Falcon IV**. Tel: Basingstoke 29211 Ext. 256 or 59551 (0256)

**Midas Super E**. 5 months old, distinctive blue, red, white, bainbridge sail. Excellent condition. £430. Genuine reason for sale. Tel: 01 684 4772. Eddie Horsfield.

**Hiway Scorpion C**. Little flown, seated harness, 'B' bar and prone harness. All as new. £425. Also **Chargus 18/50** in good condition with spare

'A' frame and bottom rigging for prone flying. £95. 031 665-7901.

**Hiway 240**, excellent condition, seated harness. £150 or nearest offer. Owner going Sunspot. Phone Bob, Maidenhead 32002 (day), Maidenhead 31849 (evening).

**Hiway Spectrum** — small. Brand new, complete with 'B' bar and seated harness, helmet and car roof bars. £460 complete. New job forces sale. 0474 873095 after 5pm.

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