

WINGS!

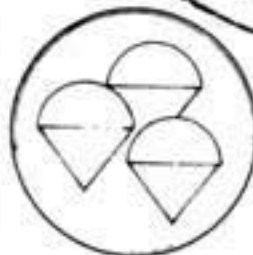
JUNE 1978

MAGAZINE



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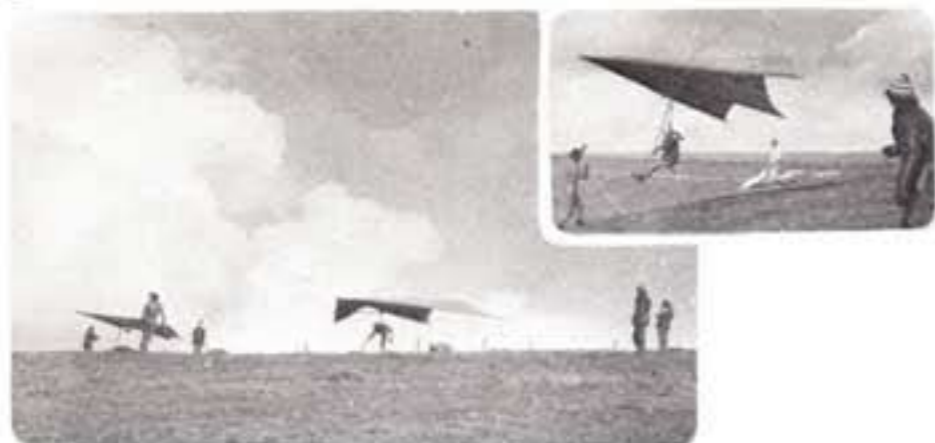
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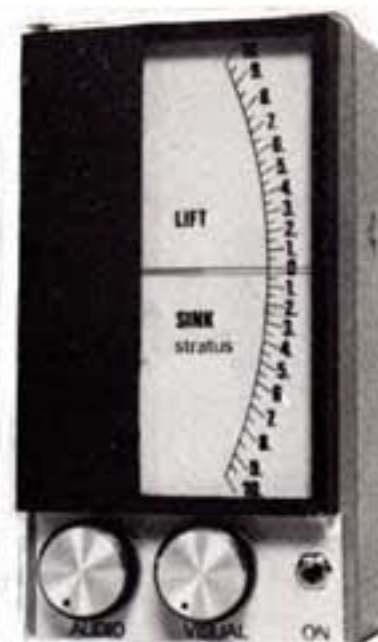


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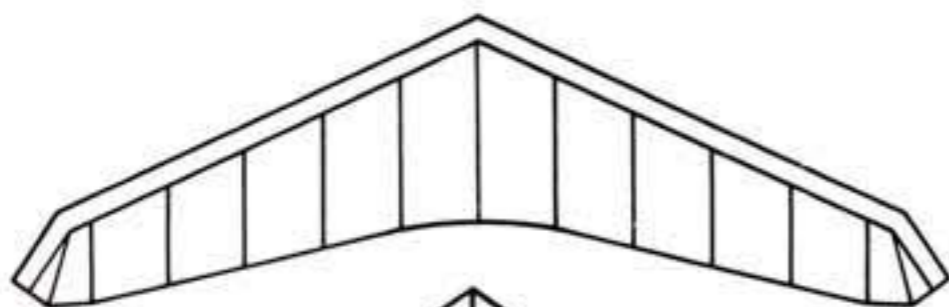
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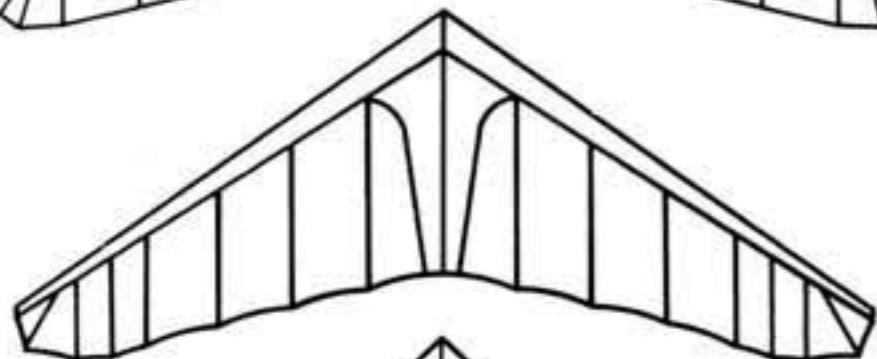
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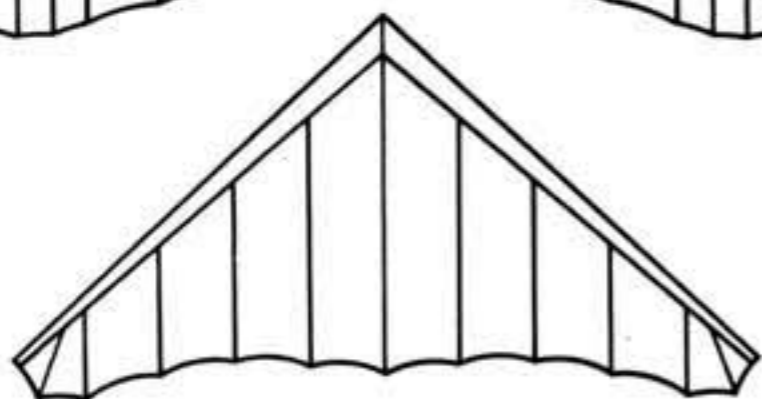
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WINGS!

The official magazine of the BHGA

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-
- 6 Council Matters
-
- 7 Airmail
-
- 9 Wingtips
-
- 11 "So you want a Big One" by Jim Debaucher
-
- 12 Schools
-
- 14 News Roundup
-
- 17 "New Wave" by John Hudson and Bob Calvert
-
- 19 Powered Hang Gliding Report
-
- 20 Recent Accidents
-
- 21 Book Review
-
- 23 Information
-
- 26 Small Ads
-



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Wings! is published by the British Hang Gliding Association. The views expressed 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 appropriate captions and any material which is to be returned should be accompanied by a stamped and self-addressed envelope. The editor reserves the right to edit contributions where necessary. The magazine can be obtained by joining the BHGA. **BHGA:** President: Ann Welch, Chairman: Pat King, Treasurer: Derek Evans, Council: Gordon Wyse, Brian Milton (Press Officer), Chris Corston (Secretary), Jeff Marvin, Reggie Spooner (Insurance), Jeannie Knight, Malcolm Hawksworth, Will Jones, Colin McCormack, Flight Training Officer: Keith Cockcroft, Accident Investigation Officers: John Hunter and Tony Fuell, Registration Officer: Terry Dibden, Solicitor: Anthony McLaren, Technical and Safety Officer: Ted Shreeve, Medical Adviser: Dunstan Hadley, Radio Communications Officer: John Westcott. All enquiries other than to members of the magazine staff should be addressed to Taunton.

Council Matters

Council Meeting of 7th May, 1978

Derek Evans was elected Deputy Chairman of the Council to chair meetings if the Chairman is absent.

The cost of sending British teams to compete in the European Championships and to two other events in America and France this year would be approximately £10,500. The Sports Council have agreed to contribute £3,634. It was agreed that we run a lottery and distribute tickets with the May issue of *Wings!* to raise as much as possible towards team travel. Council has also allocated £2,000 from the Association's reserves of £8,000-£9,000 for the same purpose.

There is an urgent need for a Flying Committee to form BHGA policy and establish guidelines in all areas connected with operational flying.

Brian Milton presented the Powered Hang Gliding Policy Committee document. It outlined the way powered hang gliding could be sensibly controlled within the BHGA. Proposals covering airworthiness, registration, pilot grading, a definition, testing, enforcement and administration were included. The document was accepted, subject to

minor changes, and by the time you read this it will have been presented to the CAA for comment.

Proposals resulting from the Accident Prevention Committee's concern over factors that can, and have, caused accidents covering the following were carried. Hang gliders should carry flight limitation plaques. That all flyers should be urged through *Wings!* and glider handbooks not to modify gliders and to ensure that major repairs and repairs involving precision work are carried out only by a competent organization or individual. The BHGMF will be asked to maintain and make public a list of approved repairers.

Manufacturers will be asked to modify seated harnesses without chest straps to make them safer.

John Hunter presented his plans for an Airworthiness Approval Committee to run the glider approval scheme. Jill Handley will be its first Secretary. Alan Barnard has accepted the title of Technical Officer. A fluid group of experts will form an Airworthiness Group to advise the Airworthiness Committee on such items as harnesses, helmets, parachutes, materials, material standards, etc. The Group's first task will be to decide on standards for harnesses. (Anyone with ideas and expertise on any of the above subjects is requested to make his services available to John Hunter.) Council approved the way in which airworthiness affairs will be run.

Nick Regan's contact with overseas enthusiasts was discussed and it was decided to make no further copies of *Wings!* available to him to send to them. This has arisen because Nick is not a BHGA member and has, to the date of writing, not been prepared to join.

A Press and Publicity Committee was formed. Brian Milton, Derek Evans and Tony Fuell are its members.

Council re-affirmed its desire to hold a public event at Mere over the August Bank Holiday this year if possible.

Chris Corston

'A HUNDRED NECKS HAVE TO BE BROKEN BEFORE ALL THE SOURCES OF ACCIDENT CAN BE ASCERTAINED AND GUARDED AGAINST'

Sir George Cayley, Pioneer Hang Glider Designer. 1846

ACCIDENT PREVENTION

People have been killing themselves in Aviation and Hang Gliding for well over one hundred years. Most of those deaths were quite unnecessary. The common factor behind most of the deaths was that the individual was pushing beyond the frontiers of his knowledge and experience.

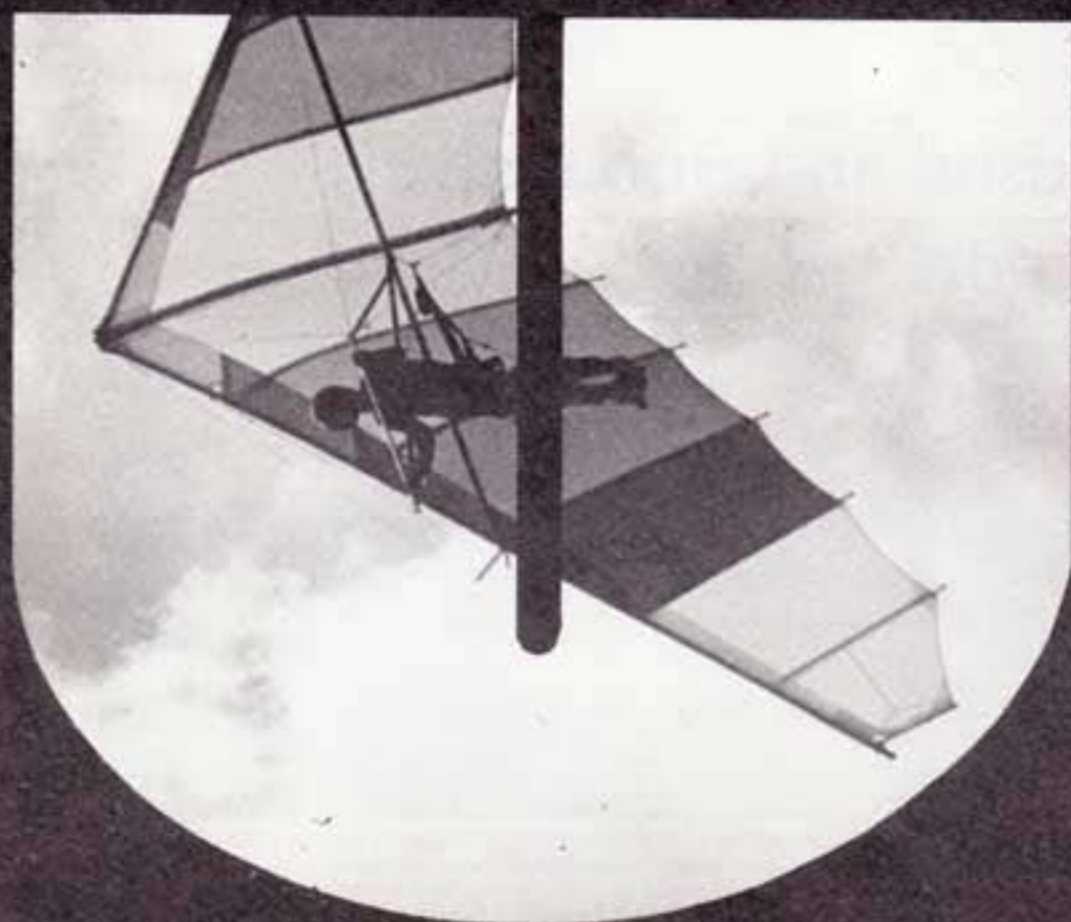
George Cayley had got it right 132 years ago — except that Aviation has cost far more than one hundred necks and hang gliding itself over one hundred deaths in the last ten years. We are still searching to establish all the causes of accidents. We shall never do that, but the risk will be enormously reduced if:-

a) We report those we do have so that common factors and causes can be identified — and those of us who are humble enough to learn by other people's mistakes are able to take heed — learn and avoid.

b) None of us — Designers, Manufacturers, or Pilots, press too far beyond our assured knowledge and experience.

Reggie Spooner

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HANGER GLIDING

Dear Sir, Further to my letter, which you kindly published in last month's issue of *Wings!*, with regard to machine performance testing. Still air conditions are of course essential for any meaningful performance checks and as we all know this is a virtually unknown condition outside.

I believe that at Cardington in Bedfordshire there are some of the biggest hangers in existence that used to be used for housing the old airships. Does any member of the BHGA know anything about these buildings and could someone help with making arrangements for the use of these buildings for hang glider testing. If this could be made possible perhaps it would be an ideal opportunity for some independent expert fliers to do meaningful performance comparisons.

Ken Messenger
Birdman Sports

HISTORY REPEATED

Mike Adam's letter in the May edition of *Wings!* recalls the early protests against the original canals, railways, motor cars and, dare I say it, aeroplanes. There is no doubt that motors add new parameters to the inherent danger of having your feet off the ground. What Mike Adam does not appreciate is that motorised kites are not bounded by the same limitations of take-off and landing area as the conventional kite. The motor releases the hang glider from the necessity to scratch around hill tops with the added danger of extremes of wind gradient, violent rotors and unsavoury bottom landing fields.

Mike Adam is prepared to applaud the advent of a motorised kite suitable for towing conventional kites. Should we not learn to fly before we can tow?

Jonny Seccombe
London

HARNESSES

Dear Sir, Having read Roland Bashford's piece in April *Wings!* on harnesses, I should like to comment as follows:

Firstly, his letter couldn't have come at a more appropriate time. The BHGMF have put more emphasis at this present stage in establishing a criterion for which Hang Gliders should be loaded to as part of the manufacturer's specification on the basis that there were very many more "unknowns" than those attributed to a harness. At this time, having estimated the construction and performance criterion for the harness, the emphasis on finalising standards is well under way. You will see by now some manufacturers are already labelling their harnesses, in addition referring to the glider manual on the instructions for using the harness. It is envisaged that in a very short space of time all manufacturers will be acting in this manner.

Another reason why the emphasis



AIRMAIL

is pointed to the glider and not the harness is that many harness materials and construction techniques are not new. You will find that most materials used in the manufacture of a harness well exceed an ultimate tensile strength of 4000-5000lbs. which is well in excess of the 6.5 g referred to. A small point here we would refer to, is on loading. One must consider the onset rates, those that apply to gliders do not necessarily apply to the harnesses. An example of which may be the effect in severe turbulence, where the pilot might well find himself subjected to snatch dropping, having attained negative g. So in many ways it is much more relevant to talk about U.T.S. rather than g loading for a harness.

What does worry me, more than anything at the moment, is that there has been a good deal of correspondence relating to tragic accidents with people falling out of the sky as when in all these incidents the structural integrity of the harness and for that matter the kites have never been in doubt. Both manufacturers of kites and harnesses conform to standards laid down by the BHGMF and endorsed by the BHGA.

The most significant area where accidents are occurring is when Pilots find that in using a harness that does not necessarily suit their kite they modify the attachment points in a manner which would never be endorsed by the manufacturers of both harnesses and hang gliders. Instances have occurred where people have used polypropylene rope which is totally unsuitable unless correctly spliced, also combined with karabiners which do not have a gatelock device.

I would go so far as to say, pilots in the main bear as much responsibility for the condition of their hardware as the manufacturer does to a suitable specification. This point is very much brought out when you consider that 10% of all fatalities in Europe and America last year were attributed to pilots modifying their hang point, or not clipping on at all!

P.A. Hankey
P.R.O. for BHGMF

LOSS OF A GOOD FRIEND

Dear Sir, It was with considerable sorrow that we received the news of Paul Renouf's tragic accident in Cornwall. SHGC has lost one of its most able and efficient committee members, our magazine *Windsock* has lost its Editor, and we have all lost a good friend.

Paul was dedicated to our sport — he spent a great deal of time in producing the magazine each month and he had recently taken on an important role in the SHGC's fight to retain the use of Beachy Head as a flying site. His kind of energy and enthusiasm will be impossible to replace. On behalf of all members of the Southern Hang Gliding Club I would like to offer our condolences to Paul's family and friends.

Tony Fuell
Secretary, SHGC.

WORRIED

Dear Sir, I am worried. Are we going to see a rapid growth in powered hang-gliders in this country? I personally hope not, as I find them noisy and

against the true aims of hang-gliding. I suspect that they could easily alienate a large section of the public, especially if they regularly fly over our coastal resorts. To me, it is the difference between power and sail at sea. Sail is majestic, quiet and unobtrusive while power dominates, and destroys the little peace we have remaining in our countryside.

Having expressed my views, I would like to say on behalf of our Club, "Well done" to David Cook on his successful Channel crossing. When we were asked to assist him, we were delighted to be of help. Our assistance and advice was well received and in return we met some of the nicest guys in hang-gliding and made some good friends. It was also good to feel we had played a tiny part in this piece of hang-gliding history.

Ted Battersea
Secretary
Dover & Folkestone H.G.C.

FIRST WITH AID

Dear Sir, I feel that although to decrease the number and seriousness of injuries due to hang gliding accidents prevention is the best medicine, we must not forget what happens immediately after an accident — the issue of First Aid. There is no doubt that lives can be saved and injuries lessened by the proper and prompt administration of first aid. On the average hang gliding hill, there will usually be someone with a First Aid kit, and possibly one or two trained First Aiders. This should especially be true if there is a school training on the hill. But is this enough?

Here at Swansea University, our club has had no serious accidents in our four years of existence. But the feeling grew that eventually an accident would happen. We didn't want to develop an "It won't happen to me" attitude. We therefore organised a First Aid course, specially biased towards hang gliding type injuries. About 30 club members attended and completed the 8-week course, and as a result, the majority of any club trip is now usually comprised of First Aid certificate holders.

The club was out on a training trip yesterday when it was on the scene of an accident involving a flier from another club. (A report has been sent to our area accident report co-ordinator.) Eight of our club first aiders were present. We found that having a large number of trained people on hand was a great advantage, since necessary first aid duties could be shared out — checks for breathing, bleeding, broken bones etc., were carried out quickly and efficiently. We found that our knowledge could be usefully pooled, and as a result we were able to do what was necessary with confidence that our actions were safe and correct.

The fact that there were so many of us there was no freak of good luck. Hang gliding clubs are comprised of people who usually fly the same local site in a given set of weather

conditions, and are therefore groups that are likely to be together when an accident happens. It makes sense to organise club first aid courses. Wouldn't you feel safer if you knew that most of your fellow fliers were trained in first aid? I do.

Ed Hui

YOUNG AND HOPEFUL

Dear Sir, All praise and credit to the enthusiasm of young Paul Matin (Letters, March). I'm sure that we all wish him the best of luck with ALPHA 170.

But just how blase can one get? Here's a young lad of seventeen years, about to go into the R.A.F., and cocksure that he'll be allowed use of wind tunnels, fluid flow tanks, etc. I wonder.

When I was a photographer in the Royal Engineers (not yesterday I admit) one would almost need the official permission of the Chief of the Imperial General Staff to develop a personal roll of film in an Army darkroom. And here's a boyo, not even enlisted yet, who will have the use of thousands of pounds worth of sophisticated aeronautical equipment to test his kite.

Again, and not with tongue in cheek, the best of British, Paul.

Roy Hammond
Cork H.G.C.
Ireland

AGM

Dear Sir, With reference to your Editorial in which you invited all those who did not attend the A.G.M. to say why, I would say that my personal reason was that I was in Ireland. This might apply to quite a few other potential attenders also, because by all accounts over 100 fliers were there from the U.K. and although this number is very small compared to the total membership, a good proportion of the keen "hard core" must have been represented. Hence my first but perhaps too obvious suggestion — avoid clashing dates.

The A.G.M. of the S.S.A. this year was attended by 35 members — about 1 in 3 of the total membership. Obviously the scale of things is different here, travelling distances are not so long, the whole thing is very much smaller, people can feel more involved. Perhaps not much of a parallel can be drawn, but for what it is worth, we did take care to hold the A.G.M. in the evening on a Sunday in a village in a generally central area of Scotland overlooked by a hill which takes very nearly every wind direction around the compass. The only problem was rounding everyone up to get the meeting started on time and in fact it did start one hour late, but at least it was reasonably well-attended.

I suppose the A.G.M. of the BHGA could not very well be accommodated over an evening, but the same sort of idea might be applied by choosing a

suitable venue and organising something for the day before or the day after.

Another suggestion — how about a lecture or lectures with perhaps a film scheduled for immediately after the meeting? Our Seminar reported in February *Wings!* was attended by around 100 people and you can see from the published photograph how packed the hall was. Everyone was astounded at the interest the lectures generated

I hope the foregoing might be of some assistance, but I am sure you feel as I do that members shouldn't have to be offered additional inducements to attend a meeting so important to the running of their sport. The attitude of "leave it to somebody else" has to be campaigned about and the membership made to realise that if everyone did this there would be no organisation and lacking this the authorities would probably have banned hang gliding long ago as is still a possibility if our organisation were (heaven forbid) allowed to falter in the future due to the mass apathy of the membership.

Robin D. Laidlaw
Secretary, SSA.

BLATANT DISREGARD

Dear Sir, On the 16th March, 1978, Nick Regan came to Rhossili and flew over the Cliffs. In doing so he

knowingly ignored our agreement with the National Trust.

Not only did he take-off from the Cliffs, prohibited by the National Trust, during the lambing season, thus breaking our long-standing agreement with the, so far sympathetic, farmer Mr. Beynon, he was also not a member of the S.W.W.H.G.C., a National Trust condition for all fliers at Rhossili, and therefore not insured.

We hope that as a result of this blatant disregard for all other fliers, landowners and site agreements, that our good relations with Mr. Beynon, and the National Trust, will not be adversely affected. If we lose Rhossili, regarded by most fliers as one of the best 'National' coastal sites, we'll all know why, but it will be too late then.

To put it mildly we do not wish to see Nick again, or any other 'flier' with similar intentions, in our area.

Rob Symblerlist
Secretary, SWWHGC



If you have something to say, send a letter to the Editor, 14 Earlsthorpe Road, Sydenham, London, SE26.

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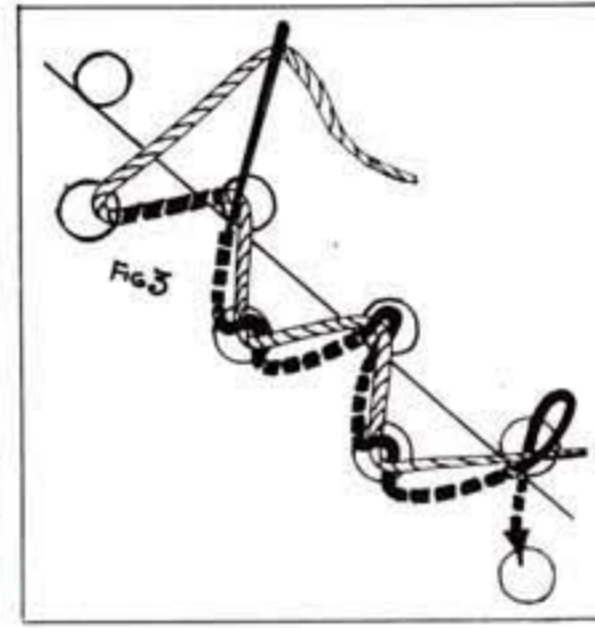
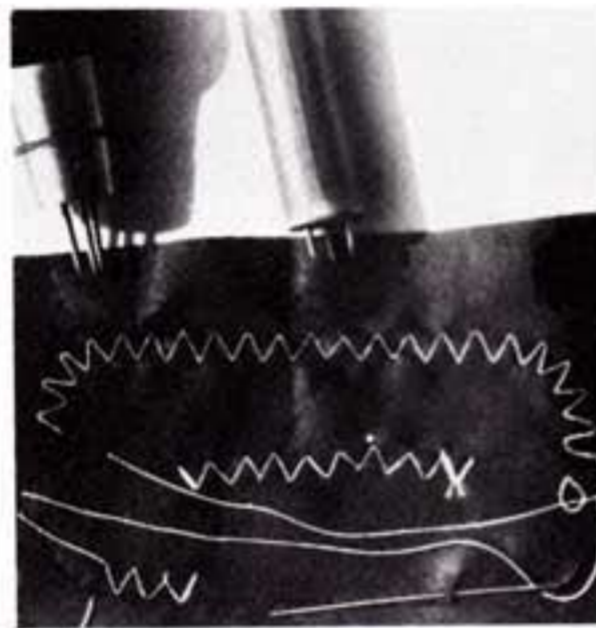
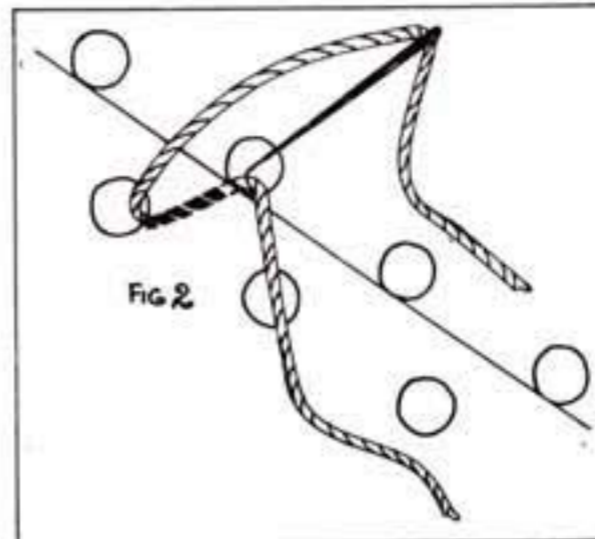
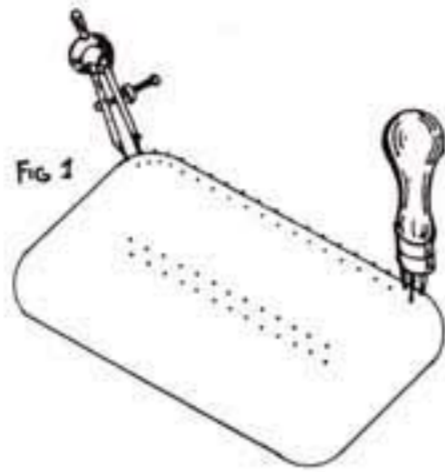
by R. Acott

Sooner or later there comes a time to all of us when, with horror, we see a tear or a seam coming undone on our sail. This usually happens miles away from the nearest sewing machine. If you are lucky enough to own or have access to a zigzag machine capable of taking on 4-4½oz. sail material, using correct terylene thread, it is not always convenient to take the sail off the frame, or as I did on one occasion put the machine on the garden table and enlist the aid of my family to manoeuvre the kite frame while the patch was being sewn on. If you are flying away from your local site, it's handy to be able to make a repair on the spot.

Anyone buying a glider from a manufacturer should ask for some spare sail material to match all the colours on their sail.


In the excellent book "Hang Glider Pilot" by Ann Welch and Gerry Breen, sail repair on site is mentioned but methods or hints are not given for sewing by hand. Of course, a machine repair is best, but the following method is equal in appearance and most important, in strength.

Stick on a suitably shaped patch with clear Bostik. Cut out patches with



rounded corners using the hot knife method. I made a knife shaped bit to attach to an electric soldering iron. For neat and accurately spaced stitching, by hand and eye, you need to mark the needle holes with a jig tool. In the photograph my own three-pronged marker tool is shown. This took some time to make up so a quick alternative is shown alongside. It is a length of wood dowel with three steel panel pins knocked in the end, in an equally spaced triangle to suit your own sail stitching. Sharpen the ends with a file. The idea is to go round the edge of stuck on patch, with the tool, making holes ready for the needle and thread. Use a piece of cork or similar stuff underneath while pushing the points of the tool through the material. Result — perfectly spaced stitching holes around the patch for your needle to follow.

If making a tool is too much bother, a pair of engineer's dividers can be used, but only two holes can be made at a time instead of three.

Marking holes and method of stitching is shown in sketches 1, 2 and 3. The size of holes in sketches are of course grossly exaggerated for clarity. Pull up top and bottom threads for correct tension. 

by Noel Whittal

WATER LANDINGS

A year or so ago I flew my glider into almost a fathom of water in the North Sea, a feat which was greeted with certain hilarity among sections of the Yorkshire hang-gliding fraternity. A repeat performance was staged by another of my clubmates recently.

In other countries pilots have also landed in the sea, but any humour in the situation has been notably absent — they have drowned.

At the time of my immersion I did wonder how I would have fared if the water had been just a foot or so deeper, and with hindsight I am forced to admit that my chances may not have been good at all.

Consider the facts: Hang Gliders do not float in water unaided. Pilots wear about the most unsuitable gear for swimming in, and are hooked onto their machines which in turn are well designed to entangle a waterlogged pilot.

So here are a few simple suggestions for cliff fliers:-

First: don't imagine that it won't happen to you. That is precisely what all the drowned pilots thought. The fact that you may have done a thousand safe over-water flights merely demonstrates that you are good at it — it doesn't guarantee permanent lift on the thousand and

Paul Renouf's drowning has sadly brought home the dangers of flying over the sea without adequate precautions. The following articles, both written by pilots who have landed in the sea, offer valuable advice to those who fly coastal sites. Noel Whittal's contribution was sent in shortly before Paul's accident.

first.

Secondly: Do not use a Karabiner with a screw-gate. If you are going into the water, the last thing you want is to be semi-permanently united with your glider. Hang-gliders sink, and sometimes very fast. Brian Milton was reported to have said that his Moonraker virtually flew away fast and downwards at the watery termination of his cross-channel epic. Don't imagine that because your glider is apparently weightless at its correct flying speed in the air it will somehow magically float when stalled on water. It won't.

Thirdly: Carry personal buoyancy even if your mates laugh at you. At this stage I will assume that any flotation aid is better than nothing, but bear in mind that a lifebelt which floats your feet higher is decidedly a mixed blessing. If using the sort of lifejacket which is inflated from a small cylinder of compressed gas, then check that an

accidental inflation, while in flight, will not cause loss of control through jamming against the control frame. I hope to write again about lifejackets when some more research has been done on the subject.

Next: Once a water landing has become inevitable, try not to panic and set up your approach with as much trouble as you would on land. Get your priorities right — a downwind splash into shallow water is better than a beautifully executed, fully stalled out landing in deep water followed by drowning.

However, if you are going to hit water which might be deep, hit it as slowly as possible, so that with luck the wing will not immediately nose under, but rather remain afloat for a short time with air trapped under the sail. If prone, rotate vertical early, and in any case reach up ready to unclip the second your boots touch the water. Once unclipped, *hold on to the*

Karabiner — it could so easily hook onto a rigging wire.

Finally: Get yourself ashore as quickly as possible — leave your kite until assistance is available, unless you are quite certain of being able to walk to safety without going out of your depth.

by Bill Arkle

I am writing this having landed twice in the sea myself and following the death of Paul Renouf recently in South Cornwall. I hope this gets coastal fliers thinking and discussing safety points and priorities to prevent drownings in the following months when I am sure there will be more coast landings.

1) It is best to land in deep water rather than shallow water (where you can get pinned between rocks, damage yourself on the rocks or broken control frame, and where the shallow wave action can make the sea and sand mixture impossible to see through).

2) Screw-type karabiner should not be used on the coast — a visiting flier nearly drowned in Plymouth Sound last November because of a screw despite the articles in *October Wings!* last year.

3) Hold onto your Karabiner while you get clear — or it can snag again on

rigging or deflexor wires. Try and keep your foot strap clear of the kite too — this can also get caught up with prone harness.

4 Take off your harness before going near the kite once you are clear — I didn't recently and got trapped under the kite and nearly drowned in 2ft. of water.

5 Do not go under your kite especially in shallow water as there will be broken tubing from your control frame.

6 Think carefully of your priorities *now* because you will not be very detached or rational while in the water panicking to try and rescue your £600 kite — your life is more important.

7 While flying you should always have two or three places picked out for

emergency landings in case the wind drops. The experts automatically do this and it is a real lesson to see them land when the wind drops.

8 Downwind and cross-wind landings in a low wind are safer and preferable to a written-off glider in the sea.

9 You should be able to estimate the glide angle of your glider and so you should be able to determine the limits of a safe beat along the cliffs. Most sea landings occur these days because pilots rely on the wind too much and when it suddenly drops they are out of reach of a safe landing area.

In March this year I came down in the sea while trying to jump a big gap between lift areas on the coast in South Devon. I landed in 4ft. of water.

unclipped and got clear of the glider, turned it round and then went under the front to try and lift it over the rocks at the edge of the sea — there was no beach just large rocks at this point. I then got my harness caught on part of the glider and found myself trapped in about 2ft. of very sandy water under the glider. I could not see where my harness was caught and so could not slide out from under the edge of the glider. I was pinned down by the weight of water on the sail and was soon concentrating on just getting a breath now and again as the waves returned off the beach and let some air under the edge of the sail. My pals nearby cut a hole in my sail and cut my harness off me, by which time I was beyond caring about the kite — I was

exhausted and in a state of shock — and very cold.

During the ten minutes or so I was in the sea all the ten sail battens were broken into very small pieces and the bottom pockets were destroyed, all the tubing except the cross boom and king post were damaged. Although the rigging was not broken, the salt water had started to set up corrosion so they had to be mostly discarded. So the kite was really a write-off.

Do people realise the danger? Also that a sea landing often produces a written-off glider — it is not worth the risk just to fly that little bit further along the coast. ☺

PARACHUTE LANDINGS

by Stephen O'Brien

I was most impressed with Tony Fuell's item on Parachutes in the March edition of *Wings!* and in particular with his courage in test deploying a canopy at Devil's Dyke this January. Since 1978 may well prove to be the "Year of the Parachute" I thought that I might relate some ideas which struck me while making a recent conventional parachute descent.

Hanging under the canopy of a parachute, the cross ground movement, in comparison to hang glider flight seems visually minimal yet the brain being attuned to the aircraft's glide angle insists that you should cover more ground than you actually do. For me the result of this was total misjudgement of my point of touchdown, while parachuting. The hang glider pilot disorientated by an incident may easily make this mistake after throwing a canopy and should be prepared to land only a short distance down wind, not try to estimate his time in the air or eventual landing site. This may sound obvious, but could easily happen in a moment of tension and lead to an unexpected landing and further unnecessary injury or damage.

Elbows pushed together

Chin against chest
shoulders rounded

Knees together and slightly bent

Feet together and flat to the ground

The Parachute Landing Position

When descending on a parachute the eyes cannot easily focus on the fast approaching ground thus even quite experienced parachutists still find it difficult to estimate exactly the moment of impact; clearly being prepared is important. Novice parachutists are trained to assume the "Parachute landing position" at about 300ft. In my case the ground seemed to approach deceitfully slowly, although the actual impact, which occurred a few seconds after I had anticipated, was unexpectedly hard. Being poised



in the parachute landing position I absorbed the shock with little difficulty, rolling onto my backside and shoulders. This position for landing by parachute is tried and tested and is accepted as the best way to avoid injury. While I appreciate that it may not be wholly practical for the unfortunate sky rider to assume this stance as he descends shrouded in a damaged sailwing, some attempt at it may well avoid the possibility of, say, a broken leg. (Unlikely? The highly experienced parachute instructor who dispatched my two friends and I followed us out and broke his leg on landing!)

Looking at the figure you should be able to appreciate the basic elements of this useful stance, what the diagram cannot convey, however, is the muscular relaxation which should run throughout the body. Any impact should be absorbed by letting the legs give way to one side and rolling onto the knees, buttocks and across the back to the opposite shoulder. It is worth remembering that a parachute descent is an alien experience to the hang glider pilot, more so perhaps than the non-pilot, and he must prepare his body to receive the ground in order to remain unhurt by its contact.

Since hang glider flight occurs in winds that even the most experienced parachutist would avoid, the descent,

while short, may have a substantial cross ground element. Terra firma may also be reached while the stricken pilot is facing away from his line of drift. Backwards parachute landings at, say, 10mph could be unpleasant and should again be accepted in the parachute landing position giving the best all round chance of a safe touchdown.

Finally on this note I would like to see more information on the use and effects of hang glider parachute escape systems — have the manufacturers any comments to make? How effective is the velcro opening? I could imagine someone fumbling for a couple of vital seconds before finding the flap. On any occasion where I have worn an emergency parachute the flying, gliding and parachuting instructors have advised that in any emergency situation the pilot should always disregard everything else and actually *look* at the ripcord (flap etc.) not just feel — where seconds count you could pay dearly for this sort of mistake.

In any aerial situation men have to rely on mechanical devices, and since these, or the men themselves, are prone to the occasional failure the parachute has saved countless lives over the years. In some ways we are the most vulnerable aeronauts ever, so the ability to "take to the silk" offers us salvation when all else is lost. I agree with Tony Fuell "Give yourself a ninth life". ☺

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SO YOU SAY YOU WANT A BIG ONE

Jim Debaucher previews what is expected to be the greatest hang gliding competition of all time — The America's Cup

most competitive meet ever.

Most of the days are soarable that time of the year on the twelve-and-a-half mile ridge, with half of the days being 2000ft. or better above take-off. The lift is strong, the air thick and cool, the spirits high. But these are nothing compared to the colours. The fall brings a million different shades of red, orange, gold, and yellow all shimmering in the northwesterlies.

The concrete take-off ramp perches precariously on a large granite headwall some 1400ft. above the Tennessee Valley floor below. The air is so vertical on a good day that three-man wire launches are usually needed. Take-offs can be tricky but once in the air the flight is always memorable. Due to heavy thermal activity, the air close to the cliff is usually quite turbulent. Although they do exist, smooth ridge-lift days are somewhat rare. This part of the country has very unstable air, making the thermals quite active.

Lookout Mountain is so huge that, even with fifty pilots in the air at once, one may not see anybody else for half an hour at a time. On good days, everybody tries to go the length of the ridge, to Point Park and back. Since Lookout is 1400ft. and facing north-west (the prevailing wind in October), the twenty-five mile round trip can be made quite easily, with reported altitude gains of up to 6000ft. above take-off. The cloud-streets belching out of Sequatchie Valley, some thirty miles to the north-west, usually produce vario-pegging lift areas so huge that cloud-base is a real problem. These thermals are sometimes so strong that they tear right through a twenty-five mph. head-wind, not drifting a foot.

And on those days when it's not blowing north-west, there's a place called Whitwell, home of the friendliest people in the world. Whitwell is, like a typical Tennessee Tree-toppers (the local club) sight, perfect. A sheer vertical, rock-faced head-wall clears the trees by a hundred feet. A wooden ramp adds four more feet of clearance and aids the pilot in getting his glider into the true air on launch. The 1500ft. bluff faces south-east, making it the logical ridge-soaring sight when it's down hill

at Lookout and the other north-west sites in the area. A paved high-way to the top makes it easily accessible by any car.

Shortly after the Tennessee Tree-toppers, headed by Dick Stern and Don Guess, cleared the take-off sight at Whitwell, bulls-eyes started showing up in all the larger yards in town. The people in Whitwell *wanted* hang glider pilots to land on their property, somewhat different from many southern California sights where hang gliders are considered trespassers. It's not uncommon, after a hot day of flying, to be confronted by a smiling local with a tall glass of ice water or soft drinks for the pilots.

The Whitwell site is quite new with the first few flights being only the first of last year. I was unfortunate enough to be the driver the first time anyone soared there. Dick Stern and Eilene Adames were set up in no wind conditions. Everybody knew it was going to be a "sled run" so I didn't mind driving. I watched Eilene diving for air speed on launch as I headed down the hill in the van. I knew Dick was right behind her so I hurried down so I could catch the landings. It wasn't until I got to the landing area that I looked back at take-off. To my surprise, both gliders were dots at least 1500ft. above the top. Like at take-off, there was no wind in the landing area. Eilene gave up and tried to land after about half an hour. She was stuck about 200ft. above the landing area doing diving 360's. Ah! Sink at last. She's finally on the ground.

But where's Dick? The "Old Man of the Mountain" was higher than ever now. From the landing area, his red and white SST was almost out of sight in the clear blue sky. After an hour in the air and an altitude gain of 1800ft. above the top, Dick finally landed.

There are lots of excellent sights within a few hours of Chattanooga. Knoxville has some real beauties, with the best being 500-mile Clinch Mountain. (The topographic map of Clinch is 21ft. long). The mountain begins 35 miles north-east of

Knoxville, Tennessee, and ends in Pennsylvania, four states away! A sail plane has made an 1100 mile out and back trip using Clinch Mountain.

It can be soared in north-west or south-east with the take-offs being only a few feet apart. One real problem is the road on the top. Unlike Lookout Mountain and Whitwell which are each fifteen-minute paved roads right to take-off, Clinch is a long dirt road with a ten-minute hike at the top. The Tennessee Tree-toppers are so spoiled with their good sites in the Chattanooga area that it takes soarable conditions to talk them into going up Clinch.

Grandfather Mountain, home of the Order of the Raven, is *the* experienced pilot's escape from reality. Hugh Morton, owner of the mile-high paradise in the clouds, will give any hang four (or equivalent) pilot the "Order of the Raven" award for simply soaring one hour over Grandfather Mountain. Sound easy? Try it! Mr. Morton is the southern gentleman of all times and the hospitality he and his wife extend to visitors will never be forgotten.

The people in the South will be found to be some of the most friendly people in the world. Some of them are, however, quite deliberate and set in their ways, and seem to have a language all their own. All foreign visitors will be advised to take plenty of time when communicating with the locals as some of them will be very hard to understand.

Flying in the South is a very enjoyable and memorable experience. Everybody is assured of getting some *dynamite* flying. The potential for record breaking cross-country flights is everywhere.

Thanks to the gracious hospitality of our meet host, Bettina Gray, and the organisational expertise of Tracy Knauss (meet director), this Americas Cup meet will be long remembered by everyone. Quoting one of Europe's best known pilots, John Hudson, "It's going to be the biggest whing ding of all times".

These days there's a great deal of talk going around concerning a meet in Chattanooga, Tennessee, in October. The best competition pilots from England, Australia, Canada, and the United States are all going to try to take home the Americas Cup. It promises to be one of the most competitive meets in the history of hang gliding.

The meet, hosted by photographer extraordinaire, Bettina Gray, is scheduled to be held at Lookout Mountain, near Chattanooga. The Lookout Mountain sight is owned and operated by "Air Space Inc.", consisting of three of the most influential people in U.S. hang gliding. The co-owners, Tracy Knauss (Editor, *Glider Rider*), Larry Newman (President, *Electra-flier*), and Bill Bennett (President, *Delta Wing Kites and Gliders*) profess that this is to be the

SCHOOLS

BIRDMAN FLIGHT TRAINING SCHOOL.

Director: Ashley Doubtfire
Address: Mildenhall, Marlborough, Wilts.

Telephone: 0672 53021

Courses available: Two and four-day courses up to Elementary Certificate. Two to four day ridge-soaring and top landing courses.

Refresher course for EPC and Pilot tasks.

Advanced training to National League standard for Pilot badge holders. (Including thermalling and general use of variometer).

Agents for Bell Helmets and Mistral Flying suits.

Training programme: Basic theory given in lecture form using diagrams for clarification, followed by intensive work in a simulator, stressing the importance of orientation with the wind direction. On-the-hill training usually starts with tether training on the top. Static tether (possible only in fresh to strong winds) enables the pupil to hover and therefore to have the time in the air necessary to develop natural reactions before attempting first solos with radio at the bottom. In lesser winds longer flights are made (gliding tether) enabling initial turning experience to be gained before soloing on the nursery slopes. Soaring courses comprise 1½ hours of theory and then an "assessment" flight enabling the instructor to find out what stage the pupil has reached, as one of the most important aspects of soaring is a good sense of speed control and general pitch-roll co-ordination in turns. Subsequent flights are made with radio and in favourable conditions invariably end with a top landing.

Prone Conversion: It is often possible to combine a soaring course with prone-conversion in the following manner:- If the wind is too light for soaring the pupil can be taught prone. When the conditions become soarable, the glider is usually re-rigged for seated for soaring instruction.

The School is registered with the BHGA employing HIA instructors. Marlborough is 1½ hours from London; 1 hour from Bristol; 2 hours from Birmingham and 1½ hours from Southampton. Open seven days a week.

BIRDMAN (WALES) SCHOOL OF HANG GLIDING. The National Park Hang Gliding Centre.

Birdman (Wales) School of Hang Gliding. The National Park Hang Gliding Centre.

Address: The Quarry, Crickhowell, Powys NP8 1RB.

Telephone: 0783 810681

Instructors and Status: One Chief Flying Officer, two Assistant Instructors.

Make of Training Gliders: Birdman Firebirds 19ft. and 20ft, Birdman Moonrakers 19ft and 20ft.

Training Sites: Numerous training sites throughout Black Mountains, Brecon Beacons, and Heads of the Valleys area.

Details of Courses: Two-day course to Pilot 1, four-day course to Pilot 2 (Elementary Pilot's Certificate). Intermediate and prone conversion courses. Refresher courses.

Charges: £15 per day per person. Fully inclusive of lectures, films, instruction, demonstrations, use of all School equipment, lunch on hill, and liquid refreshment, transport to and from School to flying sites, and third party insurance cover.

Other Details: BHGA and HIA registered. Excellent accommodation of all types locally.

CAIRNWELL SKI SCHOOL

Address: Cairnwell Mountain, by Braemar, Aberdeenshire AB3 5XS.

Telephone: Glenshee 215, Braemar 268

Number of Instructors: Two.

Status: Both instructors have full instructor rating.

Make of gliders: Hiway Cloudbase, Wills Wing SST, Wills Wing Cross Country.

Training sites: Various sites in the Cairnwell and Glenshee area, according to wind direction.

Course length: Four-day introductory course, followed by a three-day advanced course. Days of instruction need not be consecutive.

Cost: Four-day introductory course — £50, Three-day advanced course — £30, One-day prone conversion course — £12.50

THE CORNWALL HANG GLIDING CENTRE

Address: 203 Henver Road, Newquay, Cornwall.

Telephone: Newquay 2656

Instructors: HIA approved. Chief Instructor: Mich Barclay.

Make of gliders: Hiway.

Courses: The Cornwall Hang Gliding Centre's School operates seven days a week, weather permitting and offers courses of virtually any duration to suit the particular needs of individual students. All students receive instruction in the theory of flight with particular emphasis on those principles most relevant to Hang Gliding: the difference between ground speed and air speed: the need for maintaining flying speed: the extreme danger of stalling near the ground: methods of control: stalling and recovery. Only after students have a firm grasp of such fundamental principles do they progress through ground handling to their first experience of man's ultimate dream; flight. Tuition is always under the supervision of qualified H.I.A. approved instructors and follows the so-called "low and slow" approach of

all BHGA registered schools.

Cost: The cost of courses is calculated on a daily basis being £12.50 for the first day; £11.50 for the second; £10.00 per day thereafter.

DUNSTABLE HANG GLIDING SCHOOL LTD.

Address: 55 Spring Lane, Great Horwood, Milton Keynes MK17 OGP.

Instructors & Status: Chief Flying Instructors (HIA): Howard Edwards, Dave Simpson.

Training Gliders: Chargus Vega II's, Flexiform Spirits, Scotkite Firefly.

Training Sites: Nursery slopes near Aylesbury, Bucks and Dunstable Downs.

Course Details: One or two-day weekend courses. Three-day mid-week courses to E.P.C. standard. Beginners, advanced soaring instruction and prone conversion courses.

Cost: From £16 per day incl. V.A.T. **Other Details:** Ground to air radio. 24 hours spares and repair service on most gliders. Agents for Chargus and Skyhook. Accessory Shop. Second-hand gliders for sale, part-exchanges on most models.

THE PEAK DISTRICT FLIGHT TRAINING CLUB.

Address: Upper Hulme, Leek, Staffordshire.

Telephone: Blackshaw 231.

Instructors: Chief Instructors: Malcolm Hawksworth, Alan Hetherington. HIA rated.

Training Gliders: Hiway Harriers, Fleiform Spirits and SST's.

Courses: Two-day courses — Saturday and Sunday or Monday and Tuesday. Four-day courses run from Monday to Friday. Initial flights are taken from gentle slopes to afford maximum safety during early stages. Control of the glider is learnt on a static flight simulator and then on slopes using dynamic flight simulation, which will entail either running along flat ground or tethered flight. The pupil then graduates to bigger slopes. A two-day course will give introduction to hang gliding and several low altitude flights. Four day's training can lead to Pilot 1 standard. Ground to air radios always used.

Day 1: Theory, film, Indoor flight control, radio familiarisation, nursery slopes.

Day 2: Ground skimming, tethered soaring, take-offs and landings, self-launch and landing.

Day 3: Tutorial, flying from greater altitude, turns, topographical awareness.

Day 4: Flying, learning to fly at L/D speed and best min. sink, 90° turns.

THE HIGH SCHOOL OF HANG GLIDING.

Address: Sion Lane, Clifton, Bristol BS8.

Telephone: Bristol (0272) 37870 or 39425.

For Bookings and further enquiries: Glenn Harvey, The Former Rectory, Brixton Deverill, Warminster, Wilts.

Tel: Sutton Veny (09854) 571.

Instructors: Four master instructors, two assistants.

Training Gliders: Presently McBroom Cobras, although will be changing to Vega II's or Lynx's for summer.

Training Sites: At present nine training sites facing all wind directions — plus negotiating for five more ground skimming sites.

Courses & Cost: Two-day Introductory non-certificate course — £30. Four-day BHGA E.P.C. course — £60. Four-day BHGA E.P.C. course with pub accommodation — £78. Group bookings of four or more £12.50 per day, per person. Intermediate soaring/top landing lessons using ground to air radio — £10 per day. One-day prone conversion course — £10.

Other Details: Reductions on all courses for pupils with own gliders. School uses static and gliding tether, assisted ground skimming agents for Chargus Vegas and most other intermediate gliders. We operate in the Mere, Wilts area seven days a week. Paul Baker is hoping to have his towing system ready soon and we will shortly be training using Moyes Stingers and Phoenix's at a nearby gravel pit complex.

IBIS SOUTH WALES HANG GLIDING SCHOOL

Address: 54 Pontmorlais Merthyr Tydfil CF47 8UN.

Telephone: Merthyr Tydfil (0685) 3780.

Instructors: Four: Mike Adam, Allan Hetherington, Chris Anthony, Paul Stephens. (Two full HIA Instructors, two HIA assistant Instructors). All resident, all full time.

Training Gliders: Avon Swifts, Spirits, Falcons, Harriers and SST's. **Advanced Gliders:** Wills XC and Gryphon III.

Sites: Penylan, Merthyr Common, Bedlinog, Abertysswg, Rhossili, Bryncaws, Hay Bluff.

Courses: One-day, two-day, five-day, ten-day. Beginners, Intermediate, Advanced, Prone conversion, etc.

Cost: £15 per day for first two days. Thereafter £10 per day.

Accommodation: £3.50 Bed and Breakfast. £6.00 Full Board.

Other Details: All equipment such as gliders, helmets, radio transmitters, boots and gloves are provided but students may bring their own if they wish. Elementary Pilot's Certificates are awarded usually at the end of 3-5 days and Pilot's Wings standard is usually reached in 10-15 days depending on a person's aptitude.

KNIGHT HANG GLIDING

Address: 10 Spring Gardens, Washington, West Sussex.

Telephone: Ashington 892770.

Instructors: Two full-rated Instructors. Tom and Jeannie Knight.

Training Gliders: Hiway Harriers and Skyhook Sunspots.

Sites: Steyning Bowl and Devil's Dyke plus several private sites on South Downs.

Courses: Courses available range from One to Five-day beginner,

advanced and prone conversion.

Cost: £12 per day.

Other Details: We concentrate on small groups — usually never more than six pupils to two instructors. To enable full individual attention to be given.

NORTHERN SCHOOL OF HANG GLIDING.

Address: 8 Brencon Avenue, Brooklands, Manchester M23 9HL.

Telephone: 061-973 4085

Instructors: Two chief Instructors.

Training Gliders: Skyhook Cloud 9's and Sunspots.

Sites: Principle training site is Brown Wardle Hill (Lobden Moor) on the A671 Rochdale to Bacup road. The hill faces almost all wind directions.

Courses: One-day introductory course on Sundays. Three-day serious course to E.P.C. (Monday to Wednesday).

Cost: One day course — £13.50, three-day course — £31.50.

Other Details: Negotiation with block booking for Universities, societies, etc.

NORTH WALES BRANCH OF WELSH HANG GLIDING CENTRE

Address: 17 Well St, Ruthin, Clwyd.

Telephone: 08242-4568

Instructors: Jim Bowyer, Chief Instructor plus assistant Instructor.

Courses: All course details are the same as those for the Welsh Hang Gliding Centre.

THE PEAK SCHOOL OF HANG GLIDING

Address: 36 Main Street, Milton, Derbyshire DE6 6EF.

Telephone: Burton-on-Trent 701130

Other Details: A newly-opened school. Details of courses etc., were not available by the time of going to press. Chief Instructor: Alastair Geldhart.

SOUTHERN SCHOOL OF HANG GLIDING.

Address: 11c Denmark Terrace, Brighton, Sussex.

Telephone: Brighton 25534.

Instructors: Graham Slater, Chief Instructor. Jeff Lowry, Assistant Instructor and Dale Clothier, Assistant Instructor.

Training Gliders: Hiway Harriers (1st and 2nd day (wheels fitted). Vega II A/B. 3rd day Midas E.

Sites: Goldings Barn West — NW. also S. Steyning Bowl — N to S through East. Ditchling Beacon — N to NE. Devil's Dyke NE. — West. Two new sites (training only being SW — W and N.

Courses: The school will soon be moving to new premises, enabling Residential courses for at least eighteen people per day, this includes Bed and Breakfast. The courses comprise: Two-day weekend (introductory). Two-day (Monday-Tuesday). Four/five day (Monday onwards). All courses start first day with theory and films, commencing 9.30am-12noon. Simulation, rigging, de-rigging and ground handling 1pm-5pm. 2nd day: theory and films 9.30am-10.30am. Practical flying

(tethered), ground skimming. There is a written test in the evening. 3rd day: Practical flying. 4th day: or 5th day: Practical flying with final written test on last evening. If failed no E.P.C. supplied. Written test re-taken. Before courses commence pupils receive booklet on course details and theory to read and digest before arriving. Also on arriving receive copy of Bob Cloudy Mackay's Hang Gliding bible.

Cost: £18 per day. This price includes Bed and Breakfast, packed lunch, transport to and from site and V.A.T. Prone and Advanced Courses: £10 per day with own glider, £15 per day with School's.

Other Details: Kite hire to E.P.C. — £10 per day. Kites: Vega II A/B's, Midas E's and Olympus.

WELSH HANG GLIDING CENTRE

Address: New Road, Crickhowell, Powys, S. Wales.

Telephone: (0873) 810019

Instructors: Four full Instructors and two assistant Instructors.

Training Gliders: Hiway Harriers.

Training Sites: Mainly Abertyswwg, Sirhowy and Y Fan Fawr.

Courses: Elementary (two, four or six days) which leads to Elementary Certificate standard. Intermediate courses.

Intermediate Course Syllabus: For Elementary Certificate holders. Designed to go from the elementary stage of soaring.

Day 1: Assessment of existing flying skills, accurate position landings, Rate 1 180° turns.

Day 2: Contour flying, crosswind take-offs and landings, flying with others.

Day 3: Theoretical test, Rate 2 turns, assessment of conditions, flight planning, stronger wind flying.

Day 4: Rules of the air, starting to soar.

Day 5: More soaring, using the lift.

Day 6: Theoretical test, different

forms of lift and how they are used, top landings.

Cost: Elementary Courses starting before 31.3.78 — two-day £28.90, four-day £55.90, six-day £76.90.

Starting after 1.4.78: two-day £34.70, four-day £66.90, six-day £92.30.

These courses include the hire of all equipment.

Intermediate Course: For holders of the BHGA Elementary Pilot Certificate. Six days only:

(Starting after 1.4.78) using own equipment £48.00, using our equipment £72.00.

All prices plus VAT @ 8% and subject to change without notice. Party Discount for four people or more — 20% off.

Other Details: Glider hire. Agents for Hiway, Wasp, Skyhook, Scotkites. Re-conditioned gliders and other accessories for sale. Bed and Breakfast or hotel accommodation can be arranged.

THE CUMBRIAN HANG GLIDING CENTRE

Address: Rookin House Farm, Troutbeck, Penrith, Cumbria.

Telephone: STD 085 33 561.

Instructors: Chief Instructor: Roger Middleton.

Training Gliders: Wills Wing Universal and Flexiform Spirits.

Training Sites: For all wind directions. **Courses:** Two-day elementary course. Four-day course to BHGA Pilot One standard. Pupils receive theory

lecture, flight simulator practice and then progress to training sites. Intermediate soaring and prone conversion courses available using ground to air radio.

Cost: Two-day course £27, Four-day course £54, Soaring course using own glider £7, using school's glider £10. Prone conversion — same as for soaring course.

Other details: Agency for Wills Wing Universal 90 & 100, SST 90 and 100, and 110P. Flexiform Spirit and Vector, kit or ready made. Sailing canoeing, pony trekking, and climbing all available in the vicinity of the school.

HANG GLIDING SCHOOLS REGISTERED WITH BHGA AS AT 4th APRIL, 1978

1. Birdman Flight Training School
2. Birdman (Wales) School of Hang Gliding
3. Cairnwell Hang Gliding School
4. Cornwall Hang Gliding Centre
5. Cumbrian Hang Gliding Centre
6. Dunstable Hang Gliding School
7. Hawksworth Skysports Ltd.
8. High School of Hang Gliding
9. Ibis South Wales Hang Gliding Club
10. Knight Hang Gliding
11. Kite School of Hang Gliding
12. Northern School of Hang Gliding
13. N.W. Branch, Welsh Hang Gliding Centre
14. Peak Hang Gliding Centre
15. Skyrider British Hang Gliding School
16. Southern School of Hang Gliding
17. Welsh Hang Gliding Centre
18. Western Sailwing Centre Co.



NEWS ROUNDUP

POWERED CHANNEL CROSSING

May 9th.
Dave Cook pioneered the first crossing of the channel by powered hang glider. Taking off from Deal in a north easterly wind, Dave from Aldringham in Suffolk, landed an hour later in Calais on his home built VJ 23. Dave's powered set up is so good, that he has managed to sell his engine mounting system to Volmer Jensen. Dave comments that it is rare for designs to go back across the Atlantic. A reporter will be visiting this remarkable man from the flatlands, for a feature in next month's *Wings!*



Dave Cook in the pre-Cross Channel days.



Tony Fletcher about to take off for his memorable bottom to top flight. Photo. Roy Hammond.

ACHILL IN THE SPRING

The Easter Fly-In of the Irish Hang Gliding Association at Achill Island was windswept, as were the rest of the islands of the west of Europe.

Late on the Saturday night the skies cleared to bathe mountain and sea in the light of a full moon; and the wind was a 14kt atop Minaun Heights. At half an hour before midnight IHGA Safety Officer Tom Hudson had to persuade two British fliers to abandon their plan for a midnight flight from the top.

There is a low sand dune at Achill, about 70ft high, overlooking Tramore Sands, which is called Dookinelly Cliffs. It's a mile and a half from Askilgubroenacoragh, and amile from Carricknagalliaghdoon (an item from the Department of Useless Information, but it looks well!) It is also a place which Tony Fletcher from Aberdare will remember for a long time to come, for on the Saturday afternoon the winds dropped off a little from the 40kt of the morning. Fletcher took off in his Gryphon from

Dookinelly, into about 10 knots of south-westerly wind, and gently soared back and forth along the dune gaining a little height each time. About half an hour later he reached a bowl in the lower reaches of Minaun, from which the lift took him up really fast to about 400ft. He soared slowly into another, larger, bowl and up he went again and before very long was fully 500ft over the top of the Minaun Heights, a massive gain of 1,960ft over take off point. The wind had been slowly backing and decreasing in strength and the bold Fletcher rather shook a gaggle of fliers busily rigging on the top as he landed among them, for this bottom to top flight had only been performed twice before (by Anthony Hill and Dave Raymond), in better conditions.

All in all — apart from the foregoing — an unmemorable Achill for a change, but we're trying again in August. Come on over!

Roy Hammond

SOUTHERN LEAGUE COMP.

In what was probably the best league competition to date, Lester Cruse emerged as winner flying his Gryphon for the last time. The event organised by Tony Fuell, went off like a dream. CF Crow Ltd. kindly loaned an enormous lorry to transport large numbers of pilots and their gliders to the top of the hill in one fell swoop. The loan of the lorry driven by Mick Maher's brother (who patiently ferried league pilots to and fro for two days) was well appreciated by southerners who feared league congestion of the four wheeled variety.

The first day saw a speed run/360 task followed by a roll rate contest. On the second day light winds made for a duration/360 task and a straight glide angle event. Local fliers happily weaved in and out of competing fliers and the feared clash of interests did not occur.

The climax of this league, was the last day when conditions looked thermally and Tony declared a cross country/distance task. It involved flying downwind to cross roads 3½ miles behind the ridge. In superb conditions, over thirty of the pilots made it. Most of them were still climbing rapidly at 1500ft. plus and

having to weave to lose height. After completing the task Johnny Carr and Bob Calvert promptly leapt off to complete 10-mile-plus flights. Calvert was carrying a Barograph and has since put in a British Height gain record for 2850ft. (He says he acknowledges fliers who have bettered this figure, but hopes to stimulate interest in record attempts).



Above: Scorpion in a low level roll rate test. Photo: Tony Fuell. Below: That Lorry. Photo: Roger Wates.



United Kingdom Hang Gliding Rally

Shortly before his sad death, Paul Renouf wrote this report on the Perranporth Rally, for *Wings!* We print it as he would have wished and remember him as someone who was always willing to help others with a cheerful unselfishness.

100 to 1 that the wind would blow in the right direction. 10 to 1 it would be the right strength. 50.1 the weather would be fine. Sounds like the odds of having a successful Hang Gliding Rally were not worth getting your 10p on. You should have done, and raised the stake.

The Ladbroke sponsored Hang Gliding Rally organised by the Kernow Club was undoubtedly a success for everybody. John Westcott, Chairman of the Club had the unenviable responsibility of organisation. Nice one John — no hassle, nice tasks, perfect venue, beautiful weather. You name it — we had it. Accommodation in spacious chalets and caravans was provided by Ladbroke at specially reduced rates for fliers — an attraction, along with the site, worth coming for alone.

Most of the fliers assembled on Thursday. Sea mists restricted flying but not Steve Hunt who gave an interesting talk on powered hang gliding. Friday morning, the first day of the competition was a dull day, threatening to rain. Winds were 25-30mph and gusting. At the two o'clock briefing fliers were told "No competition tasks today, free flying only". The insight of this Organising Committee was unparalleled. This is just what everybody wanted — Free Flying Perran Sands with its combination of rounded cliffs and undulating sand dunes coupled with a breezy North Westerly gave upwards of 60 pilots a two-mile coast run. Not all 60 pilots were in the air at the same time. The highest count was 35! From the town it looked like a flock of giant seagulls. That night at the disco the Go-Go girls were the only ones who could manage to dance.

Saturday: Wind NW 18-25mph, perfect. The nine o'clock briefing told the pilots that the first competition task would be a slalom and spot landing. Several pilots completed the course and managed to hit the spot. Free flying could continue safely while the competition was going on and so at the end of the first task Ashley Doubtfire was called upon through the loud hailer to round up all the free fliers for another briefing. The second task of the day was to be a glide angle/distance event. Pilots had two minutes from take-off to round a marker on the beach and then to fly as far as possible into wind up the beach. Trevor Taylor on an SST showed us how it could and should be done.

Saturday night had dancing in the ballroom to a live group. The absence of fliers was perhaps because of the double walk up the dunes. Ken Messenger proved that he was still fit



by opening the dancing.

On Sunday, the briefing at nine confirmed that the wind had veered south and although an alternative site was available, it was not so accessible to the spectators, so the competitive part of the rally was shelved. Free flying again for all. The results would be announced at a presentation later that day.

The competition was not only confined to the sand dunes. Each evening a distance event was held in the ballroom. No clear winner emerged despite bombardment from the North Devon Sailing Club. The competition was stopped due to the occurrence of frequent spectator injuries and mid-air collisions.

Prizes in the form of small sealed envelopes were presented on behalf of Ladbroke by the President of the BHGA Ann Welch. Ann had spent the weekend at the competition and when not watching the flying, proved to be very useful on a skateboard.

The final results were as follows:-

Class I:

- 1st Brian Wood — Moyes Stingray
- 2nd D. Lewis, Wasp C4
- 3rd Pat Turner, Breen Hi-Fli

Class II

- 1st Trevor Taylor, SST 100B
- 2nd B. England, Phoenix 8 JR
- 3rd Keith Reynolds, Gryphon III

Class III was awarded to Lester Cruse with the Manta Fledgling. Dave Cook was supposed to offer a challenge with the VJ23 but was presumed to be still in France. Steve Hunt won the powered hang gliding class.

In Class II prizes were given to the first 20 in the class so many fliers finished the weekend well satisfied. I advise you not to miss next year's competition — it promises to be bigger and better. ☺



Top left: Paul Maratos and his Vector. Top right: Kev Cowie takes a hitch-hiker for a ride on his S. Scorpion. Middle top: Lester Cruse and his Fledge. Middle bottom: Dave Bazely with his 40ft. span, Sky Queen II. Photos by Lawrence Lawry. Left: Ann Welch and skateboard. Above: Keith Cockcroft seems overjoyed with his winnings.

GLENSHEE FREAK OUT

by Ian Trotter

The Third British League and the Scottish Open Championship were held in the last week of May at The Cairnwell, Glenshee. Ian Trotter records some memories.

It's amazing how your perspective changes after a while. Kites wheeling over a familiar site normally near empty no longer grab the attention; a glider showing above the horizon four miles away is watched only sporadically; you get so used to new kites, barely into production, that you need confirmation when you see some thing as "ancient", and hitherto familiar, as a Moonraker '77.

Bob Calvert was at cloudbase in his Super Scorpion just before a Purple Airway came into force.

The crowd at the chairlift cafe stood goggle-eyed as he descended two thousand feet in a series of 80°-banked 360s.

Brian Milton's moment of truth arrived during an extended PU round the fire at the camp-site. Cries of "DE-BRIEFING!" rang out and the familiar yellow breeches were used as a windsock.

The League pilots can probably expect a lot of spot-landing tasks in the future. The general willingness to let the kite tumble in any old way provided it reached the spot was relieved only by Bob Bailey who ran off rather than risk damage (and probably by some others I didn't see).

A complex task was a third through at eight in the evening when the radio announced cancellation. The sky suddenly filled with free fliers.

Still-air take-offs on a strange site after light lunch-time refreshment are not recommended. Late and heavy nights however can be countered by a relaxed and substantial breakfast and a latish take-off.

The worst injuries were caused by skateboards and bloody-minded ponies.

After a soaking, Gustav decided on a glide-angle task which, because of utterly still air, must have been the best comparative flight for a long time. Gryphons obviously, and XCs, Phoenix 8 very close and Moonraker '78 showing well.

The sun shone and the thermals bubbled. One day out of nine was written off through rain and on one other day, gliders were used as umbrellas.

Competition pilots would be nowhere without marshalls, whose dedication amazes me. Keith Coles, Liz Squires, Roy Hill and Jim Penman put in a mountain of work. Brian Milton and Dave Squires in their respective events organised efficiently and even managed to fly, Dave doing jobs which were not really his responsibility — the man everyone turned to for information and decisions. Gustav's van, driven by Jim Penman as a "rest" from marshalling, covered 300 miles retrieving pilots.

One day the wind was swinging around through North, an awkward direction. Gliders stood ready to go, each one pointing a different way. When the wind came on to you, you flew.

I don't think I ever bothered to lock my car on the camp-site. I saw no evidence of cheating and it never occurred to me to look for it. Carefully stretching of the rules was another matter and it took fine judgement to use ridge-lift in the 360 task without being caught out.

Graham King took his Oly 180 over the right-hand ridge and shouted down to warn a novice whose Grasshopper was inflating from behind.

John Rankin, who runs up the hill and rigs his SST faster than most people could rig a standard, managed five cross-countries in one day.

The pretty waitress at the chairlift who unfortunately lived at Braemar rather than the Spittal got stood up four times by the same bloke.

Jim Somerville, a relatively inexperienced pilot from Fife, not long converted to prone, flew his Falcon 3 to the Spittal. Last year this would have been newsworthy. During the week there must have been ten flights of 8 miles or more.

If we get four Scottish Area League pilots into the big League, I don't reckon they'll be the last four. The heroes from south of the border are excellent pilots but flying with them gets rid of illusions that they are super-human, understandable when the only information reaching here was printed. Bailey, Calvert, Cockroft and Cruse, to name just a few, merit adulation though they probably hate it; the general ruff of pilots in the two events however are less far ahead of us Scots than we used to think.

Pilots remarked that the Open was more like a fly-in than a competition. Personally I found it a very happy compromise between organisation and freedom. There were a few occasions when you had to stand around for ages watching pilots do the same thing over and over again, one glider in the air at a time. Most take-offs were freely timed, any sequence, go-for-it and

leave your helmet beside the road.

Lester Cruse did 15 (max) immaculate 360s in the Moonraker '78. All the British League pilots opted out of 360s higher than some Scottish Area League pilots had done a few weeks before. The latter crashed; the former didn't.

A big Cu-nim had been growing above the hill when a shower started and several pilots decided to fly down and stay dry. My Cloudbase found lift, my vario confirmed it and I wheeled around, gliders everywhere, hundreds of yards apart, at least a dozen, two Gryphons 'way above and one below. Bob Bailey spotted me and soon passed; Simon Ogston came up and converged, later apologising for coming close. I wasn't bothered and was grinning away at him. The grin was fixed for the rest of the day and returns every time I think about it. My second thermal (the first was four days before) and it would have justified two years of still-air top-to-bottoms. It was a distance task but I was so freaked out I forgot all about it and landed at the lay-by. Chris Johnson was doing tight 360s in his Windmaster Super Scorpion with someone else doing concentric 360s round him.

Local hotels were welcoming. One whose management had recently changed was thronged for the first four days and empty thereafter because the welcome was less warm than elsewhere and food was lacking. The Dalmunzie laid on a meal at nine o'clock (unusual in the Highlands) and reaped the benefit of custom for the rest of the week.

One isolated Scottish pilot was ashamed to let his Argus be seen in such exalted company, refusing to believe he'd be treated like any other flier. An English pilot in a C4 proved the point.

Calvert's secret is out now, or at least one small part of it; he's not a very big guy but he flies a pretty big glider.

There must be scope for hiring a pony from a trekking centre and letting it find its own way home from the top of the hill.

I wouldn't be in the least surprised if

next year's Scottish Open is a simple spot-landing task: one spot four miles upwind at the Spittal and one nine miles downwind near Braemar.

Scottish pilots watched the experts and found they could emulate them. Not reaching cloudbase, not coring, but 360-ing back over take-off and getting a feel for thermal flying. One Scottish pilot, Bill Anderson, didn't need any lessons. His ten-and-six-mile trips to Dalnoid and Glen Isla were as good as any.

Jim McDougall, his 13½-mile Scottish record still intact, flew his Gryphon 3 to the Spittal during a task and then turned round to try for the spot three miles back.

My drive home was reluctant and at my habitual high speed until I remembered some feature of the weekend, when I slowed to forty or so. I suffered from a tristesse of almost post-coital quality, relieved, as with the only other sport worth considering, by the knowledge that, although this time had ended, there

Scottish Open — Final Scores

1	Bob Bailey	509.1
2	John Bridge	445.1
3	Mick Evans	384.3
4	Brian Wood	360.3
5	Graham Slater	354.3
6	Tony Beresford	333.1
7	Mark Southall	308.3
8	Chris Johnson	306.5
9	John North	279.9
10	Ken Messenger	279.2
11	Paul Baker	252.5
12	John Dixon	241.9
13	Mick Maler	241.2
14	Bob England	240.1
15	Keith Reynolds	239.9
16	John Rankin	237.2
17	Graham Leason	232.9
18	Peter Millward	231.3
19	Trevor Birkbeck	227.7
20	Gustav Fischnaller	227.4
21	Richard Worth	225.7
22	Alan Weeks	196.2
23	Johnny Carr	194.4
24	Jan Ketelaar	185.5
25	Richard Ware	184.1

Longest Distances:

John Bridge 12.5-9.2 miles (ATCF)

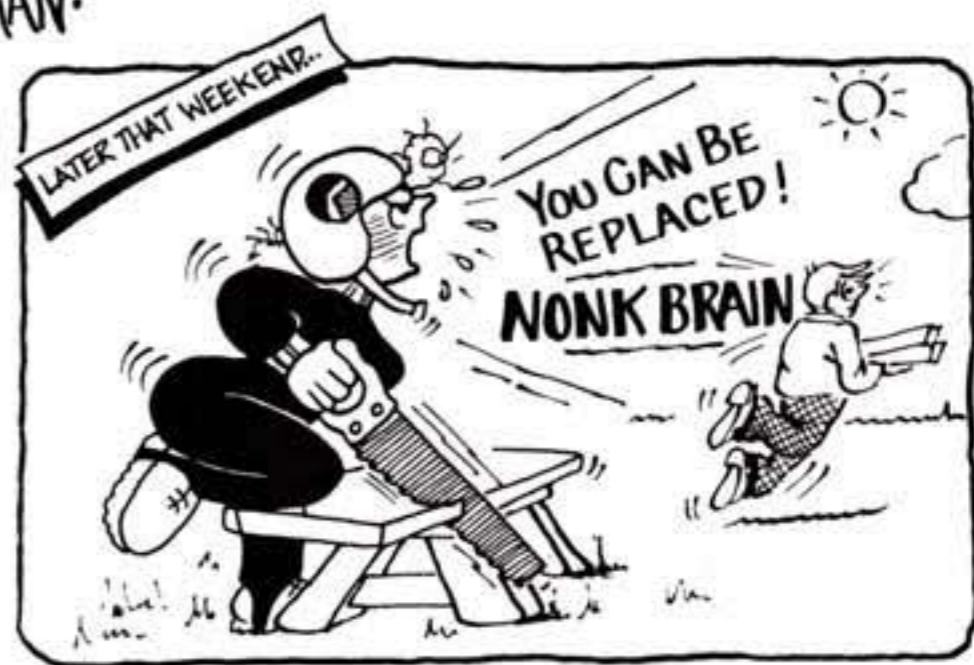
Bob Bailey 12.8-9.25 miles (ATCF)

Mark Southall 11.4-9.25 miles (ATCF)

ATCF — as the crow flies.

Peachy

BY HARDMAN.



INITIAL WORKING DOCUMENT ON THE REGULATIONS FOR POWERED HANG GLIDING

Submitted by Brian Milton, Chairman of Powered Hang Gliding Committee

Definition of a Powered Hang Glider

1 A hang glider is a heavier-than-air fixed-wing glider capable of being carried, foot-launched and landed by the energy and use of the pilot's legs.

2 A powered hang glider (PHG) is a hang glider, as defined in 1 above, fitted with one or two motors.

3 The maximum weight of a powered hang glider shall not exceed 70kg, without pilot, but including the motor(s), fuel and instruments.

4 The maximum number of persons to be carried by a powered hang glider shall be two.

5 The maximum amount of fuel to be carried by a powered hang glider shall be three imperial gallons.

6 The maximum power loading of a powered hang glider shall be 15lbs/HP.

7 The design of the powered hang glider shall be such that, if the motor is in operation upon take-off or landing, there shall be no additional hazard caused to the operator(s) by the running motor.

The design of the powered hang glider shall be such that it is possible to foot-launch and land the glider by the energy and use of the pilot's legs (as in 1. above) without the motor running.

Registration

All powered hang glider types in Britain must be registered with the British Hang Glider Association before use.

The application for registration must include the following information.

(a) Make model and size of hang glider;

(b) Make, model and capacity of motor;

(c) Description of the combination (e.g. glider with motor to the rear of pilot, under the keel, driving 36in. to 44in. pusher propeller through gear reduction, sprag clutch and 36in. enclosed shaft with a 1-litre alloy petrol tank).

In considering an application for registration, the British Hang Gliding Association shall require sight of plans, detailed specifications and/or an examination of the combination.

The British Hang Gliding Association will use such means at its disposal to restrict the sale of power packs and combinations to those combinations which have BHGA approval.

Airworthiness Approval

All powered Hang Gliders flying in the

UK must have a BHGA certificate of air-worthiness.

The onus to get approval for a combination shall rest with the manufacturer of any one model of hang glider, or his authorised agent.

The manufacturer must supply proof to the British Hang Gliding Association that the hang glider used in the combination is capable of being safely flown with a specific power unit mounted in a specific way.

Separate approvals will be required for different models made by the manufacturer.

The manufacturer must supply adequate instructions with each powered hang glider, including details of operating limitations for low-wind or still-air take-offs considered against pilot weight.

In return, provided the British Hang Gliding Association is satisfied that its conditions have been met, approval will be granted to the combination.

In applying for approval, the manufacturer must meet the following requirements:

1 The hang glider must meet the British Hang Gliding Association's approval standards.

2 No formal certificate of airworthiness shall be required for the power unit, but reasonably proof shall be furnished to the British Hang Gliding Association that the unit is suitable for use in powered hang gliders.

3 The manufacturer must show a record of 5 hours flight time for a particular single hang glider, fitted with a particular unit, to gain approval for a particular combination. This flight log must list flight times and dates, details of sites, pilots, weather conditions and other relevant information, in particular, any information concerning repairs and adjustments carried out on the combination. The British Hang Gliding Association may appoint its own inspector to examine the combination and flight log before approval is given.

4 Proof must be furnished to the British Hang Gliding Association that the following tests have been carried out on a combination, before approval is given:

(a) That the combination is capable of hands-off flight with power on or off;

(b) Stall characteristics should be as good, if not better, under power.

(c) Engine failure during a stall does not cause loss of control:

(d) Three take-offs and landings, with, and without power, the landings being at least two minutes after take-off.

(e) Full stall, power off;

(f) Stall on gentle turn with, and without, power.

(g) Full 360° turns, left and right, with and without power, steep bank, shallow bank;

(h) Proof that the power unit mountings are capable of withstanding at least 12G instant force;

(i) Proof that the power cut-off switch, mandatory on all powered hang gliders, is effective in flight.

(j) Drop tank tests.

both gently and steeply banked, to the left and the right).

(9a) (good control in turns).

(9b) (full stall recovery from straight and level flight into wind)

(9c) (stall recovery in gentle banked turns).

(9d) (recognition of the onset of a stall and its prevention in a positive manner).

(9e) (how to cope with wind gradient and the importance of air speed on a landing approach).

In general, the power endorsement shall be obtained through British Hang Gliding Association registered schools and club instructors provided that the instructor has gained a power endorsement.

Initially, pilots shall be taught and rated by powered hang glider manufacturers, subject to the discretion of the BHGA. These manufacturers must be members of the British Hang Glider Manufacturers Federation.

All tuition and rating must be on combinations that are approved by the British Hang Gliding Association.

All powered endorsements must be signed off by the BHGA Flying and Training Officer.

This initial period shall last until 200 pilots have registered a powered endorsement with the British Hang Gliding Association.

It is strongly recommended that anyone flying a powered hang glider should carry an altimeter and a compass, and wear a parachute. ☺

Pilot Grading Scheme

The flying of powered hang gliders shall be restricted to those who hold a BHGA Pilot 2 rating. Powered hang gliders may only be flown without supervision by those holding a BHGA Power Endorsement

To be awarded a power endorsement, a pilot must safely complete the following tasks to the satisfaction of a BHGA examiner, flying a combination which, where the examiner so demands, shall provide essential power to stay in the air:

1 Three flights, each of at least 10 minutes' duration, in which the power unit provides the essential means to stay in the air;

2 Six safe stand-up landings within a 25-metre radius spot;

3 The following Pilot 2 tasks, with, and without power;

(8) (precise 180°-degree turns,

CAN THE BRITISH TEAM BEAT THE BEST IN EUROPE?

The European Championships take place in Kossen, Austria, in September 1978. The best European Teams are going to be there, including us, and we want to win. There's no reason why we shouldn't — we have the fliers and the kites. We believe we're the best and this is our chance to prove it.

The Sports Council is backing us to go there and win, and so is the BHGA, but still more cash is needed. We need £1 at least from each of you: that's the cost of three pints of beer, a cinema ticket, or two packets of cigarettes. It's not a lot.

How can you help?

All you need to do is buy at least one book, but preferably two, of the enclosed raffle tickets at 25p a ticket, and send the counterfoils, with your contribution, to BHGA, Taunton, in the enclosed envelope.

All tickets will be placed in the hat for the draw at the July League and the first name drawn will win a current production superkite of their choice from one of the following manufacturers: Birdman, Chargus, Hiway, Waspair, Skyhook. (They are generously contributing part of the cost). Negotiations are in hand for other prizes which may include: a parachute, vario, altimeter. Should the winner of the kite not hold an EPC the Birdman Flight Training School will provide free tuition.

With your help, we can make the British Team the toast of Europe!

Many thanks,
Roy Hill and Chris Johnson
British Team Managers
PLEASE - if you don't wish to purchase the tickets RETURN them in the envelope enclosed.
- if you can sell more than two books please ask for more when returning the counterfoils.

RECENT ACCIDENTS

by Tony Fuell and John Hunter

Hang gliding, as a sport can never be totally safe. Everyone who leaves the ground in any sort of aircraft knows that they significantly increase their chances of an accident by doing so. Most of us adopt an attitude of "it can't happen to me" — a very deep, fundamental feeling which we may never express verbally, but which is always there.

There is nothing particularly wrong with this — it's nature's way of enabling a complex, thinking organism like a human being to continue to function in an aggressive, hostile environment. Humans could not do the incredible and wonderful things that they do, unless they possess a defense mechanism which allows the thinking part of the brain to over-ride the organism's fear of being hurt — it's avoidance of pain, and death.

And so, we shut it out. We think that by adopting a rational, fairly careful approach to our flying, by not taking undue risks, it will never happen. But this attitude can also be a subtle trap. Most experienced pilots have stood on the hill at one time or another and watched another human being doing things in a hang-glider that they considered to be dangerous and/or stupid. They forget, that to the outsider, *any* hang-glider pilot does a dangerous and/or stupid thing, each time he takes off. There are people whose self-protective mechanisms are so strong that they physically cannot enter an aircraft, and others who cannot even go out of doors. We each draw lines according to our own situation and say, in effect, — "I'll go so far, but no farther". — "I'll fly hang gliders, but I won't do aerobatics". — "I'll do reasonably steep wingovers, but I won't do loops".

Whichever line you draw — remember it's *only* a mental line. The dividing lines between safe, responsible flying and tragedy are very fine ones.

This brings us to our two fatality reports for this month, Paul Renouf and Nick Lawler. Both were reasonable, careful, responsible pilots. Paul, in particular carried caution to very great lengths. An able experienced man, he served as a member of the Committee of the Southern Hang Gliding Club, edited its magazine, and was one of the strongest voices in pushing the somewhat recalcitrant members of that organisation into pulling their socks up on safety. Only a few weeks ago, he was vocally very critical of another club member who allowed an inexperienced foreign pilot to fly an advanced machine in difficult conditions at Beachy Head. His death significantly weakens SHGC's fight to retain that site.

Nick Lawler's tragedy indicates in the strongest possible terms that

powering a flex-wing aircraft is by no means as simple as it seems. The whole process is fraught with difficulties and dangers. One of Britain's most experienced pilots, Gerry Breen spent some time in hospital recently after an accident involving a Soarmaster power unit. The only advice we can give, at this moment, is that research into powering hang-gliders is best left to the experts, i.e. the manufacturers and designers. Power units should only be fitted with the explicit, preferably written, approval of the airframe manufacturer, and only operated in accordance with his directions.

Finally, the report on Colin Bisset's accident at Aviemore has been completed by the Department of Trade, but because the inquest has been postponed, we cannot finally wrap it all up. It certainly seems that the cause of the accident was the failure of a bodged-up hang point. The pilot was seated. Nothing has yet been found which would indicate any other cause, and our advice remains as previously — pay *very* careful attention to your suspension system.

Preliminary Reports

Paul Renouf

Date: 18th May 1978

Site: Vault Bay, Gossen Haven, Cornwall.

Glider: Hiway Scorpion 'B'.

Equipment: Prone Harness with 'clip'-type Karibiner, helmet, gloves, boots. Nature of Accident: The site is a coastal ridge, with a small cliff at its foot which goes almost straight into the sea. The pilot had made several previous flights with good height gain, returning to top-land. A bottom landing area exists, but most of the site is sea-cliff and the previous flights had been made over the sea. On the final flight, the wind had shifted and dropped, and on take-off, no height gain was noted. Apparently looking for lift, the pilot flew in a westerly direction away from the bottom landing area, eventually turning back, but too late to reach it. He landed in the sea amongst the rocks at the foot of the cliff and is believed to have drowned before he could release himself from the glider.

Nicholas Lawler

Date: 21st May 1978

Site: Wittingham Clumps, near Wallingford, Surrey.

Glider: Wasp Falcon 4 (not a standard model) with Soarmaster power unit.

Equipment: not known.

Nature of Accident: The pilot had received and fitted the power unit earlier that weekend. Apparently one or two flights had been made successfully. After a few low passes, during which the glider was photographed, it went out of control

and crashed.

Accident Investigator's Comment: As the first powered hang-glider fatality in the UK, this accident will obviously require very careful investigation. In the meantime, it would be helpful if BHGA members would refrain from drawing premature conclusions and spreading speculative rumours.

All pilots of powered hang gliders are advised to exercise extreme caution until the reasons for this accident can be established.

Derek Bennet

Inquest: 31.5.78

Verdict: Accidental Death

Summary of Report by B.H.G.A. Accident Investigation Officer.

BACKGROUND: The accident took place during a competition run by the Pennine Hang Gliding Club Ltd. The task was the second of the day — a roll rate task. Glider was Scorpion B — modified by owner with a device to change reflex in flight by twist grip control. The glider was airworthy. The pilot had 1½ years flying experience. Held pilots' badge.

Description of competition task: A marker line about 100m long was drawn down the hill. Pilots launched from the left and crossed line as many times as possible in two minutes. Average was 7 crossings. Required skill at tight low speed turns.

Weather: Prior to rain squall, wind square up, 12/14mph. Following squall (during which flying suspended) wind 14/18, 45° off to right.

Description of Accident: Pilot launched, crossed marker line twice. Then on a downwind leg, was seen to stall, turn to the left and impact, suffering head injuries determined as the cause of death.

CONCLUSIONS of the Investigation Officer: Pilot was under pressure to achieve a task under very difficult conditions. Stall probably encouraged by this pressure. In the opinion of witnesses, the pilot made no attempt to recover from the stall, and tried to flare downwind onto the hill at impact. He had sufficient time* to recover.

Coroner's additional comments: That this was an unfortunate accident which should in no way reflect on the sport as a whole, or be used by 'do-gooders' to attack the sport. He accepted without query the statement that the league had the best safety record in world competitions. He used the phrase 'adult and responsible' to describe the fashion in which the B.H.G.A. treated its accidents, and always referred to the association with respect.

Recommendations read to the Court by the Coroner: 1) BHGA Competitions Committee should review all competition tasks in view of this accident. 2) BHGA appoint a safety officer/director (likened by the coroner to a racecourse Steward).

UNBELIEVABLE!

What is?

The fact that after numerous warnings people are still using a potential killer on their harness systems. What is more unbelievable is that serious competition pilots in the League are among those using this killer to fasten themselves to their gliders.

I refer to the hook type clip which was supplied for many years by responsible manufacturers and which illustrated below. At first sight the



Paul Renouf's hang point-webbing and clip hook.

clip was thought to be safe. We have progressed. We now know it to be positively dangerous. Particles of dirt and sand can get trapped between the shank and the sides of the folded metal gate. This causes the gate to jam open.

After a half hour's soaring last year I landed on top, straightened up and my hang loop hit me on the back of my legs. It had simply come unhooked the instant my weight was taken off the glider. Simple turbulence, such as is found when flying behind another glider could have caused it to come off in mid air. The hook is less than an inch deep making me that far away from death.

In another case in Wales, the clip came off for exactly the same reason on launch. I have heard of similar cases elsewhere, and please, let's not hear calls of pre-flight check! We all know that these things should be noticed, but if pre-flight checks were infallible quite a few more people would be alive today.

The gate is spring loaded, and if you cover it in sand, dunk it in peat or bury it in earth, you just cannot get it to jam intentionally. Try it a hundred times and it closes every time — but that one time you forget to check that the gate is closed is the one time it jams — Murphy's Law!

The solution is simple — just saw through the loop on either side of the webbing slot, slide the sawn half out of the harness loop and thread in a screw gate karabiner. Screw gate karabiners can be purchased at any climbers' or sports shop. They just thread in place of the gate clip and are 100 per cent more reliable.

Be sensible, if your harness or seat has this type of clip, change it — not next week, but now — before flying again.

John Hudson

Bob Mackay and Bill Lehan's Book of Hang Gliding Don'ts and Don'ts

(£1.50. Sailwing Publications, 83 Wem Road, Skewen, West Glamorgan).

I started off writing this review by putting "Bob Mackay and Bill Lehan need no introduction from me . . ." and then I stopped. If we're to believe Derek Evans' figures for the turnover of BHGA's membership there must be quite a substantial number of *Wings!* readers around who weren't in 1975 and who therefore don't remember the 'Good Old Days'.

So I'll start again. Bob Mackay — large, cheerful, Liverpool-Welshman (depends on who he's talking to!) lives in South Wales. Ex-Spitfire pilot, ex small-boat sailor (quite successful). A prime mover in the early foundation of the BHGA, and a leading light in Welsh Club affairs. Drinks barley wine to excess, sings songs, writes poetry. Bill Lehan — tall (ish), dark (ish), handsome (ish). Originally got into hang gliding with Miles Handley but a serious accident took him out shortly afterwards. Draws these cartoons you've seen in *Wings!* for years and years.

Well, that's taken me ten minutes to write, and I have just realised that it's a totally inadequate description. You can never really get human beings down on a piece of paper — particularly not two people who have given us so much pleasure over the years. I've left out all the good bits — Bob reciting poetry at the top of his voice in the seething pub at Pickering. Bill's sly cartoon about the Australian Class 3 kite modifications at Mere in 1976 (bits of hairy string) . . .

Well, I could go on. But I won't. Just let me say that if these two gentlemen together can't raise a smile, then you're as good as dead!

"Hang Gliding Don'ts and Don'ts"

is a compilation of Bob's poetry and writing illustrated by Bill's cartoons, and it is worth at least six times the asking price of £1.50. I've showed my copy around quite a bit, and it has never yet failed to provoke a chuckle or two, even from people who know nothing at all about the sport.

Bob's poetry is legendary in hang-gliding circles — like all good poetry, it is designed to be read aloud (preferably in a Welsh accent, on licensed premises). But it doesn't suffer from being written down, and you do get the added bonus of Bill's pictures to sit and look at. They're sneaky, those pictures. Each time you look at them, they seem to be more subtle — you notice little touches of magic that weren't there at first glance. The handbag and shoes by the side of the burping dragon on page 42 — the route through the clouds taken by the lettering on page 29 — just beautiful!

All your favourite Mackay poems are there — the old-timers will smile at "Mad Carew", "Sails" and "The Cliff Hanger"; and there are some super new ones. I can't resist the last poem in the book "Jonathan Living Penguin", this achieves the difficult task of taking a widely respected but rather saccharine work of art ("Jonathan Seagull"), poking fun at it, and *still* somehow managing to keep hold of the spirit which drove us all into the air, and despite everything, keeps us there. The book's worth its price for this alone. Any BHGA member who doesn't immediately buy this book deserves to be grounded!

All right Bob? Can I come back to South Wales now?

Tony Fuell

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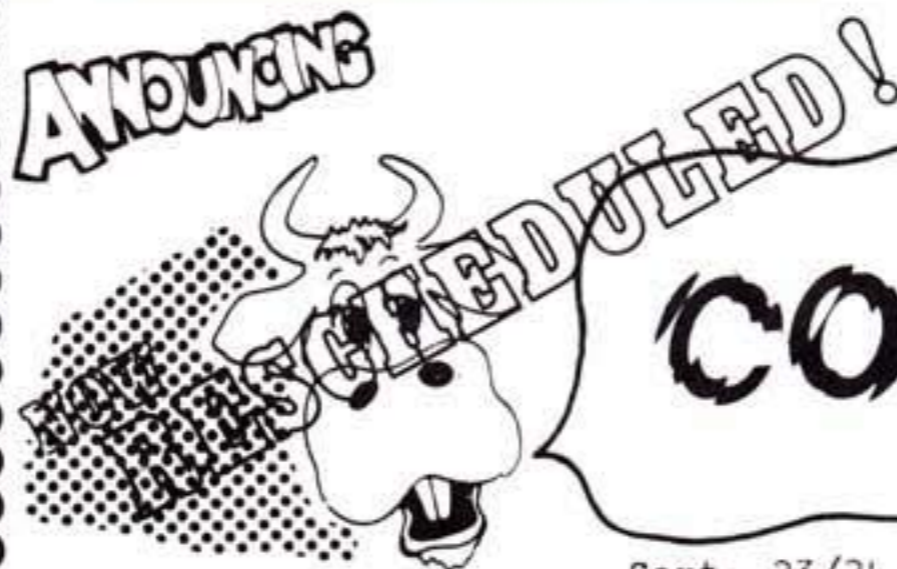
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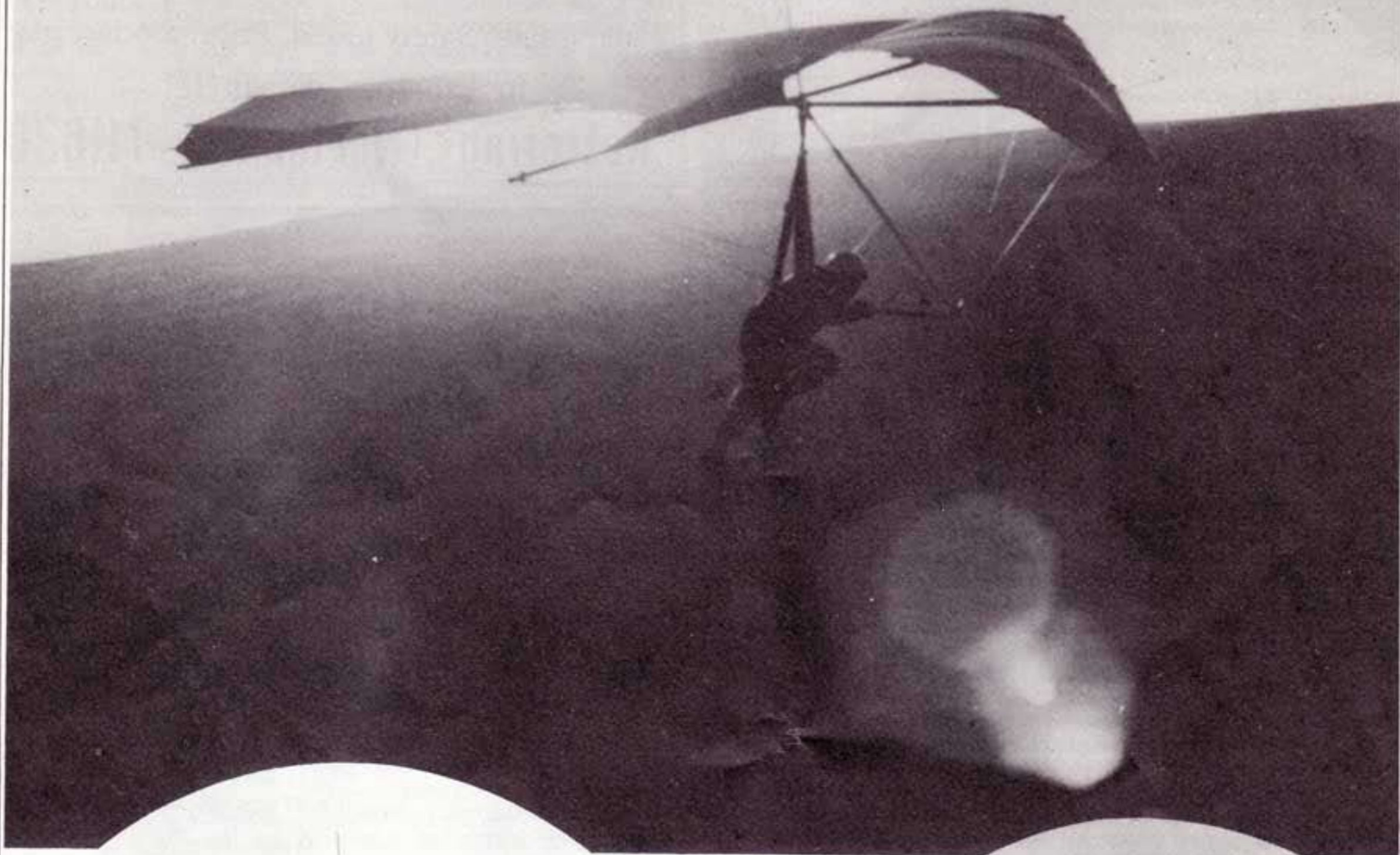
SEE NEW DATES!

CORK '78

Sept. 23/24

ANNUAL FLY-IN OF CORK HGC. Details from ROY HAMMOND, 40 Beaumont Cres., Cork

GO SKY A FLYHOOK



SUNSPOT

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Welsh Hang-Gliding Centre, New Road, CRICKHOWELL, Powys, S. Wales
Tel. No. (0873) 810019

A. Trapp, 135 Beeches Road, KIDDERMINSTER, Worcs.
Tel. No. (0562) 62429

J. Westcott, 15 Boxwell Park, BODMIN, Cornwall
Tel. No. (0208) 3848

W. Anderson, 74 Grampian Gardens, ARBROATH, Angus, Scotland
Tel. No. (0241) 75546

Knight School of Hang Gliding, 10 Spring Gardens, WASHINGTON, West Sussex
Tel. No. (0903) 892770

M. Foster, 11 New Road, GUISBROUGH, Cleveland
Tel. No. (0287) 36658

Northern School of Hang Gliding, 8 Brencon Avenue, Brooklands, MANCHESTER M23 9HL
Tel. No. (061) 973 4085

M. Hurst, 10 Alma Terrace, EAST MORTON, Near Keighley, Yorks.
Tel. No. Bingley 7809

J. Sharp, 32 St. Peter's Road, STOWMARKET, Suffolk
Tel. No. (04492) 4598

P. Jackson, 52 Crescent Road, SHEFFIELD, S71 HN. LINWOOD, Oldham
Tel. No. (0742) 585644 667849 HOLMES G.

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INFORMATION



Woops! We are in for a bit of turbulence now Janie!

FLIGHT RISK COVER HANG GLIDERS

Lloyd's Underwriters have offered to provide full ALL RISKS cover INCLUDING Flight Risk for BHGA Members flying BHGA registered or approved Hang Gliders of the Rogallo pattern, provided enough members require it.

Cover is literally "ALL RISKS", i.e. damage resulting from "Accidental External Cause" from "coming to an unexpected and premature Full Stop", "trying to fly through a fence", "Attaching straps breaking and flying from the top of your car", "being run over in a car park", through Fire, Theft, etc.

Cost is high initially, but if experience is good, it is hoped to persuade Underwriters to introduce a substantial No Claim Discount after two years.

Minimum Glider value £200.
Maximum £800.
Rate for ROGALLO'S is £10 per £100 value.

Value of Glider	Premium
£200	£20
£250	£25
£300	£30
£350	£35
£400	£40
£450	£45

and add £5 for each £50 increase in value.

You will be asked to accept the first £25 of any claim.

For the initial trial Underwriters are restricting cover to the first 40 who apply. If you wish to be considered, please forward your name, address, BHGA number, Glider details and cheque to Reggie Spooner, John A. Spooner (Cowes) Ltd., Clifton House, Bath Road, Cowes. Tel: Cowes 2305.

Provided there is enough support it is hoped that details can be completed with Underwriters within the week. Cover will then be confirmed. If there is not sufficient support to justify Underwriters going ahead, then your cheque would be returned.

ST. CYRUS CLIFFS

The Nature Conservancy, who own the St. Cyrus Cliffs, have asked us not to fly until the end of the nesting season (late July). It is hoped to negotiate limited flying, but any visiting fliers must contact J. Howe (Montrose 3879), W. Anderson (Arbroath 75546) or S. Ogston (Dundee 60111 ext. 2426) for details in the meantime, as the loss of this site would be a disaster.

FLYING SITES IN CORNWALL & DEVON

The sites in this area have problems and dangers which may not at first appear obvious.

For your own safety and that of other users of the air, you are most urgently requested to contact the local club concerned even if you have been in the habit of visiting this area in the past and not informed them.

When planning to fly in Cornwall contact: Roger Full, tel: St. Ives 7651 (day), John Westcott, tel: Bodmin 3848 (evening).
North Devon: Mike Stainer, Braunton 813482, Ted Gray, Braunton 64047.
South Devon: Mike Atkinson, Plymouth 54408, Roger Black, Plymouth 63032.

Remember, the price of a phone call could be the difference between a happy or a disastrous holiday.

POWERED FLYING IN THE SOUTHERN HGC AREA

The Committee of SHGC have decided that all fliers of powered gliders in SHGC's area should seek specific permission for such activities. This is because our sites are mostly on public land, in an area of outstanding

natural beauty. The intrusion of noisy powered craft could jeopardise all use of the sites. Facilities for powered flight do exist in SHGC's area, and details will be given on request by the Secretary, Tony Fuell, 74 Eldred Avenue, Brighton. (Tel: 502952).

SECOND-HAND GLIDERS

There are available on the market, aircraft which may be well beyond the standard of the ordinary pilot, and manufacturers can accept no responsibility whatsoever, once such an aircraft has gone beyond the hands of the person to whom they first sold it.

Purchasers of second-hand hang gliders should always establish the origin and performance of the glider and preferably contact the manufacturer to tell them that they intend to buy the glider.

CROSS COUNTRY COMP

July 22nd-23rd.

A cross country competition organised by Bob Calvert will be held in the Pennine area on the above dates. The competition will be informal with lots of flying. Entry is £1. A trophy will be presented for the longest flight.

Entry Qualifications: 5-mile cross country flight. Write to Bob Calvert, 390 Preston Old Road, Blackburn, Lancs. Tel: 0254 21615. Entries: Minimum 10, maximum 30.

THAMES VALLEY HANG GLIDING CLUB

Visiting fliers to any Thames Valley club sites must without fail telephone one of the listed numbers for up-to-date site information.

As all of our sites now have crops planted great care must be taken not to land in these adjacent areas, this rule also applies to T.V.H.G.C. members.

Also please be respectful to any stranger asking questions on our sites — this could be a landowner, or Conservancy official.

Please observe these simple rules, and perhaps save yourself a wasted journey.

Bert Tyrell — Tel: Wootton Bassett 2994, Rick Wilson — Tel: Reading 21099, Bill Nunn — Tel: Chieveley 288.

WIN A HANG GLIDER FOR 25p

This is your last chance to send off those raffle tickets and stand a chance of winning a hang glider for just 25p. Proceeds from the raffle are going towards the cost of sending a British Team to the European Championships

in Kossen. The winner of the raffle can choose a current production kite from one of our top manufacturers. At the last count, Derek Evans had received very few entries, so your chances of winning are currently high. It's all going to a good cause, so why not fork out a quid or so?

MISSING PAGES

It has come to the notice of the Editor that some copies of last month's magazine did not include pages 5, 6, 23 and 24. If any members received such a magazine and would like those pages replaced please write to the Secretary. This replacement will only be possible if there are enough members with missing pages to merit reprinting that particular sheet.

MARSHALLS FOR MERE

VOLUNTEERS PLEASE SEND NAME AND ADDRESS WITH DETAILS OF PREVIOUS EXPERIENCE (IF ANY) TO THIS YEAR'S CHIEF MARSHALL, BOB MACKAY, 83 WERN RD, SKEWEN, WEST GLAMORGAN.

Combe Hill, Inkpen

The Thames Valley Hang Gliding Club who have been controlling this site on a basis of paying the farmer a fee for each day the hill is used for hang gliding, have now been informed by him that he will, commencing on 1st July 1978, collect a fee of £2 per pilot per day, for hang gliding on this site. We have agreed to marshal the site, in the interests of safety, and also to collect a fine of £1 per landing outside the designated landing area at the bottom, when the farmer's warden is not on the site.

Our negotiations did produce the following:-

There will be no charge for parking.

Hang-gliding fee to be paid when wing is taken on to hill.

Fee will not be increased within one year.

For latest site information 'phone Rick Wilson, Reading 21099, Bert Tyrell, Wootton Bassett 2994, Bill Nunn, Chieveley 288.

Residential Course "Understanding Weather"

16-23 August, 1978

This course is aimed at people with no previous knowledge of the subject and should be of value to all engaged in weather-related sports. The course takes place at Malham Tarn Field Centre in the Yorkshire Dales and is

organized by the Department of Meteorology, University of Edinburgh.

If you would like more information about the course please write direct to the Warden of Malham Tarn Field Centre, Settle, Yorkshire BD24 9PU. The normal weekly charge is £52, but members of the Royal Meteorological Society and students and staff of certain Universities are entitled to a reduction. The fee includes full board and instruction.

Western Counties Hang Gliding Club

Notice of Committee Changes.

Chairman: R. Black, 2 Neath Road, St. Judes, Plymouth. Tel: Plymouth 63032

Secretary: P. Johnson, 5 Greenway Avenue, Woodford, Plympton, Plymouth PL7 4RR. Tel: Plymouth 333639.

Treasurer: M.W. Orr, 455 Tavistock Road, Roborough, Tel: Plymouth 701022.

It has become necessary to insist that all visiting Hang Glider pilots who wish to fly sites within the W.C.H.G.C. area, should bring with them proof of gliding experience and according to this experience a suitable site would be suggested.

P. Johnson
Secretary WCHGC

CHANGE OF ADDRESS

Roger Green,
Secretary,
Peak Hang Gliding Association
Now lives at:
11 Keldholme Lane,
Alvaston,
Derby.

APOLOGIES

To Birdman Sports for incorrectly captioning photos of a Moonraker and a Firebird S in the Consumer issue. The two captions should be exchanged, so that the Moonraker is a Moonraker and the Firebird is a Firebird.

To Bettina Gray for again incorrectly crediting her. Her picture of Bob Bailey appeared on page 18 of the November issue not the October issue.

"Blackburn Print Ltd. wish to apologise to Skyhook Sailwings for the misspelling of their name on the Draw Tickets sent out with the last copy of *Wings!* This was due to an error on the part of a sub-contractor and unfortunately there was no time to rectify it without delaying the magazine".

MEMBERSHIP RENEWAL

Memberships numbered 7573-7797 are due for renewal on 1st July 1978.

FULL LIST OF OBSERVERS

23rd April 1977

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2 R.L. Ashton	138 M. Mugridge
3 B. Bibby	139 D. Raymond
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7 P. Bridges	143 A.J. Westcott
8 A.F. Ball	144 R.L. Balchin
9 G. Breen	145 P. Bullock
11 R. E. Bailey	147 R.E. Fellows
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14 M.N. Collis	165 B. Wishart
16 Glen Clarke	166 R. Softly
17 B. Carter	167 R. Full
18 J.A. Caley	169 R.D. Christon
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20 C. Corston	175 P. Donald
21 R.G. Calvert	176 B.C. Williams
25 P.J. Day	177 R.A. Horlor
26 A. Doubtfire	178 R. Billington
28 D.H. Ellison	181 J.L. Thomas
29 J.A.J. Evans	182 R. Richards
32 M.B. Fortune	184 J.P. Fry
33 A.R. Fuell	187 R.G. Mackay
34 G. Fischnaller	191 R.C. Symberlist
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47 C. Hawkes	203 D. Liddard
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57 G.C. Hobson	210 W.H. Dodwell
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60 K. Jordan	212 G. Weed
61 J.M. Jenkins	213 John Fack
62 R. Jerome	214 P. Baker
63 P. Jackson	215 Jeremy Fack
64 A.G. Knowles	216 T.R. Yeoman
66 H.D. Knowles	217 B. Crick
67 P.J. King	218 R. Smith
69 R. (Misty) Lamdin	219 P.A. Fouracre
70 D.F. Lyne	221 P. Fathers
71 G. Leason	222 A.J. Barnard
72 P. Mills	223 A.C. Keith
73 D. Munn	224 A. Young
74 B. Milton	225 A. Hetherington
76 P.F. Mayo	226 A.S. Munro
77 F. Threlkeld	227 G. King
78 J. Northage	228 R.J. Kelly
79 R. Potter	229 R.C. Mawer
81 R.J. Pattinson	230 P.C. Mawer
83 S.M. Rose	231 A. Geldart
84 E. Rowley	232 J.H. Clarke
86 M. Ramsey	233 D.R. Austen
88 B. Scott	234 M.K. Brenchley
89 Pete Scott	237 F.H. Kemmery
90 R.A. Scates	238 D. Marlow
91 M.G. Shaw	239 R.C. Doel
92 D.J. Squires	242 D. Bond
93 J.H. Smith	243 D. Lewis
94 G.A. Shine	244 T.M. Carter
95 R.J.S. Spooner	245 J. Rankin
97 G. Slater	246 J.S. Potts
98 A.E. Squire	248 B. Renshaw
99 D.W. Simpson	249 P.H. Robinson
100 B.W. Slipper	250 J.R. Edgecombe
101 E.C. Salisbury	251 E.J. Gray
103 D. Tait	252 David H. Squires
105 G.I. Thomson	253 A. Pearson
106 D.J. Taggart	254 J.W. Barber
107 Ian Thomas	255 M. Roberts
108 A.H. Trapp	256 P. Laverly
110 T. Taft	257 J.W.R. Whitfield
112 D. Willis	261 G.M. Murray
113 D. Wilkins	262 F.H. Joynes
114 D. Worth	263 R.S. Willbourn
115 R.J. Wilson	264 S. Murphy
116 D.A. Weeks	265 L.R. Chaffe
117 E.M. Woods	266 T. Peto
118 J.R. Ware	267 R. Bailes
120 D.F. Yule	268 R. Docherty
121 M. Lake	269 M. Barclay
124 L. Cranfield	270 P.M. Winteringham
125 R. Arscott	271 S.D.J. Dudfield
127 R.W. Black	272 S.H. Leonard
128 B. Bradley	274 T. Hardie
129 E.K. Battersea	275 A.J. Ramsden
130 I.M. Beloe	277 J. Slater Brown
131 T.J. Flower	278 T. Murphy
132 D.P. Green	282 Trevor Birkbeck
134 T. Knight	283 G.K. Snape
135 J. Knight	284 Gary A. Mees
136 K. Messenger	285 Steve Bond
	287 W. (Bill) Huyton
	288 W.C.A. Cowell

289 V. Cameron	309 A.S. Benn
290 D. Carson	310 J. Bevan
291 D.J. Catanach	311 P.A. Brigstock
292 T. Aspinall	312 K. Cronshaw
293 M.J. Batchelor	313 R.A. Davies
294 R. Brown	314 J. Dickson
295 J. Sharpe	315 C.S. Ford
296 E. Hindmarch	316 P. Gigg
299 K. Oram	317 E. Hui
300 M. Pollard	318 A. James
301 R. Pattenden	319 E.J. Morgan
302 T. Rathbone	320 K.V. Shall
305 R. Wiseley	321 P.J. Tindley
306 W. Anderson	322 R.L. Wheeler
307 D. Ball	323 R.N. Whittall
308 R.W. Bell Davies	324 T. Willford

GROUSE MOUNTAIN

VANCOUVER — The 3,700ft. "Peak" that sits majestically proud and powerful, looking down on the city of Vancouver and surroundings, has been described as the finest hang glider flying site in North America.

With that same spectacular backdrop forming a painting-like atmosphere for fliers, Grouse Mountain will again host the finest hang glider pilots in the world on August 4-7

The Canadian Invitational Hang Gliding Championship will be staged atop the picturesque mountain as part of the 'Lighter Than Air Fair'.

More than fifty of the top pilots in the world will compete for \$10,000 in prize money during the four-day event and among them will be Steve Moyes of Australia, Graham Bird of New Zealand and Johnny Carr of England as well as Randy Cairns of Nelson, winner of last year's initial North American Invitational event.

Two outstanding women pilots will also be there... Pat Johnston of Colorado and Blythe Coulter of Hawaii, who can hold their own with any male pilot you care to mention.

Pilots will be judged for their ability to soar, points being awarded for time in the air, spot landing and aero ballet. Pilots will be aiming for the \$3,500 first prize money. Second place will be worth \$2,500, third place \$1,500 and fourth place \$1,000.

CANP WITHDRAWAL

Will all those concerned that there is no longer an official procedure for notifying military pilots of weekday hang

gliding write to the Secretary. There is a safety procedure that can be used. Those writing will be sent an information sheet giving full details. Secretaries of major clubs have been sent copies.

NORTH WEST WALES

Most of Wales and all North West Wales is within a "Danger Area" called the North Wales Military Training Area. This means there is a lot of aerial activity, most of which is at low level, which takes place at any time of the day or night and at weekends.

In the Snowdonia/Anglesey/Harlech area two airfields, RAF Valley and the Royal Aircraft Establishment, Llanbedr, are centres of activity. The approach for all types of aircraft, including helicopters and pilotless aircraft, using Llanbedr is from the North. There is a West-facing soarable cliff at Llanfair in the flight path of these aircraft. Do not be tempted to fly there when the airfield is in use.

If you are visiting this area it is essential that you make contact with either Gwynli Jones (Harlech 448) or Jan Ketelaar (Llanberris 707) at least 24 hours before you wish to fly. They are in touch with local Military Air Traffic Controllers and can give you information about whom to contact, where and when to fly with the minimum risk.

NEW PILOT RATING SYSTEM

Please note that, as explained in the pull out information sheet last month, the new system does not start until 1st August. No applications can be handled until that date.

MID WALES

All sites used by the Aberystwyth based Mid Wales club are also within the North Wales Military Training Area.

Club members to contact are:-
Rod Lees — Capel Bangor 229, James Spottiswoode — Aberystwyth 4589, Glyn Davies — Aberdovey 464, Tim Williams — 01-733-4532.

Notice from McBROOM SAILWINGS LTD. to all owners of "BRUNEL" prone harnesses.

There have been several instances of small tears occurring in the lower corners of the harness when using unnecessary force to slide apron down. Please examine your harness carefully, or better still return it to us for complete examination and the addition of webbing across lower hem.

Please include £1.50 for postage & handling. (Do not send stirrup, it will then pack smaller.)
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THE NORTH WALES BRANCH OF THE WELSH HANG GLIDING CENTRE IS NOW OPEN

RUTHIN, SITUATED IN THE SCENIC CLWYDIAN RANGE IS EASILY ACCESSIBLE FROM LIVERPOOL, BIRMINGHAM, MANCHESTER, AND VIA THE M62, THE NORTH EAST. FULL DETAILS FROM THE CFI MR. JIM BOWYER, N. WALES BRANCH OF THE WELSH HANG GLIDING CENTRE, 17 WELL ST, RUTHIN, CLWYD.

TEL: 08242-4568 (OR CONTACT S.WALES BRANCH ON 0873-810019).

NOVICE TO ADVANCED COURSES

BHGA REGISTERED SCHOOL.

FLIGHT DIRECTOR: GERRY BREEN

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.

Instrumount — vario mounting stalks — fully anodised — “kick up” feature — secure instant fixing. Send sae. for information or £8 inc. p. & p. and VAT. Money back guarantee. Main Welding Co. Ltd. Shawclough, Rochdale, Lancs.

Come Fly Caton Bay — Bed and breakfast available, one mile from Cayton Cliffs, six miles from Scarborough, Yorks. Tel: 0723 582385

Hiway Scorpion C, Bainbridge sail, Red, blue, gold and white. £390 ono. Tel: Brenchley 2890 (evenings.)

Ventus A-Frame handles still only £5.95 per pair inc. p. & p. See January *Wings!* for pictures and details.

Ventus new address is: Meadow View, South Newton, Salisbury, Wilts. SP2 0QD

Skyhook III Terylene Sail. £115 ono. Phone 061228 6220 office hours. J. France.

“Dragon Hotel”, Crickhowell. Central for all South Wales best soaring sites. Already popular with hang glider pilots. Tel: Crickhowell 810362.

Argus 19ft. Rogallo Hang Glider, suit 10st. upwards. Attractive

red, white, blue scheme. Little used. As new condition. £150. Legge. Aberdeen 723441

Found — automatic wrist watch on Edenfield — 12th March — belongs to Pilot — contact Main Welding Co. — Rochdale.

Wasp C4 221. Excellent condition ideal machine to learn on. Blue and red. Complete with bag and seated harness. £150. Tel: Ernie Patterson Killinchy 541778 (N. Ireland).

Falcon IVB, 6 months old. Red and white sail. Excellent thermal eater and traveller (xc) Beautiful machine — £380 ono — Phone Dave Thomas on 053 672 4340 after 5pm.

Aire Audio Visual Vario for sale. Perfect working order. £50 ono. Phone Tony on Bargoed 830028.

Altimeter and Crash Helmet accidentally left in fellow flier's M reg. Mini van at Castle Moreton on 23.4.78.

Would be grateful if person concerned would contact John Curtis, Tel: Thornbury 413653.

Wanted. Prone harness in good condition, either Skyhook or Hiway. Phone: Malton 3643 (Yorks).

Propeller making for the amateur. The complete do-it-yourself book for propellers of all types. £2.50 inc. post. Eric Clutton, 92 Newlands Street, Stoke-on-Trent ST4 2RF.

T Shirts, Clearance sale. Sky-riding hang gliding motif around picture of hang glider. Printed in royal blue on white shirt. Small/Medium/Large £1.85 inc. p. & p. Judson, 28 Hawthorn Road, Woking, Surrey.

Cirrus III. All white sail, excellent condition, seated or prone, with seat if required. £370. Tel: Brian Kell, Blyth 67712.

Chargus 19.5 standard. Blue/white sail, prone & seated A Frames, also

both harnesses. Cheap but good condition. Good reason for sale. Contact Blackpool (0253) 41491. £150 ono.

Cloudbase 19 D.L. Dark and light blue. £279. 36 Russell Avenue, Preston, Lancs. Phone (0772) 793582.

Hiway Super Cloudbase 21, with chordwise battens and keel camber wire. Bainbridge dacron sailcloth. Seated or prone. Seated harness, waterproof bag. £300. Ring Tibor, Bingley 09766 7404 evenings.

Hiway Scorpion B. Nearly new, with clip on bar attachment for choice of seated or prone flying. £400. Telephone Rustington 70382 (West Sussex).

XC small. If hungry for these mythical monsters, eat them for breakfast with this machine — tomorrow morning! Only £580, as new. Barrie Annette. 01 894-6374.

Vega IIa. Finished in white dacron with motif under right wing. Kept

in tune and never damaged from new. Bag and seated harness included with this superb condition kite. £335. Tel: Huntingdon 72225

Hiway Scorpions, Cloudbases, Gryphon and other good condition gliders at competitive prices. Tel: Bob Calvert, Blackburn (0254 21615).

Wasp Gryphon III, six months old, excellent machine in first class condition. Best offer secures. Tel: Reading (0734) 845543

The Famous Purple People Eater, British Endurance Record Holder. Hiway 20ft. Cloudbase deluxe. Virtually flutter-free sail, all new turnbuckles, seated harness. £210. H. Petith, Swansea 25678 Ext. 7059

Hiway Scorpion B, blue/white sail, tuned to perfection, very good condition, and a dream to fly. £380. Tony Fuell, 74 Eldred Avenue,



INSURANCE

INSURANCE The following insurances have been specially negotiated at Lloyd's for BHGA Members
PERSONAL ACCIDENT WHILST HANG GLIDING WITHIN THE U.K. & EUROPE

DEATH, LOSS OF LIMB, OR EYE, PERMANENT TOTAL DISABLEMENT

Code	Cover	Premium
A 5	£ 5,000	£ 6.00
A10	£10,000	£12.00
A15	£15,000	£18.00
A20	£20,000	£24.00

TEMPORARY TOTAL DISABLEMENT (Totally unable to follow occupation — maximum 104 weeks excluding first 14 days).

REDUCED PREMIUM IF ADDED TO CODE A.				
Code	Cover	Premium	Code	Premium
D20	£20/wk	£10.00	XD20	£ 8.00
D30	£30/wk	£15.00	XD30	£12.00
D40	£40/wk	£20.00	XD40	£16.00
D50	£50/wk	£25.00	XD50	£20.00

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

No Proposal Form is required. Provided you are between the ages of 16 and 65 and warrant you are physically fit, we can normally give cover immediately we receive your Name, Address, Age, Occupation, Glider Details, BHGA or Local Club Membership Number and Cheque. Just write direct to Cowes.

GLIDER COVER

Full Ground Risks but excluding flight risks and first £5 each claim (Includes 30 days use abroad)
 Each Additional £50 Value — add £1.00 Premium.

£300	£7.00
£350	£8.00
£400	£9.00

LIFE AND ENDOWMENT ASSURANCE

There need be no Premium loading to cover the Hang Gliding risk. Just tell me your requirements.

REGGIE SPOONER

INSURANCE BROKER FOR THE BHGA, CLIFTON HOUSE, BATH ROAD,
 COWES, I.O.W. PO31 7RH. TELEPHONE: COWES 2306

Brighton. Tel: Brighton 502952.

Two superbly engineered front bumper hang glider supports. Both fully saddled and cable braced. On and off simplicity. Also, two roof racks, one padded, both in good condition. For any of the above contact Mike Hibbitt. Reading (0734) 864543.

Sunspot (small) March '78, optimum weight 10st. Seated, harness, B.P.U. jumpsuit, helmet and gloves. Offers invited for total or items. Tel: Brierley Hill 71412 (Alan)

Wings! No.15 required to complete treasured set. Any reasonable price paid for this issue. Ivor John, Boughton 428 (evenings), Canterbury (0227) 66822 Ext 288 (work)

Avon Swift. 10-13st. Breaks down to 12ft approx. Soaring windows, all gold with purple batten pockets, keel pocket, etc. Superb condition, 18 months old. Making way for new Hustler. £270 ono. Phone Markfield 3466.

Wasp Falcon III in first class condition. Reason for sale — new kite on the way. Offers around £350. Tel: John King on Hagley (Worcs) 2950 or daytime 021 705 6888 ext. 427.

Scorpion C, dacron sail. Very light to handle. Would suit intermediate or above. New Hiway forces sale. £350. Tel: Chorley 71079 Kevin Moloney.

Large, black Swift, fully tuneable, quick rigging, seated or prone. Good snk rate and excellent soarer. C/w bag and seated harness. £260 ono. Tel: Dedmaston 688 or write: Steve Moss, Pool House, Hawkesbury Upton, Badminton, Avon.

Chargus Standard 18.50. Seated harness and bag. Very good condition. £120 or near offer. Ron Johnson, tel: (0734) 864-770 (Reading).

Hiway Scorpion C. Bainbridge sail. Flies very well. £390 ono. Tel: D.J. Bluett, Brenchley 2890 (evenings).

Breen Cumulus Plus Six, orange and white sail, seat, bag. Ideal beginners glider, good condition. £110 ono. Tel: Chertsey 62771.

Hiway 220. Black. Seat, harness and helmet. Spare leading edge and A frame. Ideal for first kite owner. Overseas posting therefore £160. Tel: 01 969 8510.

For the Big Guy, Scorpion D. Very good condition. Seated and prone. £410. H.P. possible. Phone 0271 873482. Mike Stainer.

Birdman Firebird Mk. II. 19ft x 16ft. Pilot 9-11st. Red with blue leading edges. Suit beginner to pilot, excellent soaring machine. £185 ono. Tel: Avonmouth 4798 (work) or call Flat 2, St. Mary's Street, Thornbury, Avon.

Moonraker, 8 months old, below average flying hours, but can't resist the "78". £375. Tel: 028 576 (Frampton Mansell) 370 (Gloucestershire).

Falcon IVB in excellent condition — only flown twice — beautiful multi-coloured sail. Virtually a brand new kite for only £395. 117 Llangranog Road, Llanishen, Cardiff.

18ft. x 16ft. Breen King Kite — sky blue & yellow. Large control frame for seated or prone. Well maintained and in really excellent condition. A giveaway at £100. 117 Llangranog Road, Llanishen, Cardiff.

Skyhook 18ft. Standard, ideal beginner, variable geometry, with seated/supine harness, and bag. Absolutely as new £150. Also Icarus V plans, unused £12.50. 0723 (Scarborough) 582108.

Cloud 9 18ft with Skyhook updated mod. Large A frame/battens. Seated or prone. Spare cross tube. Multi-coloured sail. Immaculate condition, any inspection welcome. £250. Tel: Rock 266549.

McBroom Argus. Strong frame, new bolts throughout, and stainless rigging. Very forgiving beginners kite.

£70 ono. Including harness.

Miles Wing Gryphon I, good condition, £200 including bag. Tel: Collingham Bridge 2796.

Skyhook Sunspot. Orange/white/green. 4 months old. Seated harness. £325. Owner emigrating. Tel: Peter Smith, Burnley (0282) 63891.

Original Mitchell Wing Plans. New, unused plans for sale because I am unable to build glider owing to pressure of work. £35. ono. Tel: Graham, Telford 55216

Chargus 18/50 Yellow and blue, little flown, ideal for beginner. £130 ono. Phone Leigh Sinton 32634

Moonraker in excellent condition, with bag. 10 months old. Red, white & blue sail. Superb all-round kite. £400 ono. Hiway Prone Harness £30. Tel: 01 283 3671 (day) or 01 736 5628 (evenings) Roger Willbourn.

Scot Kites Firefly 17/20 £200. Phone Hamilton 20606.

Cirrus 3. Red/white/purple American sail, updated frame. Price £330-£350 depending on delivery. Ideally tuned for 160lb. (SCUD) pilot. Details: Robin Craig 041 334 5435 (after 11pm) or 041 889 5454 Ext. 294 (day)

Skyhook 3A. Professionally built, beautiful condition, never bent. Aircraft fittings 4½oz. terylene sail, gold anodised. Must be the sturdiest and best looking 3A ever. Very easy to fly. Bag, seated harness, £185. Martin, Lytham 737138.

Swift 240sq.ft. sail area, suit pilot 11-15st. Excellent soaring intermediate. £260 complete with seated harness and bag. Tel: Ken, Gloucester 37014.

Falcon IV with prone harness. £375. Tel: Northampton 65192.

Chargus 18/50 Solar. Ideal beginners machine, safe and forgiving. Complete with soaring bar, carrying bag and seated harness. £95 ono. Phone

Guildford 66008 (9-5pm) or Godalming 28851 (after 6pm)

Stratus Vario. Audio and visual, fitted with rechargeable batteries and complete with plug-in charger. £65. John Bridge on Hesketh Bank 3186 (near Preston).

Windskate Class Land Yacht. Unused £225 ono or exchange for hang glider or something interesting! David Garwood, 48 Lambert Road, Sprowston, Norwich.

Wasp C4 221. Excellent condition, seated harness and carrying bag. £120. J. Hart, 5 Weir Gardens, Rayleigh, Essex. Tel: 771652

Wasp C4 221. Very good condition, yellow and red, seated with carrying bag. £115. 17 Sunnybank Close, Leigh on Sea, Essex. Tel: 520060

Wasp Falcon III. Good safe kite for anyone who wants to progress from a standard. Complete with prone and seated harness. Bargain at £300. Phone Charlie, Northampton (0604) 810378

Wasp Falcon III, excellent condition, white with red and orange wing tips. £300. Tel: Freddy 01 589-0656

Wasp C4 221. Excellent condition throughout, no prangs. Good soarer. Seated harness and carrying bag. Black/red chevron sail, gold anodised tube work. £120. Malcolm Cross, 45 Charlton Ave, Hereford. Wombridge 381 5-6pm Weekdays.

Excellent 22ft. SPIRIT, mostly green and purple coloured sail. Anodised airframe. unpranged. Flies beautifully. Complete with zipped bag. Ideal for intermediate pilot. Owner got Sunspot fever. Tel: Harry, Bradford (0274) 630494 after 7pm. £275. no offers.

Midas Super E. The latest Chargus — as new. White, red and yellow sail. £460. Tel: Paul Bullock, Church

Stretton (Salop) 2884.

Wasp CB240, Kossen competition machine, excellent condition. Seated/prone. Suit E.P.C. wising to soar/go prone. C/w seated harness, bag. £140 ono. Wasp kneehanger harness £10 or exchange ventimeter. Dave, 01 735-5344 evenings.

Vega I. White/yellow/red and black. Flies well. Good intermediate kite. Seated or prone. £260 ono. Phone Chief Allan Smith, HMS Sultan on Gosport 80196 or 81117 after 1600hrs.

17ft. Argus. Ideal for beginner, up to 11st. Complete with bag and seated harness. £60. Tel: Bristol 45620.

The ultimate glider for the lighter weight pilot. My very little used MIDAS C in mint condition. £300 for quick sale. Phone Ickford 244.

Hiway Cloudbase. Green/yellow/white. Complete with new unused seated harness, and carrying bag. £220. A.W. Hunter, c/o 10 Myrtle Villas, Keswick, Cumbria. Tel: Keswick 72816 (8am-6pm)

For Sale: McBROOM SUPER LYNX (prototype) very good condition, tuned to perfection. Excellent handling. Including kite bag, only £259. Tel: John Curtis, Thornbury 413653 (near Bristol).

Electra-Flyer Olympus 160. 'As new' condition. All latest features. £495 (includes carrying bag and some spares). Dr. Alan Barnard. Tel: Crewkerne 72478 (East Somerset).

My 22ft. Spirit. Undinged, with pulley system and unique Tan/Orange/Yellow diagonal colour scheme. A pampered glider used to living in centrally-heated luxury. Bag included at £300 o.v.n.o. Noel Whittall, 2 Argyll Close, Horsforth, Leeds, W. Yorks. Tel: Pudsey 561333 (work), Horsforth 584044 (home).

Small ads must be limited to 35 words. Personal ads are free to BHGA members. Non-BHGA members or commercial small ads will be accepted at a cost of 7p per word. Send to the Commercial Editor, Lesley Bridges, with a crossed cheque or postal order for the correct amount (minimum charge £1) made payable to the British Hang Gliding Association. Copy date is 1st of the month PRECEDING publication.

Congratulations Bob Mackay on your book "Bob Mackay and Bill Lehan's Book of Hang Gliding Don'ts and Don'ts". I thought the illustrations were super. Bill Lehan.

Skyhook Cloud Nine 17ft. in beautiful condition almost as new. Easy to handle, very attractive and really pleasant to fly. Suit pilot 8½-11st. Economy class two flying at £195. Frank Embleton. Tel: Coventry 451110.

Birdman Firebird 242 unique black/red sail. Four chord battens. Excellent beginner to Pilot 2 kite. Cash required for Mitchell Wing. Wing. £220 includes seated harness. Tel: Malvern 64064.

Magic thermal-hunting Cloudbase (radial 20) for sale. As followed (and overtaken) by Bob Bailey at Glenshee. £200 to a good home. Ian Trotter, 1 Trinity Court, Edinburgh EH5 3LE. Tel: 031 552-7736.

Gryphon III. Breakdown. Nice Flier as new £575. Sky Vario and RAF Altimeter with Q.D. Bracket. £90. Hiway Prone Harness £30. Phone Steve Goad, Horsham 731392.

Midas E. 9 months old. Ex card. Green & White sail. £375 ono. Contact Graeme Baird, St. Ives (camps) 0480 68882.

Falcon IV. Rainbow sail, 15 months old, hence £290. Contact Roger at Caterham 46411 Ext.7.

Scorpion B very good condition. 6 months old. No sensible offer refused. Tel: Dickleburgh (Norfolk) 515.

Scorpion B, excellent condition, with Bainbridge dacron sail, protective bag £390 ono. (Also Falcon III £280). Contact Don Spratt, (home) 01 467-2953 or 01 353-1555 (office).

Phoenix 6C. Handbuilt. Fully cambered sail with large keel pocket. Pulley systems. Soaring windows and speedframe. Really good flier, fully registered. £250. Tel: Bristol 696866.



Hiway Hang Gliders, 27/35 Bernard Road, Brighton BN2 3ER. Telephone : Brighton (0273) 681278.

SUPER SCORPION AND SPECTRUM: 'SIMPLY' MORE PERFORMANCE

The new range of gliders from Hiway marks a turn away from conventional hang glider design. As nose angles have increased and billow has dwindled, structures have tended to become more and more complicated – Hiway thinks too complicated.

Rigging wires have proliferated, battens come in all shapes and sizes, and the leading edges and keel are tortured by a succession of uppers, outers, downers, J wires and pulley systems.

Simplicity needed

Hiway decided that a hang glider that takes all day to rig and is made of hundreds of different bits of hardware isn't really what today's pilot wants – or can afford.

A return to simplicity had to be the right route to take. This new range of gliders has absolutely no wing wires! Hiway have designed the airframe to flex in a particular way under flight loads, and then sewn the sail to fit this shape exactly. This is no easy task because, in addition to fitting the flexed frame, the sail also has to have the right internal camber distribution.

The sails are the culmination of an extensive research and development programme, and feature very advanced sail making techniques.

Complete range

The range is composed of four machines at the moment. These are: 1) Super scorpion, an out and out cross-country hang glider. 2) The Spectrum, an intermediate machine with surprising agility. 3) The Gemini, a fully stressed purpose designed two-man kite. It's very big and very strong. 4) The Harrier, a glider primarily designed for schools and training – very robust and flies incredibly slowly.

They are all designed with a simple airframe and high technology sail. All conform to BHGA Standards of Airworthiness and have been static load tested (see figures in table below).



SPECTRUM

This is a sporty machine designed to put the fun back into flying. The Spectrum complies with FAI Class I Competition Regulations. Although an intermediate glider with a conservative 105° nose angle, it generates a lot of lift and will give the high performance ships a good run for their money.

The quality of handling is one of the Spectrum's biggest bonuses. Its turning

ability is second to none and 360's are self balancing. Pitch is light and very high speeds are attainable. It also has a low stall speed facilitating top landings in light winds.

Because of its simplified frame and advanced sail, the Spectrum offers the following important advantages:

- Quicker rigging.
- Improved structural integrity.
- Price advantages.
- Lighter structure.
- Minimum adjustments necessary.
- Reduced drag.
- Improved safety (less to go wrong).

The Spectrum is available in two sizes, and can be rigged seated or prone. Alternatively a 'B' bar accessory lets you convert from prone to seated if required. The Gemini two man glider is in fact an enlarged and beefed up version of this glider.



Spectrum	Leading edge	Keel	Length packed	Knockdown length	Area	
Small	17' (5.15m)	13'3" (4m)	17'3" (5.25m)	14' (4.25m)	165ft ² (15.3m ²)	
Large	18'6" (5.65m)	15' (4.5m)	18'10" (5.75m)	14'3" (4.35m)	193ft ² (17.9m ²)	
	Aspect ratio	Nose angle	Weight	Pilot weight range	Strength rating	Span
Small	4.45	105°	45lbs (20kg)	8-12st (50-76kg)	1340lbs (608kg)	26'10" (8.2m)
Large	4.45	105°	51lbs (23kg)	10-14st (57-90kg)	1320lbs (600kg)	29'5" (9m)