

THE OFFICIAL MAGAZINE OF THE BHGA

# Wings!

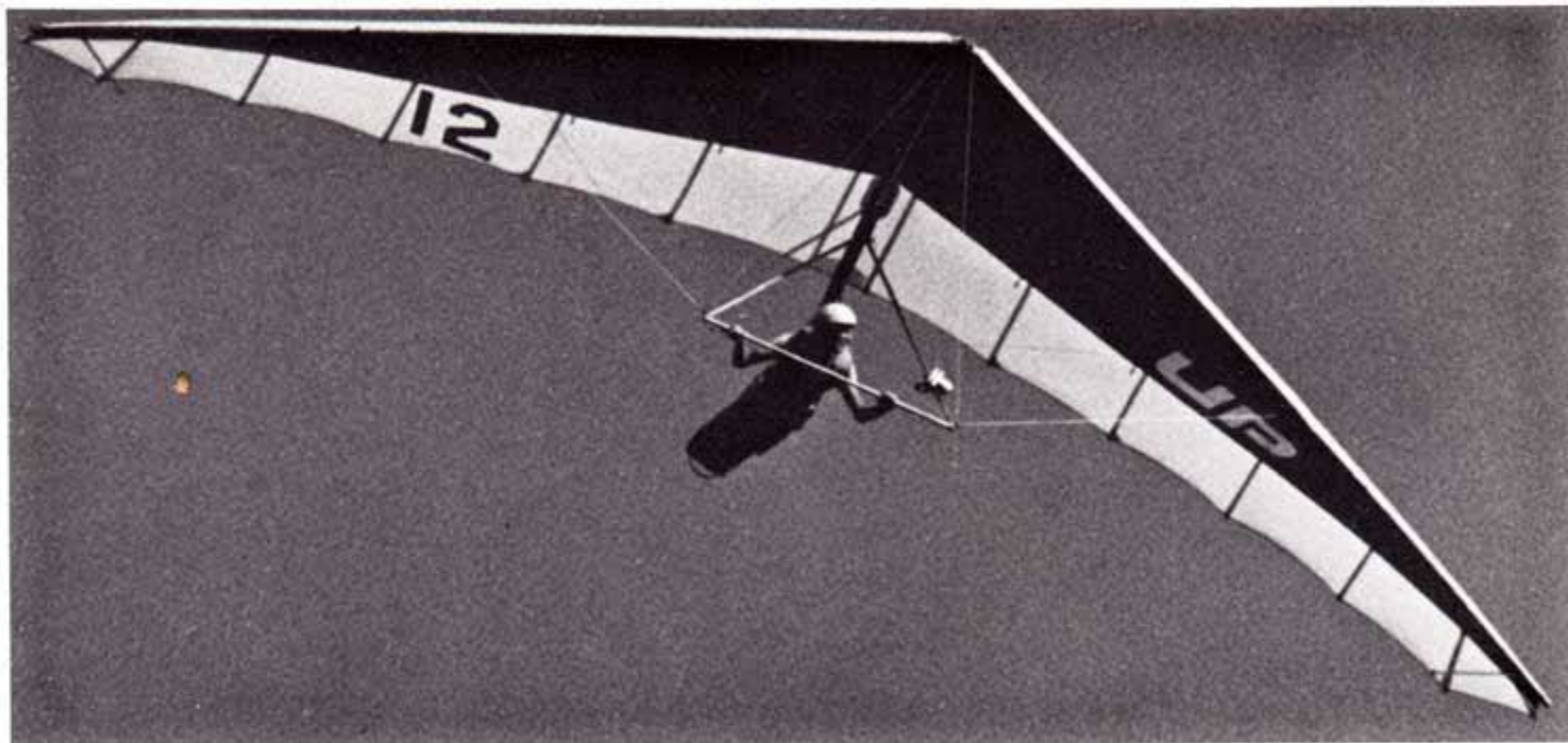
DECEMBER 1980





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## June 1980

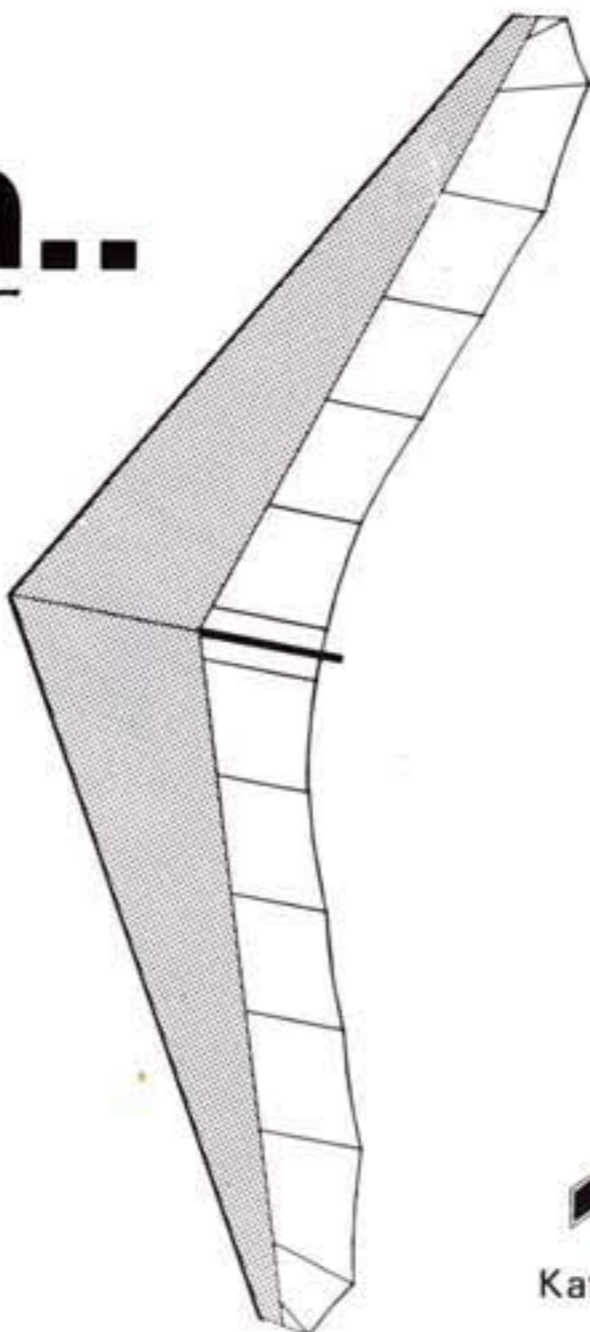
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# Wings!

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*Cover Shot – ASG 23 on take-off at Lookout Mountain Tennessee at dusk*

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Contributions are welcome. Articles should be typewritten if possible. Photographs and cartoons should be accompanied by the appropriate captions, and any material which is to be returned should be accompanied by a stamped and addressed envelope.

The Editor reserves the right to edit contributions where necessary.

If members or subscribers change address, or copies of Wings! do not arrive, please contact the Membership Secretary at the taunton Office. In all correspondence give your full name, address and membership (if applicable). Please give five weeks notice for changes of address if possible. If you, your club, or any local hang gliding activity get written up in a local paper, national paper, or magazine, please send a copy to the Taunton Office for the BHGA Press Cuttings collection. This applies to the UK Only.

# Editorial

In May, 1978, Nick Lawler was killed flying a powered hang glider. He had put a keel-mounted engine on a Wasp Falcon 4, with an extended shaft and a pusher prop. To make it all fit (and these were early days in power, remember) he cut a few square feet off the trailing edge of the glider.

On the day he died, he was doing demonstrations for his father, who is a professional pilot of conventional aircraft. On one pass across the front of a small hill, being filmed by his dad, Nick appeared to stall, possibly gust-induced, and went in from about 80 feet. I've seen the film. It's stark and horrifying. It obviously has an extra meaning to me in that, six months later, in a remarkably similar accident from three times the height, I escaped with minor injuries.

The Accident Investigation Board (AIB) decided to go the whole hog on Nick's death, the first in Britain (and so far, the only one) on a powered hang glider. The AIB was to treat it as they would treat the crash of a jumbo jet, and spend whatever was needed – rumour said £50,000 – to find out why Nick crashed.

Now, more than two and a half years later, there's a sorry tale to tell. One of the problems about telling as much of the tale as I can tell is that the fuss might make that tale even more sorry. But if you believe, as I do, in getting a problem aired as the first step to solving it, then I hope you'll bear with the story.

The AIB wanted concrete evidence of the flying characteristics of Nick's Falcon 4. One way they went about getting it was to start talks with BHGA to build a hang-glider test vehicle. If they could run Nick's re-built machine through this test vehicle, they'd be able to log its performance to limits well outside that tested by a prudent factory-pilot. When Nick's machine was done, then, in the interests of further safety, BHGA would be able to take over the test vehicle and use it to run through new prototypes to make sure they were safe too.

That may not be exactly the arrangement, but as one of the BHGA Council while this negotiation was going on, that's how I understood things to be. It was estimated the vehicle would cost £19,000, and be of real value to British manufacturers. In fact, the promise of its arrival – and it hasn't yet arrived, – was enough to stop manufacturers clubbing together to build their own. With the best test-vehicle money could buy soon to be available, you'd be a fool to go ahead and build your own.

So, AIB talked to BHGA, and asked the simple question . . . Who should build and run this vehicle? The name that emerged at the end of lots of talk was **Rory Carter**, on the Isle of Wight. BHGA put his name up, but during the signing of contracts which followed, Rory signed up with AIB, worked directly to AIB, and took great exception to any claim we in BHGA might have made about the vehicle. When Barry Blore wrote his article on the test-rig in February, 1980, Wings!, for example, Rory pointed out the vehicle was his copyright, we had no right to publish pictures without his permission, and whether it was connected or not, we did not – at the AGM the following month – get to see the test vehicle. I still haven't seen it, though others (I'm assured) have done so.

It still hasn't been calibrated. Believe it or not.

It still, more than 30 months after Nick's death, hasn't come up with the definitive answer as to why it happened.

A brutal point to make, and I might as well make it now, is that, if we had had a test vehicle at the beginning of 1979 (which we didn't and couldn't have) then **Paul Maritos** would not have had to put his prototype through that dive-test that killed him. And while we're lumbering around handbag-fighting over when BHGA is finally going to make that vehicle available to existing manufacturers, test pilots are risking their necks to half-discover what a test-vehicle will tell them fully at no risk at all. Meanwhile there could be another death like that of Paul Maritos . . .

If Nick's death has any meaning, it's the meaning we give it. Nobody now flies Falcon 4's with half a dozen square feet of sail cut off the trailing edge. Hanging on to the test vehicle to find out why such an aircraft killed a good pilot is an exercise in the absurd. Why is it being done? It's like spending thousands to work out why a **Ford Edsel** kept bursting into flames, when everyone is now driving **Fiestas**.

At the last BHGA Council meeting we decided – and we're a conservative Council, let me assure you – that the best way to get things resolved, one way or the other, would be to ask for a Parliamentary Question to be put down. It is an issue that has all the elements a good hard-working MP would fall on with glee. And I wouldn't blame him.

Since then, our Development Officer, **Barry Blore**, who inherited the problem, has asked for a little more time to secure the vehicle, so the PQ never went down. Let's hope we've got the vehicle soon. Because if we haven't, I am personally going to press, quite strongly, to get the subject aired in public.

**Brian Milton**



## VOX POPULI, APPROXIMATELY

Dear Sir,

It was a breath of very cold fresh air to read Lionel Alexander's opinions of the interpenetration (love that word) of hang gliding and gliding (Wings! – November edition). It could be said, though, that he was somewhat biased in his article (as any solicitor would be... "paying attention to his client's interests").

But we are reminded that the BGA have had 50 years to develop responsible attitudes and through hard work it is true to say they are committed to the principle that the air is free for all to enjoy. But aren't we all... as long as it is safe. But this is where Mr. Alexander begs to differ. And isn't it a sad reflection on the BHGA that the BGA considers we lack self-discipline in terms of controlling our sport?

In fact, Mr. Alexander does not have one good thing to say about us; he even infers in so many words that we are *not* safety-conscious nor sufficiently informed about aviation law. Both may be true but we should object to anybody suggesting we should be more courteous and less demanding.

Where does Mr. Alexander get his ideas from, other than reading Wings!? In fact, it would be interesting to know how much Mr. Alexander actually knows about hang gliding and if he has ever discussed this with any of the BHGA club members.

We are told that the BGA is most anxious to minimise conflict but how is this possible without them first appreciating the fact that our sport is in a very early stage of development and that both at national and club level we are all trying extremely hard and succeeding in improving our standards. I believe that unless the BGA realise our present situation, all they will do is widen the already strained relationships between hang gliding and gliding.

It would be most interesting to compare the present development of hang gliding to gliding as it was 50 years ago. The BG have got to make allowances for this age difference and rather than try to minimise (or exaggerate) conflict they should be more helpful in assisting hang gliding to achieve some respect and reputation as given to the BGA.

It is certainly not helpful to put such one-sided arguments as Mr. Alexander purports, although I do believe that we should pay heed to his advice regarding moderating our editorial comment in future.

**T. Taft**  
Leeds



## C.B. RADIO

With the mushrooming growth in the illegal use of 27MHz CB radio equipment, it is evident that hang glider pilots have not been slow in recognising its usefulness for site-finding, etc.

While not condoning its use elsewhere, please avoid transmission anywhere near sites. At typical site altitudes, signals travel many miles, and can easily be located. Also radio control enthusiasts share our hills and will definitely report anyone using a set.

It would be all too easy for hang gliding to become associated with C.B. "Breakers".

If we are to successfully continue the Home Office (who prosecute "pirates") and similar bodies that we are responsible individuals, it is essential that we do not act irresponsibly in this matter.

It must be emphasised that there is very little likelihood of 27MHz being legalised for C.B. – the Government's plans would seem to be for a totally different (928MHz) frequency.

**Dave Smith**  
BHGA Radio Communications Officer

## AIR PHOTOGRAPHY

I'm a hang glider pilot. Any chance you could get an article together on the methods and equipment used on the in-flight shots of hang gliders?

I know it won't interest everyone reading 'Wings!' but it could be an interesting article and possibly lead to more pictures being sent in to the magazine.

**John Newman**  
Harlow, Essex

## PLAY IT AGAIN, SAM

Dear Sir,

Re your front cover June 1980, I noticed that Jim Taggart's control frame upright has a distinct bend in it. Has he not done his pre-flight check or is this photo just one of him posing with two lead pipes over an enlarged photograph? Is this Wings! I read or the Plumbers Gazette? What a load of ballscock!

**Nonk D. Take Off**  
Leeds

## POWER OPINION

Some thoughts on BHGA involvement in the organisation and control of powered hang gliding. I think the BHGA should take over weight-shift only powered flexi wings.

**Reasons** With the right equipment and techniques power will make hang gliding far more accessible to the public. Weight-shift only control is vastly different to most other aviation steering mechanisms. The HIA are already set up for organising training with this type of machine. It seems that numbers of non-powered hang glider pilots is stabilising, but a lot of newcomers to hang gliding are opting for power. The reason, I believe, is convenience, and the chance to fly more often. If the BHGA were to get involved with flexi-wing power the magazine could cope with both sides of the sport, and extra membership fees could be charged because of the power side. I feel it is necessary for the BHGA to take over flexi-wing from the BMAA, as the powered trike, seated or prone, is here to stay. At the moment they are being used as very poor performance aircraft, but pilots will soon tire of crawling about the sky any old how. The gap between minimum aircraft and powered hang gliders will then be more apparent.

The minimum aircraft will develop into more powerful, faster machines, with higher takeoff and landing speeds. They will be more expensive and possibly more noisy. In fact, someone will probably re-invent the aircraft. Powered hang gliding will have to stay relatively cheap, simple and multi-purpose. Imagine a league competition held at a site closer to the centre of population. The BHGA competition committee could do their usual excellent job of running it. Power units could be used just for ascent to starting height, say 30 pilots with 12 clipon units. These could be lent from various manufacturers. All normal non-powered tasks could be used within the public's gaze, with more flying time for participants and more interest for the public, encouraging more sponsorship.

**Ideas on spec:** – a decibel level of no more than 80 decibels. The rest would be self controlling as manufacturers would want to make lighter, more efficient machines, with very low drag, and therefore the two sports would travel together along the right lines to a brighter future.

**Howard Edwards**  
Dunstable Hang Gliding School

## HAPPY WIFE

Dear "Wings!"

After reading the article by Rex Grogan entitled "Sexist Battles" ("Wings!" – Oct. issue) I'd like to point out that there is another side to the story. I am happily married to a hang glider pilot, which, I suppose, labels me as an HGPW. Since my husband started flying my life's never been so good. Oh, I've carried the glider up mountains, played nose wire-lady in the middle of winter with frostbitten fingers, hung around chilly hilltops when it's blowing a hooley, etc, etc...

But I've also visited some beautiful parts of the country and amazing country pubs, seen some spectacular scenery and equally spectacular flying, learnt to fly sailplanes, taken reels of interesting photos, and discovered how to keep fit without trying too hard.

So, if there *are* any maggotty old HGPW's around, as depicted in the article – get off your backsides and give your man a bit of support, or head for the divorce courts! After all, he wouldn't stop *you* from enjoying a sport of your choice... would he? You can't beat him, so why not join him – try flying a hang glider or a sailplane and you too will discover why he wants to fly. Its magic.

The only argument we have about hang gliding is who gets to read "Wings!" first.

P.S. Anyone interested in starting the British Hang Gliding Pilots Wives' Association? Applications from non-moaners only please.

**Mrs Susan Yeoman**  
A Satisfied HGPW

## Megalomania

Dear Sir,

Even if we have no desire to fix an engine to our hang gliders, we still need power to soar and gain height in thermals. Normally, nature provides the necessary power directly or indirectly from the sun. It is interesting to see just how much power we need and compare that with how much is available.

Power = weight (lb) × rate of climb (ft/min)/33000

The weight here is not pilot weight but total (pilot + glider)

It will help to start by finding out what is required to soar when the rate of climb is exactly the normal sink rate. Taking 200 ft/min as an example and a 220 lb weight, soaring power = 220 × 200/33000 × 1.33 horse power

The same amount of extra power will be needed to climb at 200 ft/min, so 1000 ft/min needs 8 hp, and 4 takes up 4 hp. In international units, that is 1 kilowatt to soar, 3kw for 400 ft/min up, and 6kw for 1000 ft/min up.

The amount of energy reaching the ground from the sun at latitude 60 Degrees North varies from as low as 30 W/sq. m on a clear December day, rising in cloudy conditions to



100W/sq. m, to June figures of 190W/sq. m on a cloudy day and 380W/sq. m when clear and bright.

This energy warms the ground, which in turn heats the air above it. Different types of surface react at different rates, so that we find some areas are better than others as sources of thermals, the warmed air rising because of its reduced density. Even if the energy is not all transferred to the air immediately, rising air has to be replaced, so the thermals might be stronger than you would expect.

Taking 300W/sq. m as an average for a good day, and allowing only a quarter of that energy being given to the air, a 10m diameter circle will give out 6kW and a 100m diameter circle will give out 600kW. That means there is enough power around to keep up more gliders than are ever likely to be in the air at the same time. The thing to watch for is that you will stop the heat reaching the ground, so thermal activity will reduce as the number of airborne kites increases.

I'll leave it to a meteorologist to explain how much power is available in soaring conditions, from pressure gradients. It's easier to see if the wind is strong enough to push the air up the hillside at a rate greater than your kite's sink rate. But again, the more power there is to use, the faster you will go up, and the higher you will top out. Enjoy your wind-powered flying!

**Robin R. Smith**  
Aberdeen

P.S. A 200 sq. ft. kite covers 20 sq. m. and spans about 10m.

## TOWING QUERY

Can anyone tell me how I can get into towing?

Four months ago, after witnessing a far more experienced pilot than me stall into the hill from 70 ft., I decided to give up ridge soaring before I hurt myself. I gained my PI about a year before this incident and had about six hours soaring, mainly at Kimeridge and Berwick St. John. Most of this time was spent at 0-150 feet above ground level, in other words at the most dangerous height. Admittedly, I could lessen this problem to some degree by upgrading my Falcon III (which I can't afford) and flying higher on a better kite. However, this does not alter my conviction that ridge soaring is inherently a dangerous occupation.

Towing, however, seems a better proposition altogether. Being at the danger height only twice during each flight, once on take off and once on landing, is surely far less hazardous than spending half an hour continually at that height.

What has happened to the towing craze? A year ago the pages of "Wings!" were filled with nothing else. Does anyone know of someone who can teach me the art of tow

launching safely, and who is prepared to take on a pupil with only six hours soaring experience?

And no, I can't afford to buy a skytrike.

**John O'Driscoll**  
Dorset

## OH FOR THE WINGS

Dear Sir,

Silly pilots stand up and be counted! I wish I was as light as Calvert. When Bob was on Super-scorpions, he flew a C, the biggest available. So did I, but I'm heavier than Bob so my wing-loading was greater. I couldn't, and still can't, hack light winds the way lower-loaded pilots can. Conversely, they can't often hack high winds the way I can but they do at least have the option of adding ballast. The only really big glider I can recall was the Scorpion D and I gather very few were sold. If big gliders don't sell, nobody can blame the manufacturers for not making them but the result is that heavy pilots, and I'm not heavy, are penalised. Wing-loading isn't everything, obviously. I do have a vague impression from somewhere that Bob Calvert's a reasonably good pilot.

The silliest comment I've ever read (well, nearly) is by Icarus, whoever he may be, as if we didn't know.

**Ian Trotter**  
Edinburgh

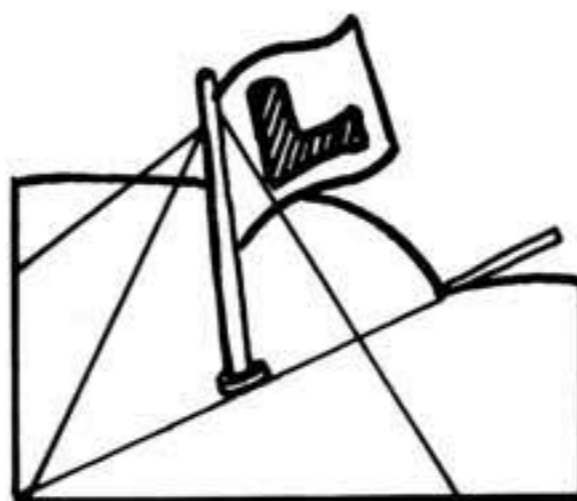
## AND HIS COUSIN, GLOBE

Dear Sir,

I've just moved to Bombay, India, for six months and would really welcome any information or guidance that readers could give me about flying opportunities and contacts out here.

If anyone would care to get in touch, they can reach me at:

**Room 4411**  
**Hotel President**  
**90 Cuffe Parade**  
**Bombay 400 005**  
**India**  
**John Bowman**



## ASTONISHED, DONCASTER

Dear Sir,

I am prompted to reply to the person who wrote in November's edition of Wings! admitting that he had been trying to learn to fly for at least seven years.

I find this statement an astonishing one for anyone in hang gliding to make. Has he in fact ever attended a school? If not, does he have his own glider? If he does, then it is no wonder that he finds it difficult to find sites where he is either capable of flying or (even more difficult) finding a club that will allow him to fly without a Pilot I certificate.

Another point that comes to mind is exactly how often this would-be pilot has been out flying (or, rather, attempting to) over the last seven years. If the answer to this question is "fairly regularly" then maybe he should consider himself unsuitable for taking up the sport of hang gliding.

On the other hand, if the person concerned comes out only a few times a year and (surprise, surprise) the weather is not ideal for training then he ought to realise that the effort put into hang gliding is directly proportional to the results achieved and the consequent enjoyment involved.

However, looking on the bright side, the results are really worthwhile so take Tony Fuell's advice, swallow your pride and go to a school.

**Adrian P. Reast**  
Doncaster



## SOLVENCY RULES

Dear Sir,

I was very interested in the article that appeared in the November issue of Wings! headed "Why don't more people take up hang gliding" by Chris Pym and also a letter that appeared in the same issue headed "I confess". It raised some very interesting issues.

A newcomer to the sport faced with approximately £100 fees for tuition may decide that it is a lot of money to spend if it turns out that he does not like it. He may decide against it before even trying. In the letter headed "I confess", the writer says that for seven years he has been learning to fly and he has not quite made it. I am also in the same situation. I have been teaching myself for approximately four years and have had about thirty short flights.

He does not say why he does not go to a school for lessons. I am sure that it is not pride keeping him from doing so, as the Editor suggests. In my own case, it is the expense of learning to fly and lack of time to practise regularly. Hang gliding once boasted itself the fastest growing sport. As the latest membership figures show, this is no longer so. I think that much more needs to be done to encourage people to learn. Also, there are not many articles directed at the novice in Wings!

As a footnote to this letter, I would like to mention an advertisement that appeared in a local paper from the East Sussex Gliding Club offering lessons at £1.30 each.

**P. Topping**  
Hove





# NEWS

## MANUFACTURERS COMPETITION

Following the 1980 American Cup, and the performance edge of the **UP Comet**, there will be a manufacturers competition on January 10/11, in either South Wales or Mere. Competing pilots can only be nominated by manufacturers, one team each, maximum of three pilots. Tasks will be judged by groups of 3, with 1980 American Cup scoring (900/600/300 + max 50 for any spots). There will be three basic tasks, all performance orientated, to test speed, glide angle, sink-rate, manoeuvrability, ease of landing. Only one glider per pilot may be used throughout the competition, and to even out pilot skill, no team may contain pilots who are within 10 places of each other on final 1980 League results. (This is to frustrate attempts to have a team containing, say, Calvert, Bailey and Hobson, on the certainty that such a team would have a clear pilot edge.) If any teams are entered from abroad - and the word is that two teams may come over from France - the BHGA Competitions Committee expects such teams to conform to the spirit of that rule.

**Entry** - Manufacturers should send a list of their designated pilots, with an entry fee of £15 per pilot, to Derek Evans, c/o Barclays Bank, 80 High Street, Sevenoaks, Kent, to arrive no later than Friday, January 2nd, 1981. *It's expected that the amount collected will roughly equal that paid by League pilots for one competition. The Competitions Committee fund is empty after the 1980 American Cup, and is therefore unable to support such a competition without charging entry fees.*

**TASKS - 1. Roll Rate**, as occasionally used in the League, criss-crossing a line on the ridge as many times as possible within a maximum 2-minute period.

2. Three or four pylons in a straight line perpendicular and behind the ridge; contestants to take off and land within a 10 minute period going around as many pylons as possible and returning to T/O. Judged by speed, distance from T/O if one or more fails to get back, but the pilot getting back to T/O always beats the pilot who doesn't.

3. Line drawn way out in front of ridge; task is speed to the line, and then get back on top, scoring zero if contestant fails to make it back.

**ALL TASKS** will be set by the performance/parameters of Johnny Carr's **Fledge 2**, and Jeff Burnett's American Cup **Comet**. The American Cup seeding system, best versus best, worst versus worst, will be used.

**B. Milton**

## PETER BROWN DEATH

The great Australian ace, **Peter Brown**, 27, died on October 24th in a motor-cycle incident in California. Known as "The Black Death", Peter was the alternate Australian team pilot at the American Cup in Tennessee, but because of personal problems, didn't turn up. He had placed 2nd at the US Masters Competition at the beginning of September, and was recognised as one of the best pilots in the world. He was given the name, The Black Death, by Graham Slater at the 1979 Owens Valley XC, because of the big black Moyes glider he flew then, and the name was confirmed by Johnny Carr's reaction whenever he met Peter. A year before his death he made the longest ever flight outside Owen's Valley, doing 81 miles from Sequatchie Valley as a wind-up to the 1979 American Cup. His death was a big blow to the Australian team, and he'll be missed.

## FRENCH TOW MEET

Blois, on All Saints' weekend, November 1st. A Gryphon tucked under tow, with the Giro-treuil system; one leading edge broke while on negative angle of attack. Fortunately, Pierre Saint-Germain, the victim, in spite of his name, did not rejoin the other saints of the day. He had his two legs broken which is a mild result for such a severe crash. The Giro-treuil is a winch using a propeller as a brake; the line is attached to the tether point (thus a single line). The glider took off and suddenly whipstalled 80ft. above the ground. *Vol libre's* editor had had exactly the same accident with a Lancer IV a month before except that his glider dived instead of tumbling.

These two similar accidents need to be understood to work out necessary improvements of the Giro-treuil. Is the pulling point or the brake system involved or is it the addition of the two?

## WOLF CRAGS LAKE DISTRICT CUMBRIA HGC

Under no circumstances must flying take place on this site between February 1st and May 1st.

Nobody shall camp or use any of the sheep folds for any purpose on the site at any time.

This is in agreement with the Conservators for the area, and breaking this will result in the loss of the site.

We have at last two other Northerly Sites that can be used instead.

Contact: **Dave Weeks**, Keswick 72315

## MET FILM

Clubs may be interested to know that the Royal Met. Society has recently published a Met film review. It includes all known films which would be useful for learning about met (over 100), and some are of obvious interest to hang gliding. Just consider one or two titles:

Turbulence, Interpretation of Weather Charts, Weather Forecasting, Sea Breeze Fronts, Convective Clouds... and more!

The review gives an indication of the level of each film. It also says where the films can be obtained. It can be purchased from the Royal Met. Society, Jams Glashier House, Grenville Place, Bracknell, Berks, RG12 1BX, price £1 + 30p P & P.

**Ivor John**

## FOREIGN TRAVEL

My name is Len Hull, Sheffield H.G.C. Ltd. I was present at the amiable meanderings of the delegates conference, and was pounced on by a Mr. C. Corston. "Foreign travel, Len, - we need somebody to collect information. I understand you've flown abroad".

"Yes, Chris, but only in a Boeing 737".

"Good, that'll do".

So, all you migratory types, if you've had good flying abroad and met contacts who know what they're talking about, could you drop me a line and let me know all the details? Then I can get them on file. Please include your 'phone number as well, so I can put pilots in touch direct if necessary. Germany in particular seems to be a blind spot, so any 'drachen flieger' anecdotes will be welcome. Any spare copies of foreign magazines (no, not those, you idiot!) will also be most useful.

The address is: Len Hull, Cressbrook Hall, Cressbrook, Nr. Buxton, Derbyshire SK17 8SY. Tel: 0298 871289.

## MOUETTE F

After further investigation about Mouettes F accidents, the Thevenots think that they were due to a wrong tension of the sail on the leading edge.

This has worse effects on cylindrical, since it gives a downward curve to the general profile which is bad for stability.

Hence the French manufacturer warns his customers to be careful with tunings; for those who are not convinced, he will send free of charge a set of longer side wires to increase positive dihedral and "tips leech-lines" kits using a small post placed at the end of each leading edge.

## DEATHS FROM ROSPA

The Royal Society for the Prevention of Accidents, ROSPA, sent the following figures for 1978 in response to a query about unusual ways of dying. There are lies, damn lies, and statistics, but it's nice to know that none of the 142 killed by falling objects was hit by a hang glider.

Killed by bulls	3
Killed by bites or stings of venomous animals or insects	3
Killed by lightning	4
Killed by falling object	142
Killed by being caught between objects	27
Killed by overexertion	9





## NOTES FROM BARRY BLORE

As stated by Brian Milton in the August issue, 'WINGS!' is expensive on B.H.G.A. funds. One of my tasks now is to decrease that expenditure, or increase revenue, without adversely affecting the standard of our magazine.

Rising postage and printing costs will have to be met and there is no doubt that some people working behind the scenes on the magazine are underpaid for the skill and effort they contribute monthly. In order to retain their skills they should be paid a reasonable amount. The problem is not simple, since our direct costs are bound to increase, and I don't see that raising members contributions to 'WINGS!' as being the finite solution.

To solve the problems you are likely to see changes in advertising policy and a drive to increase the subscriptions to, and circulation of, 'WINGS!'.

I have just initiated a move which will save the B.H.G.A. approximately £1,700 per annum on current postage costs of the magazine. This is not a once only saving, but one that will continue annually, providing we produce 12 issues. Anyone that is really interested in how these savings were made are welcome to contact me direct.

### Policy & Progress

A subtle change has developed during the past two months designed to streamline and co-ordinate the work of your paid officers which should effectively make them more productive. Prior to this change the Secretary, Training Officer and Development Officer all went their separate ways. No one was responsible to the other and all were employed on different contractual terms. As a consequence, some work was duplicated, council experienced difficulty in allocating tasks, deciding on salary scales and in general monitoring exactly what each officer was doing and expected to achieve. It should be remembered that your elected Council work extremely hard in their spare time to run whatever discipline they are in charge of, and cannot devote more time to the above issues.

In simple terms the following has happened, my title of Development Officer has been altered to that of Principal Executive Officer, and I am now responsible to Council, via the Chairman, for ensuring that your paid staff are used to the best advantage of the B.H.G.A. Both Chris Corston and Bob Harrison, our new Training Officer have assured me of their support in this new structure, and I shall rely heavily on the dedication and experience of Chris, coupled with the enthusiasm of Bob, to move the B.H.G.A. forward in all directions.

## AIRFRAME WARNING — from UFM

*John Hudson dropped the following note from Larry Mauro into Wings! with the sensible suggestion that it deserved wider circulation, despite the small number of Easy Risers in Europe, because the problem Larry describes could be one other manufacturers may run into. If you're into making double-surface machines, or rigids, please read this warning. . .*

Some easy riser aircraft have had fabric come loose from the ribs, and at least one very serious accident has resulted.

An accident was investigated by **Larry Mauro** of U.F.M. in Columbus, Indiana. The pilot, **Dennis Hastings**, had been flying a powered easy riser for more than a year. The riser was built by another and sold to Dennis. During the winter of 1979-80 the wing was recovered with "O"-porosity dacron fabric. *However the fabric was not glued to the ribs.* Two short and slow test flights were completed. The third flight was approximately 100ft. altitude and of several minutes duration.

The craft was observed to speed up, then quickly invert and suffer structural failure. The plane landed upside down, hitting engine first and upon concrete. The left wing had collapsed in a negative direction. The right wing was undamaged. Dennis was killed.

**Conclusion:** The fabric was not attached to any of the ribs. At a high angle of attack (slow test flight) the fabric stayed mostly in place from air pressure. As the pilot speeded up the plane on the third flight the lower angle of attack caused the upper surface of the wing fabric to *lift approximately six inches* above the ribs, with a maximum billow centred about two-thirds towards the rear spar. This high camber near the trailing edge caused an extreme shift of the centre of lift toward the rear, which in turn violently pitched the nose down instantaneously at high air speed. It is estimated that a negative load of from 6-8g's was created which broke the left inboard front anti-lift cable, resulting in collapse of the left wing.

*It is very important to understand that the major shear strength of the easy riser wing is in the fabric.* The fabric must *at all times* be completely secured to the ribs and spars. At Oshkosh in August **Terry Fuller** was flying his riser after I told him about the problem loose fabric could cause. He noticed a slight and unusual nose down tendency during this flight. Landing and inspecting the fabric, he noticed the fabric loose on the upper surface of the ribs towards the trailing edge of the wing. The fabric was immediately re-glued in place. The next flights were perfectly normal with no nose down tendency whatsoever.

**U.F.M. advises all Easy Riser owners to:**

1. Check fabric for any sign of pulling loose from each and every of the twenty-six ribs. The ribs near the tip and root will not cause a problem as the root and tip tube will hold the fabric tight to these ribs.

2. If any fabric is loose, *re-glue it now*, before the next flight. We recommend rib stitching all Easy Riser aircraft at this time. Eighteen ribs should be stitched with flat dacron rib lacing cord and covered with finishing tape.

3. All customers who have recovered their Risers with "O"-porosity fabric must *rib stitch the fabric* to assure that this fabric does not loosen from the ribs.

**Larry Mauro U.F.M.**

### Recording Height Gains A proposal by Ann Welch

The following proposal is unofficial, but it could be approved as evidence for Delta Silver height gain, if it can be shown to work without any doubt as to the veracity of the information provided. If pilots interested in gaining Delta Silver, who do not have a barograph, would carry out careful trials and report their findings there is a good chance that altimeter photography could be used as an alternative to a barograph for Silver height gains. Its use would be confined to foot launched flights where there is no complication of tow-height calculation.

It is not suggested that it would be valid for record attempts.

**Principle.** An altimeter fixed to the control frame is photographed set at zero on the ground prior to take off and photographed again in the air when reading 1000 metres or higher.

**Method. Control of the Altimeter.** The altimeter must be sealed in such a way by the Official Observer that no adjustment screw or knob or any vent can be tampered with by the pilot during the period in which the altimeter is being used for the Silver height attempt.

**Control of the Camera.** Only an Instamatic camera, which has no film rewind, is permitted and it must be fixed to the control frame so that when the altimeter face is photographed the background will also show whether the hang glider is in the air or on the ground.

The Observer marks a new film (B & W 125 x 12 exp), inserts it in the camera and observes the pilot photograph the altimeter set at zero alongside a declaration card positioned or held by the Observer. This card must contain the pilot's name, the site, the date and time, and the Observer's signature.

The pilot then takes off, and if and when he reaches or exceeds 1000 metres on the altimeter, he photographs it.

On landing he takes a further photograph of the altimeter which

will show the hang glider to be on the ground. He then removes the camera from its fixings and finishes the film with photographs of his hang glider against recognisable background features. He then hands the film cartridge to the SAME Observer.

**Further Responsibilities of the Observer.** Having checked that he has received the film that he marked the Observer has it developed and kept *uncut*. He must certify that the film is the one being controlled, and that 1000 metres is shown to have been gained (if it has!)

He must also certify that he monitored the flight throughout and that he is satisfied that at no time did the glider land between the time of the take off for the height gain attempt and the recorded landing.

**Problems.** There are not many, though it may be difficult to get the face of the altimeter sufficiently in focus with an Instamatic. Supplementary or portrait lenses may be necessary. Altimeters should be known to be accurate or be calibrated. **Compliance with the FAI Code.** The above method would not conflict with anything in the FAI General Section 6.6.1. For further information on photographic evidence see the BHGA Observer Handbook.

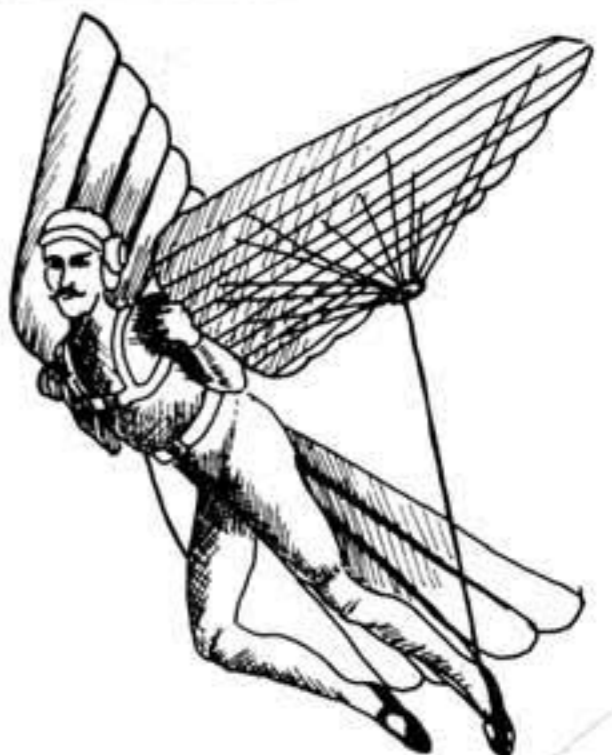
It would be helpful to have a report on the use of this proposed system, also ideas on sealing of the altimeter. Eg: with a bezel altimeter it may not be necessary to seal if illicit twiddling in the air shows up on the 1000 metre photograph. Comments, please.

### Favouritism

Mainair Sports are now selling a 2 piece harness back strap which can be easily sewn to any harness.

Its purpose is to prevent the pilot being ejected from his harness during emergency parachute opening, but a secondary and very useful feature is that it holds the parachute firmly to the body when running for take off.

It completely eliminates "bounce" of the pack and allows clean easy transition to prone flight. Available from Mainair Sports at £2.75 plus 50p postage and packing.





## ADVERTISING RATES FOR WINGS!

(1) Applicable to all advertisements except those for hang gliders which have not yet received a British Certificate of Airworthiness.

Single leaf insert £120.00; Double page insert, stitched into magazine £180.00; Back Cover £144.00 258mm × 197mm; Whole page £120.00 258mm × 197mm; Half page £66.00 across 127mm × 197mm, upright 258mm × 96mm; Quarter page £38.00, upright 127mm × 96mm.

(2) Applicable to all hang gliders which have not yet received their British Certificate of Airworthiness.

Single leaf insert £168.00; Double page insert, stitched into magazine £250.00; Back Cover £200.00 258mm × 197mm; Whole page £168.00 258mm × 197mm; Half page £92.00 across 127mm × 197mm, upright 258mm × 96mm; Quarter page £54.00 upright 127mm × 96mm.

Colour advertisements — rates on application. Classified Ads 12p per word. Minimum charge £2.40. Business Ads 15p per word. Minimum charge £3.50. Spot Ads (Classified) £4.25 Size 28.5mm × 30mm (maximum 25 words). eg.

### SUNRAY

excellent condition

Multi-coloured sail

£250 o.n.o.

Tel: Upton-Magna 365  
after 6pm.

10% discount for three adverts in different editions, paid in advance. All adverts must be accompanied by full payment.

Publication dates are the 1st of each month, and all camera-ready artwork, with full payment, should reach me no later than four weeks before publication. Artwork that needs preparing should reach me at least 10 days earlier.

Anyone requiring an insert can have a loose sheet included provided that they arrange their own printing and have supplies at Blackburn at least 10 days before publication date booking. Payment must also have been completed prior to this.

A double leaf insert can, by arrangement, be sewn into the magazine.

The magazine is prepared by offset litho and has a screen of 122.

Mrs S.M.J. Howard

Commercial Editor

4 Somerwood

Rodington

Nr. Shrewsbury

Salop

England,

Tel: Upton Magna (074377) 365

December 1980

# NEWS EXTRA

## THE FRENCH DO IT IN PAIRS

The first two-man competition in the world took place in Grenoble, site of the 1979 World Championship. Victory was Roussot's, flying an Atlas 18 with a female television journalist. A lot of big Gherokees in the standings; their handling is very much appreciated by a lot of Grenoblois to take their friends thermalling.

A Gemini made a very poor exhibition of tip stalling, harmless fortunately, but showing bad aerodynamic qualities. The Big Spirit is a bit stiff in roll, not very good in performance but easy to use. A new comer, the Big Lancer IV showed a very impressive handling along with good launching and landing abilities. Two-man flying is becoming very popular over here, and French Federation includes a two-man insurance cover in its licence. Two-man motor-"triking" is also used for teaching hang gliding, a revolution in the teaching system.

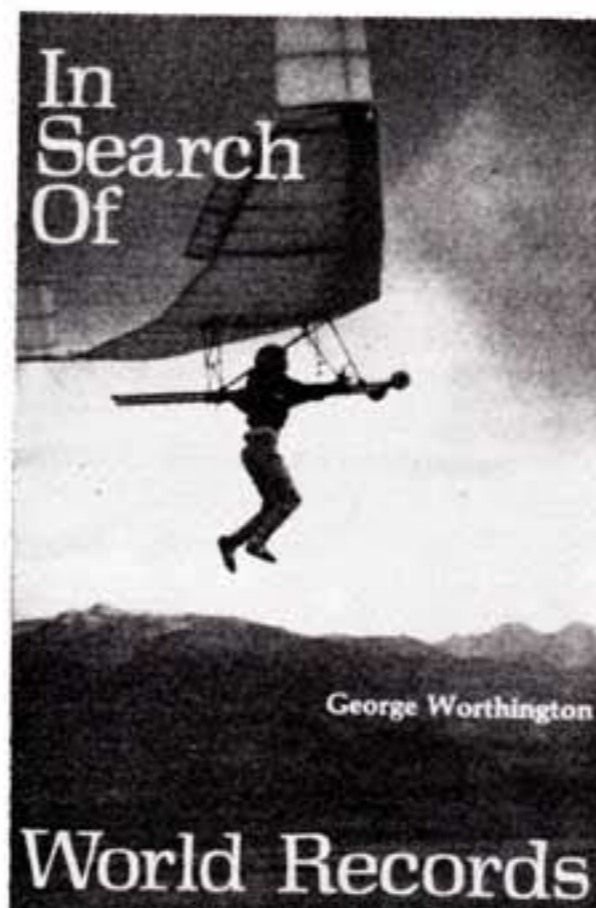
## STALL ALERT

The maxim 'you don't walk away from a stall' has prompted scientific instrument makers R.W. Munro to design and market a vital safety device: a stall alarm. When a hang glider (or any heavier-than-air machine) loses speed, it approaches a critical point at which it won't respond to its controls, and that's when fatalities can occur. The new Stall Alert gives a piercing note to attract the flyer's attention before the situation can become serious. Once safe flying speed has been regained the warning note switches off. The R.W. Munro Stall Alert has a preset control that gives a few knots margin for safety. Switching on gives a high-pitched note, which disappears when the take-off run achieves safe flying speed. At this point the alarm switches off, and it stays off so long as the pilot maintains a safe speed.

The company claim it's essential equipment for learners, trainees and less experienced pilots. The Stall Alert has been tested by a highly experienced (and highly respected) official of the sport, who found it a valuable piece of equipment for the intermediate-ability flyer, and essential equipment for *ab initio* training.

The problem is cost. Price of the Stall Alert is £61.52, plus VAT.

## BOOK REVIEW by J.A. Hudson



## 'IN SEARCH OF WORLD RECORDS'

by George Worthington

Publisher - Hang Gliding Press. Box 22552-B, San Diego, California 92122. Price: \$9.95, soft cover; \$12.95, hard cover; plus \$2.50 foreign handling and postage.

I have never before read a full length book written by someone I not only know of but have travelled with, eaten with and flown with, albeit over just a few days last year. This short contact opened my eyes to a man the hang gliding world just loves to hate a little. He is 60 years old, fit, active and the driving force behind flying in the Owens Valley, California. He is direct, methodical, organised, a good pilot and - above all - holds all of the available male records and has done so in 1978, 1979 and 1980. He doesn't take pot, smoke or drink a lot and spends every minute of his waking hours working towards his seemingly sole aim in life — the gaining of a world record for the sake of it. Not for the fun in doing it, not for the company of other pilots whilst doing so, not just for a long flight, but to do it right! To have that magic bit of paper, with his name on it.

### Records

George Worthington is currently under fire in most of the American hang gliding press for his monologue on how people should not claim

'records' unless they actually exist and are officially recognised. George has all those and quite unashamedly says so! This book tells how he managed it. Described as a "new flying book" this is certainly is, being full of accounts of good, bad, fun and dangerous air time.

The style of writing is intriguing and, to me, seems not like reading words on a page but like listening to a cassette recording because he writes just as he talks: slow, precise, and with more "Is" than a pack of Letraset, not the "Is" of opinionated egocentricity, but the "Is" of personal commitment, dedication and self-confidence.

### The man

In its early stages, the book introduces you to George the man, his history, ambitions and failures and details his early experience in Rogallos and Icarus 2 and the Mitchell Wing. Chapters are devoted to many accounts of his early flying life in the U.S. Navy, flying multi-engined fighter bombers, sea planes and jet fighters, and his later years searching for world records in sailplanes.

He describes his hundreds of mistakes — some of them horrifying to read — and throughout the book gives the reader gentle reminders that luck and not skill keeps George Worthington alive. He believes in luck as many people believe in God, and attributes a great deal of success to it. Tongue in cheek, I think, because he is very aware that luck is often the result of good planning and at this he is a master.

### Owens Valley

Seventy-five per cent of the book is devoted to a day-by-day account of the assault on world records in the Owens Valley. George manages to convey the scale of flying in the area and each piece is full of intricate details of maximum altitudes, wind speeds and thermal strengths. In his own unusual style, conversations held, miles flown, and mistakes and successes are analysed and investigated.

This is a book, not just about world records, but about one man's way of flight. It is an honest book about George Worthington, about Rogallos and Mitchell Wings, and about the activities in the Owens Valley between 1977 and 1980. As such it is a master and, in time, history will raise it to a classic.

If your own ego is pretty large, the book will cause you to bristle and join the ranks of pilots currently riding the "knock Worthington and all he stands for" wave. If you can read beyond the words, the book will give you a great insight into the character of the man who has logged over 10,000 hours of air time, started flying hang gliders in 1975, and is the most well-known hang glider pilot in the world.



# CAREFUL WITH THAT OLD GLIDER

Len Gabriels cautions

The Sunspot was designed late in 1976 and went into production early in 1977, continuing to be produced in 1978 but fading out as the Safari, with its preformed battens and better rough weather capability, came along.

There are about 150 in Britain and most of these have long since been sold by the original buyers and passed down through the second-hand market, until at the present time they seem to be one of the more popular kites for the newly qualified pilot.

So a glider which in its day was a high performer, usually flown by an experienced pilot who knew how to tune a glider correctly, is now usually used by a new pilot with no real idea of tuning. Many seem to have lost their handbooks on their way to the latest buyer so that the new pilot has nothing to guide him and the elimination of wing wires over the last couple of years means that tuning is becoming a lost art.

Add all that together and you have a recipe for accidents.

Furthermore, hang gliders are now flying in conditions which would have been avoided like the plague two or three years ago. The fact that these are modern gliders, mostly with experienced pilots, both capable of handling bad conditions, is not apparent to the less experienced pilots on their older gliders. I have seen such pilots and gliders flying in conditions and places which they should have been careful to avoid and which they would have avoided but for the fact that they could see others flying.

*Put a badly tuned glider into the hands of a relatively inexperienced pilot, let him fly it in horrendous conditions and the recipe for accidents becomes a recipe for total disaster.*

Thoughts along these lines have been troubling me for some time now and after discussing a recent incident with Safety Officer Diane Hanlon we concluded that it was time to restate a few things about hang gliders and the tuning of them.

## TYPICAL GLIDERS

The Sunspot is typical of many hang gliders of its generation. It did not have tip rods to give defined washout nor did it have leech lines. Tip rods only came into general use as the Sunspot was being phased out of production and only relatively few of them have tip rods. None of them have leech lines as these came in much later (and they may not be effective).

The Sunspot is a Rogallo, albeit a high aspect ratio one, and it relies for pitch stability within the normal flight envelope on the shape of the inflated sail.

At high angles of attack just above stall speed, the sail is initiated right back to the trailing edge so that the rear of the sail is contributing to the total lift. This provides a correcting nose-down force to return the glider to higher speed. At low angles of attack and high speed, the rear of the sail will be (or should be) fluttering and shedding its lift — (and the sail camber also changes) — so that the centre of lift is moved forward to provide a correcting nose up force to return the glider to lower speed. In both extremes the stabilising forces are felt as control bar pressure against the pilot's hands. As a



rule the greater the pressure the more stable the glider. In between the two extremes is a point where there is no bar pressure; this is the "hands off" trim point. On a Sunspot it should be with the bar about mouth level (for prone pilots). On other gliders it may be higher or lower.

*Note that all this only works as long as (a) the sail is inflated and (b) the trailing edge flutters at high speeds.*

## DANGER!

If the sail is deflated e.g. by turbulence or pilot induced aerobatics, the situation changes. Deflations in level flight are usually merely frightening at the worst. In steep dives they can be downright dangerous and turn into luffing dives. A Rogallo should never be allowed to get near to this situation. The recovery from a luffing dive, (assuming the glider does recover) may be so explosive that the structure suffers damage, or it may be in the wrong direction so that the glider tucks under, depending on the whims of the airflow.

If the sail becomes deflated and the glider pitches nose down as a result of flying into rotor, then it will probably continue to rotate nose down until it tucks, if travelling the wrong way relative to the rotor (but as there is no right way to fly in rotor don't try the various possibilities). It may make very little difference if the pilot is pushing out on the bar.

Len Gabriels on ancient Skyhook hang glider

Recently I saw films of "tail first" drop tests in which every glider tucked. (One assumes that these were gliders which were known to recover from nose first drop tests otherwise there would be no point in the test). Other film showed a glider which I understand had passed its test on the German test vehicle which means that it had already been proved to be pitch positive. The pilot whip-stalled it, not too viciously, and as the nose dropped and with the pilot still pushing out on the bar, the glider promptly tumbled and after falling inverted for a long way the pilot saved his neck by deploying his parachute. *As you can see, the Germans are very dedicated to testing hang gliders.*

I think that the BHGA would perform a service by making the film available to clubs.

## GET INSURANCE

All the above things can happen even with a modern glider which is tuned correctly (even with tip rods etc.). How much more likely is it to happen to an older glider, especially if wrongly tuned. If your old glider is tuned so that you have practically eliminated all bar pressure, and your sail trailing edge does not flutter even at high speed, you may feel like congratulating yourself. You should instead be dusting over your insurance policies because you have a greater chance of ending up as a statistic. This last paragraph does not necessarily refer to the latest machines which can operate at any speed right up to their maximums without noticeable trailing edge flutter.

Some of these machines derive their pitch stability from the use of a defined airfoil section which is held in shape by preformed rigid battens incorporating reflex (equivalent to up elevator) right across the trailing edge. This type of glider cannot easily deflate or inflate the wrong way round. Provided the airfoil section is correctly shaped, it will recover from a vertical dive in the same way every time without being affected greatly by the minor whims of the airflow. You will still be able to invert it by flying in rotor (anything inside a rotor is going to travel around with the strong airflow which exists there, and whether the glider is pitch positive or not is hardly likely to matter). You will still be able to invert it easily after a whipstall or tail slide.

## LIMITATIONS

I hope that what I have written will convince you, that all hang gliders must still be flown within their limitations, and you must firstly appreciate what the limitations are, secondly that older gliders have lower limitations than current models, and that less experienced pilots on older gliders have the lowers limitations of any.

So use the older glider as it was intended to be used and not as the most up-to-date gliders are used. Don't take it for granted that you can fly where, when and how your local experts fly unless your glider is as up-to-date as theirs and you are as experienced.

One last thought. In March or thereabouts this year, *Hang Gliding* published an article which I felt at the time deserved wide publicity but nobody seemed to pick it up, probably because it was an involved technical article.

What it boiled down to is that when you have the bar down to your knees, the worst thing you can do is to try to turn tightly as well. It seems that when this happens, the rotating hang glider becomes a big gyroscope, and forces come into play which load the nose down, thus steepening the dive. Calculations showed that the nose down load could become higher than the pilot could correct, even if he remained in control. *The lesson seemed to be that spiral dives are particularly dangerous manoeuvres and as this sort of thing is sometimes done to lose height rapidly it's worth thinking about.*



# THE FIRST NORFOLK AIR~RACE

Mark Southall



Trike after take-off - photo B. Milton



Mark Southall - photo Mark Junak

## Saturday 4th October.

We were made exceptionally welcome by the Felthorpe Flying Club and Norfolk Hang Gliding Club. There was a great variety of machines there; Alan Weeks with his Pterodactyl, a Fledge with a

Soarmaster unit, Len Gabriels of Skyhook Sailwings Ltd., with his tricycle unit, several Hiway units on Super Scorpions, Vulcans and Solar Storms. Gerry Breen was entered but as yet had not arrived. There were two Dunstable School of Hang Gliding Soarmaster type units on a Cyclone and a Vortex, Murray Rose and his three-bladed prop, and two Solar Storm/Buggy units including Les Ward and his John O'Groats unit, and myself on the other. The course consisted of three legs.

*First leg:* Take-off at Little Snoring Airfield and fly 315° magnetic, distance approximately 17 miles to Little Snoring Airfield, on the way were two markers which had to be read and were each worth ten minutes subtracted from your time. On landing at Little Snoring report in to the marshals.

*Second leg:* Take-off at Little Snoring Airfield and fly 85° magnetic, distance approximately 18 miles to Northreps Airfield. Again on the way were two markers to be spotted, both worth ten minutes each. On landing at Northreps Airfield report in to the marshals.

*Third leg:* Take-off Northreps Airfield and fly 205° magnetic, distance approximately 16 miles to Felthorpe Airfield, on the way is one marker to spot worth twenty minutes, but this marker is out on a slight dog-leg.

It was too rough to fly most of the first day, but by 4pm the wind started to ease, so we all had an evening's flying in pleasant conditions, with height gains of 3,000 A.T.O.

## Sunday 5th October

After a very enjoyable evening at Felthorpe Flying Club, pilots gathered for briefing at 0800hrs. Wind SW, 10 knots, due to increase in the afternoon, sunny and bright. The race was on, so lots were drawn for starting times, five minutes apart.

The first off was a Fledge/Soarmaster unit. It climbed to 50ft., did one circuit of the airfield and landed. He said he could not get any higher, so had to land. The rest got off without any trouble. My start number was 8, and my ground crew, David Squires, left to meet me at Little Snoring.

The first leg was fairly turbulent, flying 90° off the wind, and quite a lot of wind drift had to be allowed for. Height for this leg was 700ft. A.T.O. The fuel consumption on the Storm Buggy with the Sachs engine was only estimated, and to be safe, after forty-five minutes I landed at Foulsham Airfield and refuelled myself from the spare can that I carried. There was still about half a tank of fuel left. On landing at Little Snoring, I was debriefed about the markers that I had seen, and allowed thirty minutes turnaround time. As David was there ready for me, it took only ten minutes.

Take-off for the second leg went OK, with no problems. This leg was 140° off the wind, very nearly downwind. I kept climbing gently to about 1,200ft. A.T.O. The wind here was about 25 knots, making this a very fast leg. When I sighted Northreps Airfield it proved to be a 20ft. wide strip of rough grass, running north to south, and on either side it was ploughed. It was also obvious that the wind had started to pick up, but the landing did not seem too bad and I was debriefed by the marshals.

Ready for take-off again, with Will Reynolds on his Super Scorpion/Skytrike ahead of me. The wind was not gusting 5-15 knots, 45°-50° off the runway. This made us both a bit hesitant about take-off because we had only about 30ft. to get airborne in, or else we would end up in the rough stuff. Ray Watering, the organiser, told us that only two other units had reached this far and both had taken off again. Les Ward on his Solar/Buggy had a clean take-off, and Alan Weeks on his Pterodactyl had hit the plough with his nose wheel but just managed to take off. We decided to go. Will

had a very sticky take-off but got away OK. With the extra power and less weight I had a cleaner take-off.

The final leg was a 16 mile battle with a 20 knot plus headwind which was very turbulent. I started by flying low at 200-400ft. A.T.O., and found that all the turbulence off the woods and forestry that we were flying over meant that I was getting buffeted around and twisted off course a lot, so I gradually climbed until I was at a height where I could hold a steady course. I ended up at 1,000ft., where there was more headwind, but at least I could hold straight and level flight. *Talking with Les and Will afterwards this proved a sensible decision. They both found that they were pushed off course quite a bit.*

After one hour's flying I had to land to refuel. I chose the field with the marker in, as it appeared to be a stubby field in the right direction for the wind, but on touch-down I discovered that it was very soft. As a result I came to a sudden stop with all three wheels sunk in, but safe and in full working order. Having refuelled I had a very difficult take-off with the sticky ground, but eventually I got airborne and heaved a sigh of relief.

The last section of the third leg was over some vast wooded areas, again quite turbulent. Apparently I was sighted from Felthorpe Airfield forty-five minutes before I actually arrived there. Eventually, one hour and ten minutes after my mid-way refuel, I landed at Felthorpe, three hours thirty-three minutes total flying time. I was told that Will Reynolds had landed three miles short of Felthorpe, and that the only other two pilots to finish the course were Alan Weeks and Les Ward. Anyway I was at least third as the rest had either given up, got lost or broken down.

When the results were worked out, because there was only one Pterodactyl in the race we were all grouped together in one class. Alan Weeks on his Pterodactyl was first overall, then a battle for second place between Les and myself. On airtime Les was one minute quicker than me, but he misread the twenty-minute marker on the last leg, whereas I had misread one of the ten-minute markers, so by nine minutes I was given second place overall, (first in the flexwing section). In third place was Les Ward. We were both on Solar Storm/Buggy units. In fourth place was Will Reynolds on his Super Scorpion/Hiway Skytrike unit.

All in all it was a very enjoyable weekend's flying, well organised by the Norfolk Hang Gliding Club, with help from the Suffolk Coastal Floaters and Felthorpe Flying Club. All the marshals knew exactly what to do, and when to do it, without any questions or complaints. (Take note Brian Milton).

Also my personal thanks to David Squires who as my ground crew was totally invaluable, meeting me at the set landing areas and being a general help.



Pterodactyl Winner, Alan Weeks



# LOCAL RECORDS by Rick Wilson Record & FAI Award Claims Officer

## 'You too can be a certified hero'

During the last sixteen months that this office has been in operation, one or two problems have come to light, mainly due to telephone conversations and letters received from you.

The guidelines that I had to use were already set out, and in the main came from information supplied by the BGA with some adjustment to suit our sport, and the F.A.I. Sporting Code section 7 Hang Gliders Class 'O'.

So far with some pilots the system has worked well, for others not so well. I do understand their feelings, but if a pilot has a goal and it is a World Record then we have to stick to all the rules, there's no other way.

Just to make it CLEAR why this is necessary, before a claim for a World Record can be by the F.A.I., the claim must have been ratified by the BHGA and the Royal Aero Club as a British National Record.

So I propose to set up an alternative Record system to function within the U.K. only. The record system will operate at club level and to make the whole more interesting and competitive, to be divided up into ENGLAND, SCOTLAND, WALES and IRELAND. The scheme must have some controls but they will be minimal.

The scheme I propose will be as follows:

### BHGA LOCAL RECORDS

#### 1. AREAS

England  
Scotland  
Wales  
Ireland

#### 2. TO OPERATE AT CLUB LEVEL WITHIN EACH AREA.

#### 3. RECORDS PREVIOUS RECORD TO BE EXCEEDED BY:

Distance	2km
Distance to Goal	1km
Out and Return	1km
Gain of Height	3%

UP FOR GRABS —  
MULTI-PLACE RECORD — 1ST  
CROSS-COUNTRY BY CLOWN —  
1ST ROYAL HIGHT GAIN —  
VICAR OUT AND BACK — 1ST  
FLIGHT UPSIDE DOWN —  
AND MANY MORE.

#### 4. CONTROLS

1. No forms or certificates
2. Simple signed statement to take-off and landing by the witness.
3. An altimeter or a barograph (for those who them).
4. A camera (Instamatic)

#### 5. AWARDS

1. Each and every claim will be published in *Wings!*
2. Each area can honour their best pilot.
3. The BHGA can provide a shield for the best pilot of the year.
4. The best female pilot.
5. The best pilot's name and the record held to be published in *Wings!* each month.

1. AREAS Dividing the U.K. into areas will stimulate competition. this is not to say that a pilot is restricted to any one area, a record attempt can cross from one area to another. Also, for example, a Scottish pilot can carry out a flight in Wales and claim the record for that area.

2. CLUB LEVEL The local club must be informed of a record flight, and it is the responsibility of the pilot to do so. If the pilot is a stranger to the area and unknown, then it may well be necessary to vet the claim i.e. contact the pilot's own club and verify that the pilot is capable of carrying out the flight claimed.

In most cases though the witness's signed statements will support the pilot's claim.

#### THE RECORDS

DISTANCE This will be based on a signed take-off and landing with the following information: Date, Pilot's Name, Type of Glider, Place of Take-Off, Map Ref. or Longitude and Latitude, Place of Landing with Map Ref. or Longitude or Latitude.

This information will be standard and will apply to all records.

DISTANCE TO GOAL This type of flight will require some planning by the pilot.

The pilot will have to declare his goal on the hill before take-off to a fellow member who will also be the witness to take-off.

On landing the pilot must have at least one signature of a witness who saw his landing. The goal is reached when the Hang Glider lands within 500m radius of the centre of the goal.

OUT AND RETURN The pilot has to plan this flight.

1. A signed take-off.
2. Ground observation at a planned turn point.  
or
3. The use of a camera to photograph the turn point.
4. Witnessed landing within 500m radius of the take-off point.

GAIN OF HEIGHT This is more difficult to witness and measure. Most pilots use an altimeter and most can obtain a camera of the Instamatic type, so you require:

1. A witness to take-off, who will also take a photograph of the face of the Altimeter while the glider is on the ground.
2. The Altimeter should be mounted out of reach of the pilot or sealed.
3. The Camera can be mounted in a position opposite the Altimeter or if possible hand held.
4. The film should be handed to the witness who will have the film developed, and then pass it to the local or pilot's club for scrutiny by two or more fellow members. Information required: Date, Pilot's Name, Type of Glider, Place of Take-Off, Height Gain (this will be the photographic evidence and signed statement by the scrutineers will suffice).

SCOPE BHGA Local Record attempts are open to the following:

1. Feminine participation.
2. Multi-Place.
3. Team — Group or Formation flight.





# LEARNING TO TEACH

## The first BHGA course Geoff Tabbner

**My student was pretty stupid, forgetting his simulator training, confusing his left and his right. He just pushed the bar out further and further. Sprinting down the hillside as fast as I could and shouting instructions, I swung frantically on the nose rope to prevent the stall. Too late, he stalled, dropped the left wing and I fell head-over-heels as he corrected beautifully and flared to a perfect landing!**

I was lucky, my stupid student was none other than Keith Cockroft, recently retired training officer of the BHGA (of 21,000ft. Owens Valley fame). He was instructing me on the art of instructing others. "That", he said "is not untypical of the sort of thing you have to be able to cope with. OK, let's do it again". Our group plodded back up the slope for the nth time to do it all over again.

My hang gliding career began in an orderly fashion with Roger Middleton, a good teacher and ex-RAF fighter pilot, who ran a small school in the Lake District. I was lucky, my visits to the school coinciding with good conditions, and I emerged with a pilot one rating. Purchasing my own glider (a Skyline) shortly afterwards, I ventured forth feeling rather vulnerable. Once again I was lucky in joining the Avon club. I was immediately assigned to the then Novice Liaison Officer, Colin Lark, who continued my training from then on. In his absence the responsible attitude of veteran members like Jerome Fack, Bill Niblett etc., ensured that I was never short of sound advice and a watchful eye. Even then, there were a few frightening moments.

Of late, seeing new novice pilots appear on site, I have realised that in the absence of more learned pilots it is my turn to offer help and advice. When I heard of the BHGA Instructors' Course, to be held in October, I applied. By lunchtime of the first day I, like the others, was wondering what I had let myself in for. The next few days were to prove gruelling.

There were nine of us on the course. Derek Austen and Peter Cook from Dover and Folkestone, Eddie Horsfield from Southern, Tony Hughes from Long Mynd, Bill Huyton from North Wales, John Pursey from D and S Condors, Frank Trunks from Malvern and Colin Lark and I from Avon.

Monday (Day One) saw us assembled in Gerry Breen's Welsh Hang Gliding Centre in Crickhowell at 9am. A few minutes getting to know one another, some introductory remarks and Ann Welch began the first lecture on the principles and techniques of instructing. From then on it didn't seem to stop until 6pm., on the Friday evening. Gerry followed with sessions on the training syllabus and the use of the simulator. After a quick lunch we were out onto the training slope, with Gerry and Keith, learning to teach sound rigging and inspection procedures, ground handling and pre-flight checks. In a bitter cold southerly, black with rain, when any self-respecting pilot would be safe indoors, we began take-offs, tether flying, landings and each of us flew the Stubby or the Harrier to recall how a training glider feels.

That evening, the only free one of the week, gave us an opportunity to get to know one another better in the bar of the Dragon Hotel. Keith told us about his experiences in the Owens Valley and we compared notes with Ann on wave flying.

Day Two dawned wet, blowy and cold, so a nice warm classroom wasn't a bad place to be. Participation began with us putting into practice the techniques of instructing, describing how we would tackle various cases. Keith followed this with a talk on the structure and role of the pilot rating system.

Lunch gave us just enough time to fit in group meetings (three in each group) to plan our presentation of the evening's discussion topic. The programme was flexible to accommodate bad weather and so as the rain lashed outside we continued with Ann on meteorology supported by some excellent slides, Gerry on pilot briefing and then each of us giving mini lectures on different items of equipment.

The evening session convened after dinner for a discussion on the need for instructors, their role and how it should be carried out. As the presenting group the idea was to stimulate the topic but, as luck would have it, the heated nature of some contributions called for more of a restraining role and two and a half hours of lively debate ended at 10.30pm.

We were constantly aware of Friday's exams on which results hinged heavily, so spare moments were best spent swotting up on air law, navigation, theory of flight, aerodynamics, meteorology etc. This was combined with preparatory reading for the next days as we were being continually assessed on participation in the class and out on the slope.

Day Three (Wednesday) was all practical, taking it in turns to teach with the aid of tethers, an important tool when used correctly. But, as I have described, it is not as easy as it looks and calls for a lot of practice. We certainly got that, up and down the slope, it reminded us how much effort is involved in the early days of a pilot's career. We learnt the importance of vigilance in watching for not-so-fit students overtiring themselves.

For the practical sessions we were in two groups. By now we had spent time with both Keith and Gerry. Each had different styles of teaching, both very professional and effective. People were beginning to identify aspects of style best suited to themselves and develop their own approach. Progress was fast with the occasional break for laughter over things like my headlong tumble down the slope.

There were two discussions that evening: "The old, unfit, unsuitable and what to do with them" and "Accidents, their cause and prevention". Well, they were pretty meaty topics, as you can imagine, so no-one got to bed early that night.

Day Four. And so it continued with a full day in the classroom on the Thursday covering flight theory, aerodynamics, teaching aids, lesson planning and BHGA training requirements. Barry Blore showed some film on drop testing and a horrific sequence of a real life tail slide, tuck and parachute deployment which worked but made us feel ill. Our first exam came on Thursday afternoon on meteorology — a foretaste of those to come. The evening was spent on "Organising follow-up training in clubs".

Two more lectures on Friday morning including Roy Hill on air law and navigation and then it was exam time. This was what we had all been dreading and rightly so. There were written papers on teaching techniques, lesson planning, theory of flight, aerodynamics, air law, navigation and flight briefing.

At 5pm it was all over, the last paper collected. With baited breath, nine rather dazed individuals watched films on the video whilst our adjudicators, including Bob Harrison, the new BHGA Training Officer, marked our papers.

### Results

Roy announced the results saying that the standard had been high (you can say that again!), that three of us had passed outright, Tony Hughes, Derek Austen and I (phew!). Of the remainder he said that they had met the required standard but would be required to re-sit one or two papers each to qualify. They would get an opportunity to do this before the end of the year.

Still dazed I drove home through the rain, very tired but very satisfied.

To any pilot two, seriously interested in helping others coming into the sport I recommend the course to you. It is financed by a grant from the De Havilland Trust and is to be held regularly. Apply early — there are a limited number of places. Read up well before you go and you will enjoy it. The more of us there are the better.

Applications should be sent to: Colin Lark, Chairman, BHGA Training Committee, 4 Hague Avenue, Cam, Dursley, Gloucs.

— and he wants them NOW for the next course.



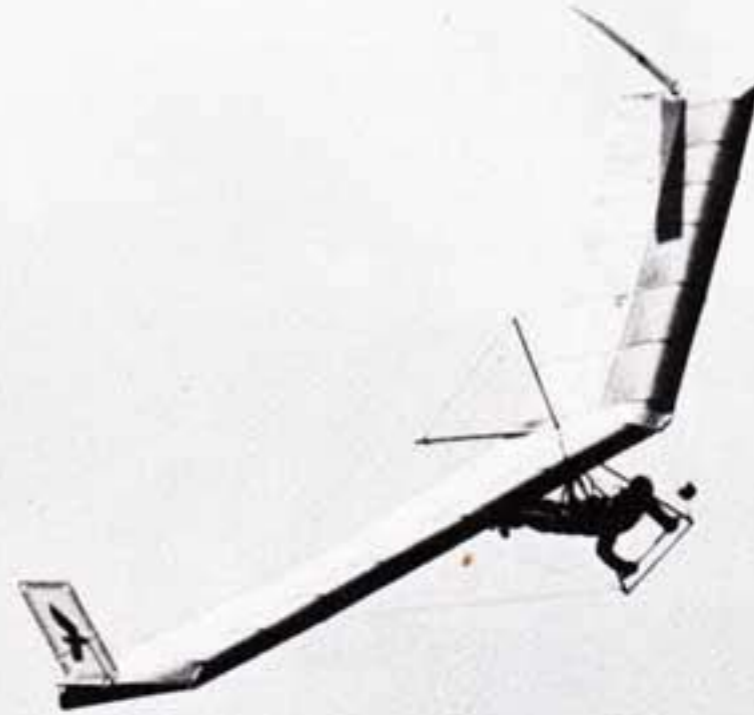
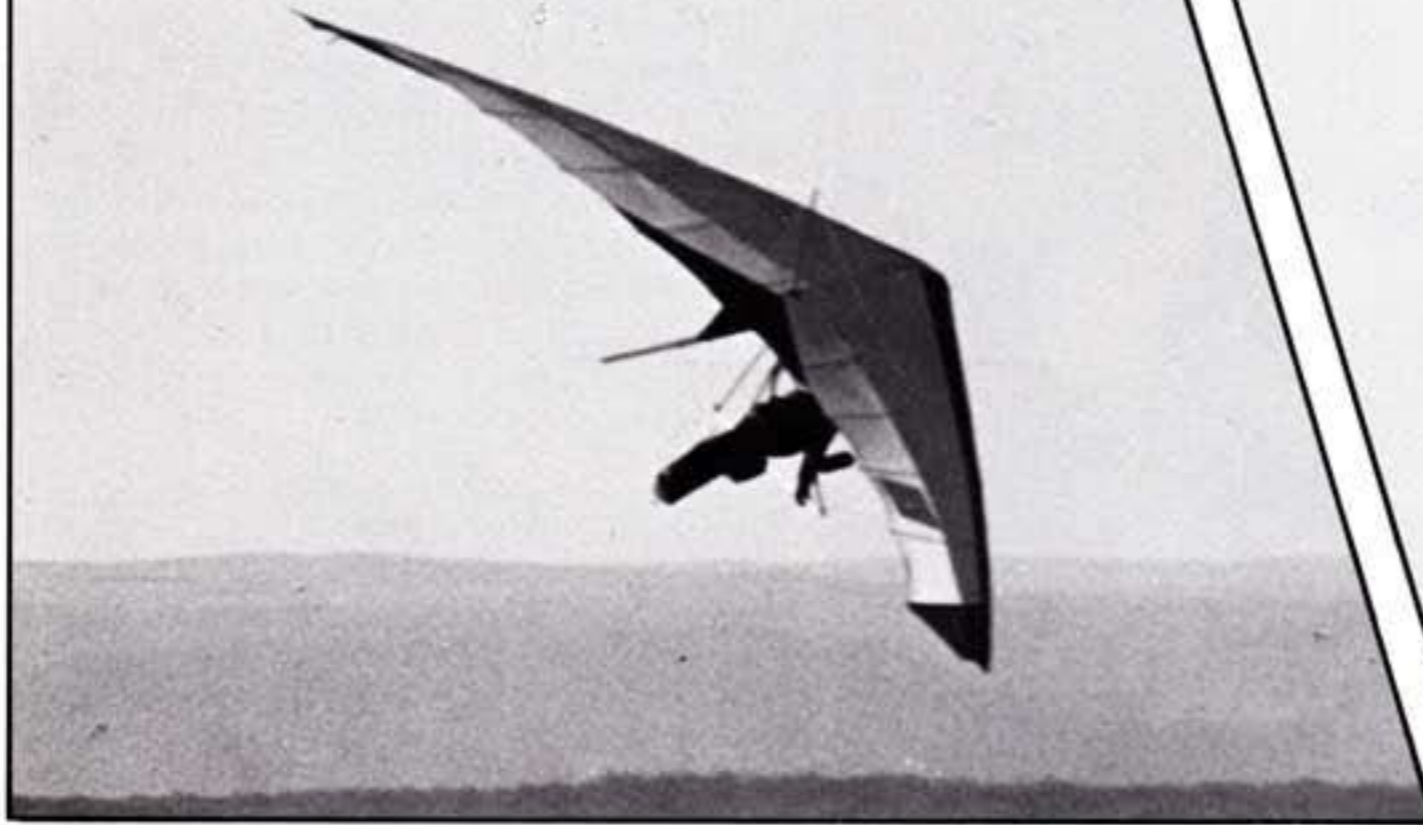
"Now, if your pupil is stuck on the third branch down, hanging on by cheek pressure and a prayer, you don't shake the tree, OK?"



# Comet Vs Fledge~ A SHOOT-OUT

by James Hall

— The big question in hang gliding at the moment is how good is a Comet compared with a Fledge 2. At the American Nationals when the main competition was over, the Flexwing Champion, Tom Haddon, was matched up against the Fledge Champion Rex Miller. Rex, remember, is also the World Champion. They had what was termed a shoot-out over a course combining the best of the American competition philosophy "Climb and Run". This is how it went . . .



The pilots launch and race north on the Ellenville ridge for about a mile to a point designated as pylon A, do a 180° turn and race halfway back toward launch point to another pylon designated as B. Here the competitors were required to do a 360° turn over B before continuing to the wind sock designated as pylon C. At this point the pilots were to head out over the valley to the finish gate at the landing area.

In the event the gliders should cross the finish gate in the same time, the tie would be broken by landing accuracy. Should it be impossible to make the pylon course because of marginal conditions, it would automatically turn into a duration task (no need to worry, it was soarable!).

Dennis Pagen acted as both launch director and aerial judge by handling communications at the top, launching the two gliders, and then immediately launching after them to take up a position about 600ft. over pylon B. From this vantage point Pagen could verify the task requirements in a totally new and unique manner.

Just before launch, Pagen flipped a coin to decide who would get the coveted north launch ramp, which had caused such controversy in the previous weeks' activities. Rex Miller won the toss and the theoretical advantage.

As the gliders launched, Miller immediately streaked for pylon A,

hoping the ridge lift would keep his Fledgling high enough to round the far pylon without having to stop and circle for altitude. Haddon, feeling the lift was not going to be strong enough to permit a single flatout run, immediately began a series of climbing turns right off the south launch ramp. "It was difficult seeing Rex make a run for it so soon, but lift was strong on launch, and I felt I could get high and then make a diving run for it and catch him".

Rex Miller's speed run carried him below the level of pylon A so he was forced to stop about halfway to the far pylon and work the lift, thereby relinquishing the precious lead he had built over the Comet. After two and a half turns at launch, Haddon turned in the quartering wind and began chasing the Fledge. With the bar to his knees, Haddon quickly closed on the Fledge pilot, who had now gained just enough altitude to continue his flight toward pylon A.

Miller easily made the first turn point before the Comet, and started back south with a good lead. Haddon, however, arriving well above the Fledgling at A, had an altitude advantage, although he was behind. On the upwind leg toward pylon B it was a test of pure penetration. Neither glider seemed to have an advantage until it was clearly evident to both pilots that pylon B was above them, and they would

both have to stop and circle to gain enough altitude to 360 the middle pylon.

The incoming wind was strong and quartering the rather gradual ridge face, creating a minimum of rather trashy and turbulent lift. Here, Haddon's Comet displayed a clear-cut advantage. Its turn radius was tighter, and the Virginia pilot was able to scratch and pass the Fledge in the most exciting part of the duel. Each pilot had to make several passes and turns below the ridge; a calculated game of altitude versus survival.

Haddon 360'd the pylon and took the lead for the first time. Miller, seeing Haddon make B, took a desperate chance, turning downwind while working the lift, and just squeaked around B, thereby gaining some distance back on Haddon. From this point back to launch and pylon C, sink and more trash confronted the two racers.

Haddon's ability to out-climb the Fledgling in marginal air paid off. The Comet surged around the front of launch, and caught just enough lift to put Haddon even with the pylon. He went for it again, just missing the wind sock by a few feet as he turned and raced for the finish. Miller, frustrated because he couldn't gain altitude quickly enough, missed his first try for pylon C, and had to go back for it again before heading out.

Haddon's flight path to the landing area was far off a direct-line course, as Haddon knew that the quartering wind might bring him up short at the landing area. The Comet pilot had a distinct advantage at this point and played it very conservatively. When he was well out over the valley and knew he had it made, he stuffed the bar and dove at the finish gate. Miller had just rounded the final pylon at this point and could see that Haddon really had his act together. Even the Fledge's speed couldn't make up for the time Miller had lost at C.

Haddon cruised in for a perfect stand-up landing just past the bull's-eye, to the enthusiastic support of the spectators who had stayed for this last unofficial event. Haddon's winning smile lit up the landing area, as a gracious Rex Miller congratulated him. Both agreed it was the best task and competition that either had flown all week.

What did it all prove? Certainly not that the Comet was superior to the Fledge; perhaps, as Miller agreed later, that Haddon had out-flown him. What it did prove is that Roy Haggard and UP have re-equalised the rigid versus flex wing controversy, and perhaps most important of all, proved the USHGA was a bit hasty in separating the classes!

Reprinted from *Glider Rider*, Nov. '80.



# ≡ AMERIC

by Brian Milton

By a margin of 8 rounds to 3, the United States team took the American Cup for the first time ever this October, pushing the defending champions Great Britain firmly into second place. The World team champions, France, won a 3-nation battle for bronze medal position, with Canada fourth, Brazil fifth, and Australia sixth. There will be a lot of analysis this winter as to why we lost, but we were fairly beaten by an extremely good team flying fine hang gliders. They won more, I think, than we lost, but it's now evident we made a number of mistakes going back over 12 months that were a significant factor in our second place.



above - Grouse Mountain Champ. Rob Kells, guest at Am Cup, with parachute before unsuccessfully attempting a loop

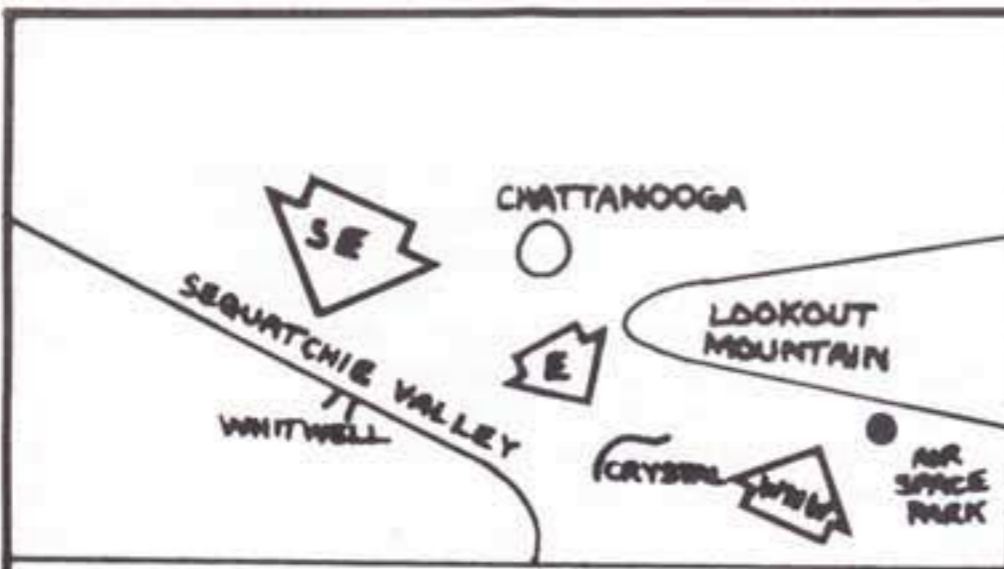
top left - The victorious American team with leaves (it was Autumn there)

bottom left - UP Comet, Brazilian team, on landing

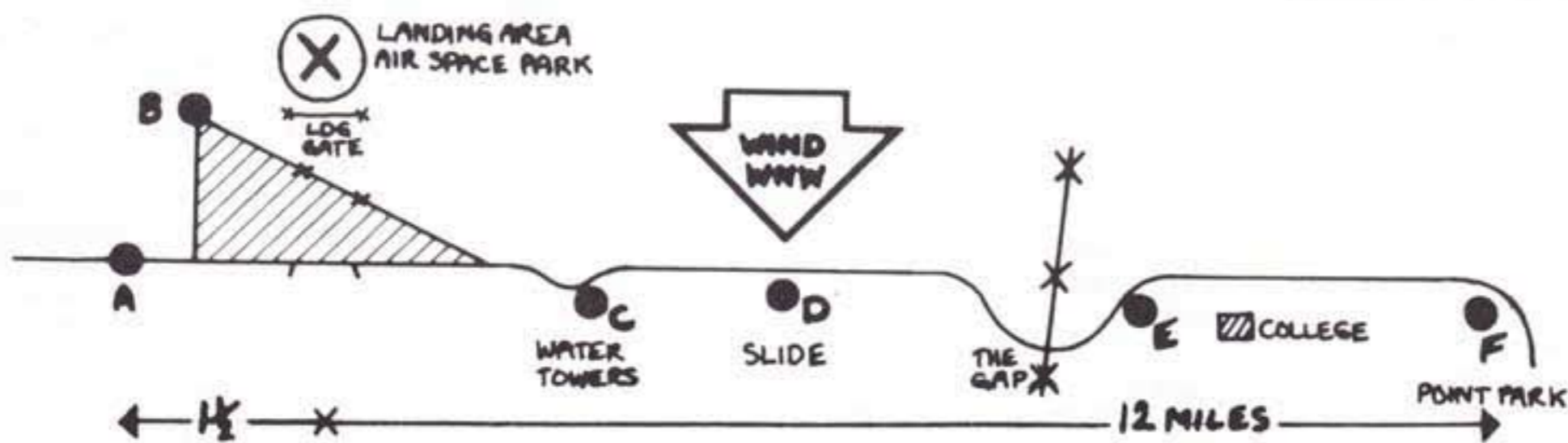
17 - far right - Bob Calvert on take-off at Whitwell near right - Rigging at Lookout Mountain



# AN CUP



- A - 3rd PYLON - MIEIR TASK
- B - 2nd PYLON - MIEIR TASK
- XX - GATE (3 MINUTES) SKYWARS
- C - 1st PYLON - HAWK, SKYWARS MIEIR
- D - 1st PYLON - GOLDEN EAGLE  
2nd PYLON - HAWK
- E - 2nd PYLON - GOLDEN EAGLE  
3rd PYLON - HAWK
- F - 3rd PYLON - GOLDEN HAWK





# COMET Latest American Fast-Food

## AGGRESSION

For a British team, the American Cup is always the icing on the cake after a long tough competition season. We knew this year would be difficult, because the USA couldn't stay laid-back a third season to take a beating. Occasional rumours arrived on these shores about the preparations being made. Robert Bailey, at the Masters, reported a lot of aggressiveness, and I had a couple of letters myself, one from George Worthington, the other from UP boss Pete Brock, hoping I'd be there personally to watch Britain get beaten.

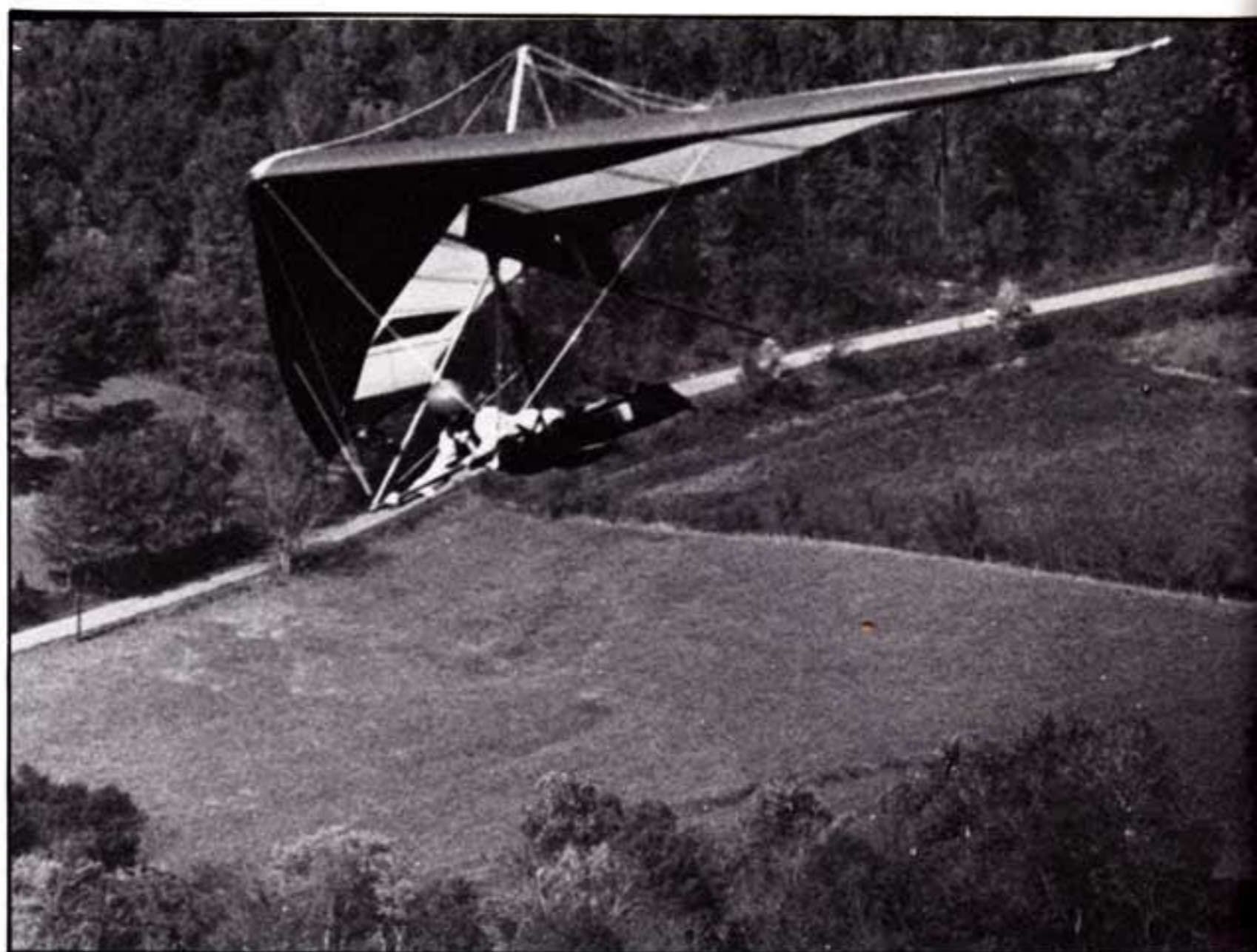
The key to their confidence, it transpired, was the performance of one hang glider, the UP Comet. Designed by Roy Haggard, it appeared finally to have come to terms with double-surfacing, after the earlier disasters of the La Mouette Jet and the Bennett Mariah, each of which had a tendency to tuck. The Comet, simply by using bottom battens resting on the leading edge, cured this fault. It had already cleaned up on the American competition circuit with the Owens Valley XC, the Southern California League, and the US Nationals (look elsewhere in Wings for an account from *Glider Rider* of a Comet versus a Fledge II)

Bob England, now working for Hiway, had seen the Comet at Grouse Mountain, where – in pure sink-rate tasks – it didn't show up as anything special. What it *did* have, though, was speed and glide-angle, and comparing it with fourth generation hang gliders like the Atlas and Mega II, it was obviously blowing them away. It is, in fact, a fifth generation machine. Bob came back here and started working for Hiway, with a single-minded attempt to build a machine which would be able to live with, if not eat, the Comet. With the early Demons he produced, first at Mere, and then in a prototype, flying just a week before we left, he got closer than any other machine we had then. But he didn't get there, and was still making modifications in the week's run-up to the actual competition. The two raw prototypes we brought out with us, hoping they would fly well, didn't do so, and were not used. We wasted two days trying to get them to go.

It has to be said, though, that Bob England was the only one British manufacturer to try and get us a hang glider to live with what the Americans had produced. The only weapons we had against the Comet were tactical skills, both in flying, and in negotiating tasks that didn't have a speed element. Both, in the end, were not nearly enough.

## CLIMB AND RUN

We felt, going out to Tennessee a week before the competition, that we had the strongest team possible. This was: Robert Bailey (Capt), Bob Calvert, Bob England, Graham Hobson, Graham Slater and Mark Silvester, with Geoff Ball as an alternate. The back-up team of Derek and Audrey Evans, Joan Lane and myself, was highly experienced. It was a team picked with previous American Cups in mind. We knew Sean Dever would be this year's competition director, and that he was determined to have *flying* tasks, testing *flying* skills, rather than the 2 or 3 minute tasks that were common in



previous American Cups. The tasks reflected the latest California thinking, the philosophy of "Climb and Run" that was, in the last analysis, the thinking that produced the Comet.

This thinking originated in a place called Crestline, where it's often soarable. In 1-on-1 competition, pilots are set a speed course with pylons, maybe 12 miles long, such that it isn't usually possible to put the bar around your ankles and speed through the course. The task between Tom Haddon on his Comet, and Rex Miller on a Fledge II, after the US Nationals, was a supreme example of how this philosophy *should* work in competition, with pilot skill in using sink-rate or speed to max the course. That it twice didn't work this way at the American Cup, being only "run" rather than "climb and run" was something we feared would happen, could see coming, and conceded as "banker" tasks for the American team. We had to find something else as our own possible "banker".

We spent the week in preparation, flying every day, though not going through the tasks in the same machine-like manner we had used in previous cups. Watching the Americans sort out their team from the squad of 9 was fascinating. They were as wound-up as we had been on previous years, as a favoured pilot – Jeff Scott – was obviously not going to make the team, while a pilot considered an outsider – Malcolm Jones – was successfully fighting to get in. We came across the Americans from time to time, but on the day we went to Whitwell, Thursday, October 16th they had finished their selection and were resting.

## ALBATROSS

The previous evening, team captains and managers met to discuss the rules. Sean Dever chaired the discussion, and was willing to go to a vote on what the rules should be. Derek Evans and I had written in two extra tasks for the competition, one pure sink-rate and spot, without a speed option, the other a go-for-it cross-country. We adopted Sean's practice of naming the tasks, calling the XC "Albatross", (though wits amongst us were all for calling it "Budgerigar"). There was strong opposition from the American team to Albatross, and the Brazilians were also uneasy, but it went through. The biggest problem of the evening was whether or

not we used ballast. Because there'd been doubts about whether the competition would go ahead at all, there had been confusion about ballast. We had heard it would be allowed, then that it was banned, and four days before leaving for the USA, we heard again it was allowed. We supported a Canadian motion to ban the use of ballast, which won by 5-1, again upsetting the Americans. Their manager, Peter Brock, then wanted to raise the issue of certificates of airworthiness for gliders, and there was some mention of a threat to withdraw unless either the certificates or ballast were enforced. On my initiative, we went to another vote on ballast, allowing its use, and left the meeting in a bad temper. After prolonged discussion within the American team, they later withdrew the suggestion that they might not take part in the competition, and ballast was banned.

Before that happened though, the British team went out the following day to Whitwell, with ballast bags sewn on every harness, and Derek and I grubbed around the back roads filling paper bags with gravel. It's a filthy habit, pouring the stuff into your harness, and staggering to the take-off ramp bent over the control frame. All the British pilots tried out ballast, most of them for the first time, but released after an hour.

Four of them broke all the Whitwell XC records that day. Robert Bailey, Bob Calvert, Mark Silvester and Graham Slater, accompanied by Mike de Glanville from the French team, turned left at Whitwell and began hopping across the gaps up the ridge. The previous Whitwell record was 25 miles. In what they described as the easiest XC they'd ever done, Calvert and Silvester did 41 miles, Slater 45 miles, and Robert Bailey 50 miles. Mike de Glanville did 43 miles on his new Vampire. The back-up team lost sight of the pilots early in the afternoon, and we were astonished at how far they went. We got to Bailey at nightfall, 5 minutes after he landed. It made us 2½ hours late for the pilots briefing, and none of the other pilots was happy to learn of the flying that day. Later, it struck us that doing such big flights had marginally reduced the chances of Albatross being called.

## OPPOSITION

It was obvious by the time the competition began





that the Americans had got their act together. Their team had survived an extremely tough test, and a group of natural anarchists had been moulded together by UP boss Pete Brock. Six of the squad of 9 had been flying UP Comets when the selection flights began – now they were all on Comets, which had outclassed the other gliders available. We thought the American team might have problems if it was put under pressure, because of the different personalities and the way they might react to being pushed. It never, as it happened, came to that.

The Canadians were very quiet this year, in contrast to previous years. They had some interesting gliders, including a Bennett Viper, and Tom Price's radical ASG 23, which has no cross-boom, no bowsprit, and no top rigging or king-post (think about that.) They had chosen their team from the Canadian Nationals, held in Quebec for the first time, instead of the major Canadian hang gliding centre of British Columbia. We knew many of the team for good fliers, 4 of the 6 anyway – Muller, Rouck, Barber—Starkey and Croome – and we were cautious about how they would do. They had a good back-up team, well-organised, and in slightly different circumstances they could have placed third.

The French arrived later than they wished, because of an airline strike, so they began the competition unfamiliar with the site. Whitwell was the first time they flew, 5 days after we arrived, and they chose to stay on the ridge rather than go XC. The first four tasks almost crucified them, as you can see, but there was an emergency meeting after that in which they got their act together and began to lift themselves off last place. Everyone flew Atlas's except Mike de Glanville.

The Australian team had been decimated by the on-off-on nature of the run-up to the American Cup. Bill Moyes, thinking the Cup was off, let the Duncan brothers go back to Australia, and couldn't get them back again when he heard it was on. Ricky Duncan, some of you will remember, was top pilot at 1976 Mere, and he and his brother are rated very highly. Phil Matthewson was missing, and also – tragically, as we later learned – was Peter "The Black Death" Brown, second at the US Masters the month before. Peter had told Robert Bailey he didn't want to fly in the American Cup if Australia had a "scratch" team. As that was, in

fact, what Australia had, Peter Brown stayed in California. Steve Moyes led the Australians, and was a major threat to winning the individual Rogallo Trophy.

The dark horses were the Brazilians, highly-rated by our team, who had seen them in Kossen, where they placed 2nd in the team competition behind Great Britain. The Brazilians were colourful, quite disorganised, but really excellent fliers. Their major weakness was their gliders. They had all ordered UP Comets, and they arrived in Tennessee expecting to pick them up, but "somehow" they weren't ready until the day the competition began. The Brazilians began not having flown the site, nor their gliders... and it showed.

## TASKS

In all, 7 tasks were agreed for the competition, five of them based, as I said, on "Climb-and-Run". They were all named, which was startling, but a good idea in selling hang gliding to the public.

**Skywars**, was a sink-rate task with a speed option, with pilots allowed a maximum of 3 minutes within a triangle formed by the ridge and a road down the hill. They could only leave by a specified gate, and once out of the gate, you couldn't go back. If you could get around the first pylon, the task was decided by fastest to the landing gate, otherwise, it was a duration task.

**Hawk** was a ridge race, around up to 3 pylons and back to the landing gate. If you couldn't make the first pylon, then it was a duration task.

The same thinking applied to **Golden Eagle**, though the pylons were further apart.

**Crystal** was simple, just take off and get to Crystal, a site about 9 miles north and 3 miles in front of the ridge. Fastest, or nearest, wins.

Possibly the most interesting of the tasks was the **Mieir**, named after the 1979 American team coach, Mike Mieir. In this, pilots went around a pylon a half mile to their right, down past a pylon way in front of the ridge, out of ridge lift, and then past a pylon back up at ridge level a mile and a half to the left of takeoff. If you couldn't get around pylon 1, then it was sink rate. It was tactically an extremely difficult task to fly, particularly against machines faster than your own. They could *pin* you by staying with you until you turned for home, and then racing

faster than you to the finish line.

Albatross, which wasn't run, scored double points, on the grounds that it would take all day to run.

All heats were run in groups of 3, with simple scoring – 900, 600, 300 points, plus a possible bonus of 50 points for the target, losing 1 point for every foot from the centre. Aside from Crystal and Albatross, you scored nothing if you didn't get into the 300 foot radius landing area, and you could be disqualified for going back over the road in **Skywars** and **Mieir** after having left the triangle formed by the road and the top of the ridge.

## COMPETITION

We were rained out on the first day, October 18th which the British team spent driving over the possible routes we could take on an XC, looking for traps. As Albatross scoring was worth double points, in six batches of 1800, 1500, 1200 etc, points, regardless of the miles you covered, judged only on your position relative to the other 35 competitors, we saw the task as our saviour. We could see the Americans would paste us for speed, and the only way we could have a chance to catch back would be to get an XC called, and then by tactics not only beat them, but encourage as many of the other nations as possible to get themselves between us and the Americans. There's a natural trap on Lookout Mountain to making a big cross-country flight, which it isn't worth going into details about here, but we thought we'd found it and it needed an XC to see if we were right. That's what we spent the competition trying to secure, looking for legitimate ways to stop the Americans piling up so big a score they couldn't be caught, in the belief that, with a go-anywhere XC, they would lose badly enough to give us a chance. We knew they had Grigsby, Pfeiffer, Greblo, for a start, all famous XC pilots... but what choice did we have? In a speed task, "run" rather than "climb and run", it was almost all over before it began.

On Sunday, October 19th, Sean called a **Skywars** for the first task, on Lookout Mountain, in marginal conditions. A pattern was to be established then which worked throughout the competition. It was marginal for a couple of hours, from about 11am to 1pm, before the valley started to pump. Any task run during that period would have been settled on sink-rate only. Sean wouldn't call a task for that time, using the reasoning that the air was "dead" and it wouldn't be a fair test. From 10am to 1pm we generally hung around and gossiped. We should have flown. It would have meant an extra six tasks, all, I concede, being sink-rate, but none the less skilful for that. More skilful, judging by Grouse Mountain and Kossen, where a task can be decided by one split-second of misjudgement.

Anyway, Skywars was called, and at the end of the task, we were 1,100 points behind the Americans, that's a whole 1st place, and a 3rd place behind. They had four 1sts and two 2nds, while we had three 1sts, a 2nd, a 3rd, and Bob Calvert – of all people – was disqualified for landing out. To tell you the truth, we were lucky we placed 2nd. Graham Hobson's two opponents were DSQ'd, one of whom, Larry Croome, would have won, except he was 1 second over his 3 minute limit within the takeoff triangle, and that did him. Bob England came second to Jo Greblo, but Mike de Glanville landed out.

What was interesting was that more than 20 of the 36 competitors went round pylon one and settled their tasks at speed. Sink rate mattered, but it was speed which was the deciding factor. We felt, not comfortable, but not too bad, at being where we were, and thought to settle down for the long haul to catch back. We didn't bargain on what happened next.



Conditions started to boom, and Sean called Hawk. What this meant, in effect, was that the majority of pilots took off, made a 90° turn to the right, stuffed the bar down to their ankles and went – eyes streaming down the ridge and across the gap. They then used their accumulated skill to make a 180° turn and raced back again to cross the landing gate. When the dust settled, the Americans had five more 1st places, and one 2nd, their best score of the tournament, against our two 1sts, two 2nds and two 3rds. The key task here, it turned out, was that involving Pfeiffer and Hobson. Hobson went off first on his big Atlas and really motored toward the gap. Rich Pfeiffer, an aggressive wee fellow, set off after him, determined to put Hobson in his place. It took Pfeiffer a lot longer to catch Hobson than he'd expected, and when he did he was red-faced and upset. Coming up under Hobson, around about the gap, he tried to push him out from the ridge, but Hobson just grinned and carried on. Like a youngster in a sports car at the traffic lights, Pfeiffer smoked off across the gap, losing height, leaving Hobson for dead. Unfortunately – from Pfeiffer's point of view – he had to circle to gain height on the far side of the gap, while Hobson – who had crossed at leisure – just turned and went back without a 360. Pfeiffer lost by 2 minutes, flying by his balls rather than his brains. This was a crucial task in Hobson eventually gaining the Francis Rogallo trophy.

We were depressed at the end of the first day. The American team – understandably – was cock-a-hoop, and made absolutely certain we knew it. No one claimed that Hawk, as it had been run, was a skilful task, and Sean said he wouldn't run it again in those booming conditions. We had to have light winds during the rest of the week, when we could have a chance to get back.

The third task, on Monday, was a **Golden Eagle**, in effect a sink-rate task. It **should** have been where we made our comeback. This was where the speed

advantage of the Comet would be nullified. But we were beaten again, by four 1sts, a 2nd and a 3rd, to three 1sts, two 2nds and a 3rd. None of the other nations was really in the competition yet, so it continued as an Anglo-American affair. The results of the third task were disturbing. If we couldn't claw back on sink-rate, we had no chance at all.

### HOPES REVIVE

The fourth task, a **Hawk**, was the first time we beat the Americans. They had three 1sts, a 2nd, a 3rd and a DSQ, while we had four 1sts and (!) two DSQs. Graham Slater's whole heat landed out, while Mark Silvester, lying potentially in 2nd place, got dumped turning too radically for his target and broke his control frame. However, we gained nearly 100 points on the target, and what the task showed was that we could win, by however small a margin, even though speed was quite a factor in deciding the task.

The fifth task, a **Mieir**, was where we beat the Americans by more than 800 points, which effectively stopped some of their aggressive behaviour for a while. But this was also the task when France finally got its act together, after an evening and a morning of emergency rapping to each other. From being in last place – and their great champion Mike de Glanville lying last in the whole competition with two DSQs and two 3rds – they came roaring through with three 1sts and three 2nds, winning the round. We had three 1sts, two 2nds and a 3rd, while the Americans had one 1st, four 2nds and a DSQ – Jo Greblo got the zero, having been beaten only once up to then, by Steve Moyes ... he never lost to anyone else throughout the rest of the competition, and was within one place of Graham Hobson when the competition ended. Jo was disqualified for going back over the road in the Mieir task, which was very unfortunate for him, because if he hadn't done so, he would have had a

1st place and would have come up against our Graham Hobson and the other top pilots a lot earlier in the competition.

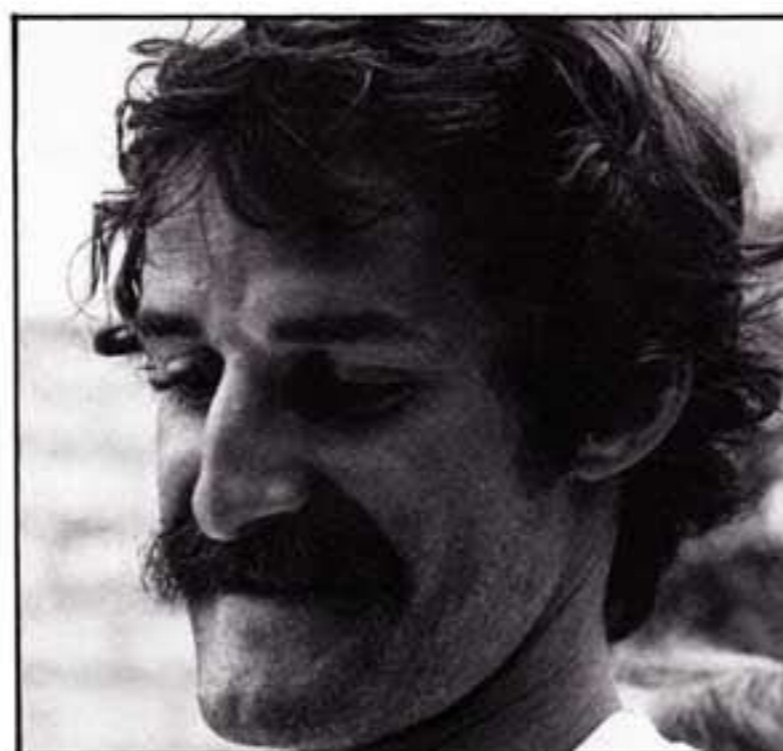
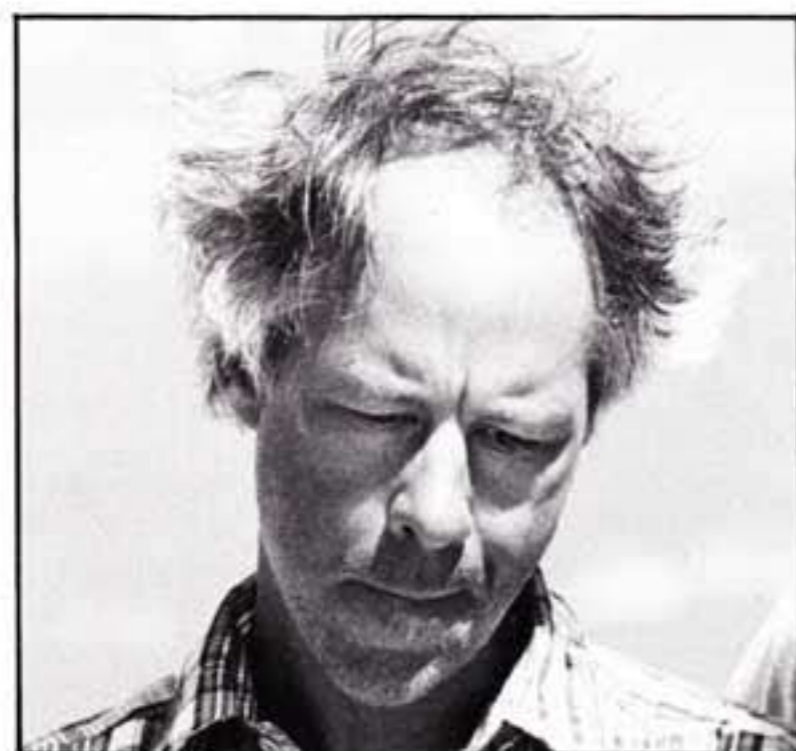
We were confident later in the day going into the Mieir task again. There were only 1,900 points between us and the Americans. If we could catch back what we had caught in the fifth task, we would be within striking distance. If, then, we could get an Albatross called, we had a chance ...

### OUTFLOWN

The Americans came roaring back on the sixth task, another **Mieir**, and we were definitely out-flown. They had four 1sts, we had two; they had two 2nds, so did we; but we had two 3rds, so they gained about 1,200 on us, instead of the other way around. It was at this point we needed an Albatross just for the chance of catching up, never mind establishing a lead. The very nature of the competition began to change as well, with the other nations now catching up and often beating the two initial main contenders.

Task Seven was another success for us, measured against the Americans. We caught back 600 points, and there was an outside chance we could come back. The French, though, were that round's winners. Technically, it had been a **Golden Eagle**, but the conditions were such that no one made the first pylon, so it was decided on sink-rate.

Up to now, we'd flown Lookout Mountain exclusively. Every morning we'd turned up at 10am, hung around until 1pm, and then put in two tasks in the afternoon. By Thursday, the fifth flying day of the competition, the wind had switched right around, and we went to Crystal for some "micro-thermalling" – Sean Dever's graphic term for flying small blobs. Crystal is an 800 foot hill, entirely tree-covered, with the top reached by cable-car. The American team was unhappy about going there, scornful of such a "small" site, and dubious





about what we would test there. Again, we hung about for hours, waiting for the air to come alive. The task, when set, was pure sink-rate and spot. It turned out to be an historic day.

## CRYSTAL RECORD

The record number of gliders ever to have flown Crystal at the same time was, until then, fixed at 8. If you soared Crystal for half an hour, you were considered someone special. Aside from the British teams, aces never went to Crystal, but that Thursday, all previous ideas about the site were put on their heads. First heat off was Randy Rouck, Steve Moyes and Graham Hobson, and Hobson had just risen to the top of the individual pilot ladder. Each team paired off best fliers against best fliers, so if you won, you went up against someone better. It had been tough at the top, with Jeff Burnett leading most of the time, but Graham had put him down, and was matched up against Moyes and Rouck, on sink-rate. It's hard to describe the excitement of that competition. Moyes was in there with a real chance at the Rogallo Trophy, and Hobson *had* to put him down. We were relying on Thevenot to down Burnett in the next heat, Hobson's nearest rival. When the first three went into the air, it was hard for some time to decide who was winning. Hobson stuck with Moyes for a while, with nothing in it. Once, he turned to follow Rouck, went away from the ridge, saw he'd made a mistake and turned to get back in tight again quickly. Moyes was going the wrong way while this happened, and was just too slow to turn and get on Hobson's king-post. Later, Moyes made a half-turn that lost him 20 feet and Graham got on top and stayed there. Moyes went off toward Randy Rouck, who could have blobbed out and beat them both, but there was nothing to stick into and first Randy went down, then Steve, and finally, 42 seconds later, Graham Hobson.

In the next heat, Lopes from Brazil, a brilliant pilot who made the top ten despite two DSOs, stuffed his glider smack into the trees just after take-off. Thevenot eventually beat Burnett, but only into 2nd place, so he was still a threat to Hobson. But what happened then is that pilots began to stay up and get above the top of the ridge. As heats were sent off, the cycles came through, pilots went up and down, shaking out the worst, until there were 27 in the air and the strangest thing of all happened. In a day when the weather forecast said there'd be no lapse rate, and almost no winds, thermals of 1500feet/min started to appear, and the wind topped 35 mph. It became, not sink-rate, but survival. The top limit, for a maximum score, was 3 hours in the air, to land within 10 minutes of the maximum. Those who did come down said it was terrible. Pilots were more than 5,000 feet above T/O, not *appearing* to be in any trouble. But to get an idea of how bad it was, Rich Pfeiffer – winner of the Bishop Classic in Owens Valley in 1979, and 1980 – Rich Pfeiffer came down because he couldn't stick it anymore. So did Australian Ian Jarman, who led at Bishop for so long earlier in the year. So did Mark Silvester and so did Bob Calvert. Bob was within 20 minutes of his 3 hours to make a maximum. We had three 1sts, a 2nd and a 3rd, against four 1sts, 2nd and a 3rd for both France and the USA. Our sixth pilot, Robert Bailey, who had maxed out and was apparently the most comfortable in that trashy air, came in for a spot, was tipped and bent both his control bars... DSO!

We lost 900 points on the Americans.

It's worth mentioning Graham Slater's flight. Graham had been top pilot in the two previous American Cups, but this year he just wasn't making it. He was beaten on speed, which was to be expected, but his Mega 2 wasn't doing well on sink-rate tasks either. He started to get first places on task 5 and 6, then got a last and he was pretty angry

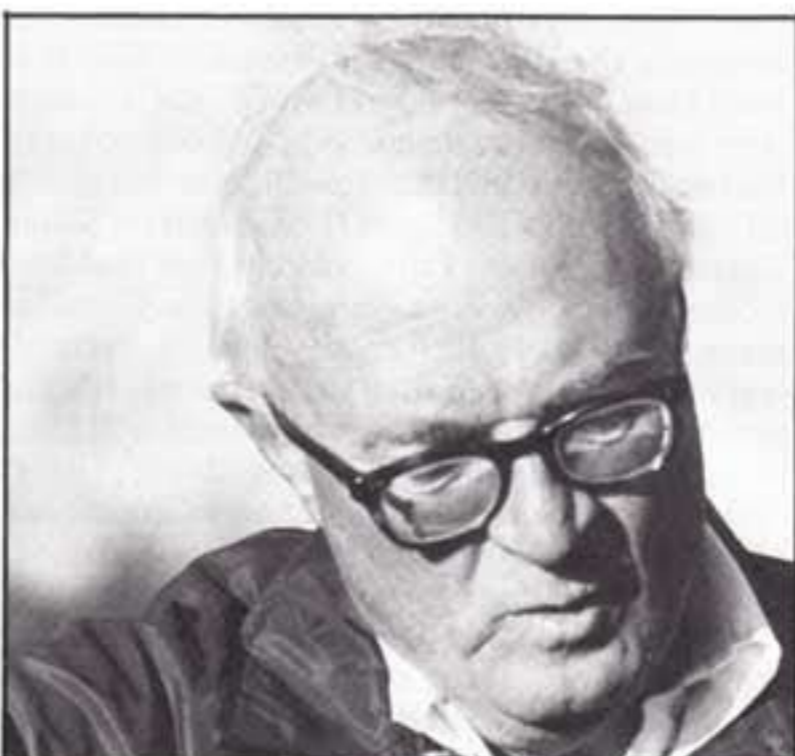
in this task. After 3 hours of involuntary 360's, sail deflations and near inversions, Graham got his maximum and landed safely, but for the following 15 minutes he was within an ace of decking me and anyone else to do with the American Cup. To stay in the air that length of time, he worked up such a fury that he went through all sorts of displacement activity when he landed to get rid of it.

## LET-DOWN SLOWLY

We didn't fly on Friday. It was calm and drizzly, on Whitewell. The rains came at 3pm. I was so zonked out with adrenalin that, when the flying was called off for the day, I was nearly ill with the let-down. It must have happened to the others too. We had only an outside chance left, and that looked faint, because to entertain the crowds that Tracy Knauss and Mrs Murchison needed to get her investment back, Albatross couldn't fairly be run on Saturdays or Sunday.

Saturday, October 25th, began with a hooligan football match in the target area, USA/GB versus the rest, that produced more injuries than the entire competition. We learnt then about Peter Brown's tragic death, which destroyed the Australian team. Ian Jarman, who counted Peter as his best friend, left that night for California to comfort Peter's girl-friend. There was no flying until the early afternoon, and then we got an official warning for pressing too hard for an Albatross. Sean called a **Golden Eagle**, another bar to the ankles task, like task 2, although conditions were a bit more marginal, and some unexpected people landed out. The USA got another four 1sts and a 2nd, plus a DSO. We had three 2nds and three 3rds, our worst result of the meet.

We all got a bit excited when Sean called an Albatross at 4pm, but with darkness at 7pm, we knew things would be tight to get everyone off, because to make the task work, the window had to



opp page  
top left – Malcolm Jones, Rich Pfeiffer and top American Jo Greblo monitor the flying

top right – top scorer, 1980 American Cup, Britain's Graham Hobson.

bottom left – French manager David Sogan

middle bottom – Two-time European Champion, France's Gerard Thevenot

bottom right – Willi Muller, top scoring of the Canadians, flew a Comet

This Page – left. Derek Evans, British team manager, with his wife Audrey watching gliders, and Joan Lane, the British League's scorer.

top centre – Rich Grigsby, only member of US team who has flown in all 3 American Cups

top right – Randy Rouck, who flew the radically new AS923, built by Tom Rice.

bottom centre – Hugh Morton, the man behind the US Masters, a guest in Tennessee.



be open for 2½ hours. That had come out of the negotiations before the competition began. But the winds were far too high to fly, so the task was called off at 4.30. It later calmed down and people flew. We went back to the hotel. We knew then we'd lost. If, in fact, Albatross had been called earlier, we might have had a chance, but the Americans had flown very well throughout. They had outflown us, in the terms of the original American Cup, choosing the right gliders, and keeping their act together.

On the last day, we were flying to see if Hobson could keep his lead in the individual placings.

Conditions had mellowed so it was blobby, without much ridge lift, and Graham was drawn against Moyes and Grigsby for task 10, and Thevenot and Grigsby for task 11. He could afford one 2nd place, but not two, because then Greblo or Grigsby would overtake him. The battle he had against Moyes was a classic one, after Grigsby was sunk out; they both made pylon 2 and turned to race for home. Moyes pipped Hobson by just 7 seconds. In the last task, Grigsby couldn't get around the first pylon, while Thevenot and Hobson made it, and Hobson won by 13 seconds.

**It was fitting that Hobson should win, even though his glider was being out-performed at speed by the Comets. He flew brilliantly, and had the good fortune to avoid two Comets in one heat when it was a speed task. Willi Muller was so glad to come up against him in task 9, so he could pull the bar in to win, because, like a number of others, he never fancied his chances of out-flying Hobson.**

## SUMMING UP

The Americans needed to win this year's American Cup, and the Cup, frankly, needed an American win. It's not possible to sell an American competition to the American media if the American team hasn't ever won it. Tracy Knauss took a gamble in putting on the competition, having lost money twice on it. But the real risk was taken by Mrs Murchison, and her daughter Charlotte, who actually sold stock to finance the Cup, in the belief that at some time in the future it will make a profit. They had a great loyalty to the competition, and the memory of David Murchison, their son and brother, who put so much into the 1978 and 1979 American Cup, and who died earlier this year.

Sean Dever was a determined and creative Meet Director, whose conception of the American Cup will colour all future competitions. He was determined that it should be a *flying* competition, and mostly succeeded in making it so. Some tasks were moving and brilliant, so that those in the know were all twisted up inside at the individual competition going on a thousand feet above us. The fact is, though, that Sean and Tracy never got on with each other, and there was a vacuum of decision-making in the middle between Sean's insistence on top competition, and Tracy's need to entertain people. It didn't work, as it was set up, as a crowd-pleaser, and it will need a lot tighter organisation to make it do so. There were also wrong decisions made about some tasks.

I said earlier this year the Americans would be tough to beat. You can't keep kicking Uncle Sam without he wants to take a few kicks back. By the end of the competition the American team had found its cool again and were on good terms with winning. Greblo could so nearly have been top pilot, although you must look at who he beat, rather than how many, because that's the way the pilots can really be judged. Jeff Burnett got broken in the end by crashing up against Hobson, Lopes and Thevenot, and Grigsby was in there too, taking on the best from other countries. If the competition had gone on much longer, Greblo would have been up against Lopes, Moyes, Thevenot, Hobson and Co, and maybe he might have been dented a bit.

## INDIVIDUAL SCORES

Position and Name	Country	Glider	Pilots Beaten	Beaten By	Wins	2nds	3rds	Disq.	Total
1. Hobson	GB	Atlas	19+	3-	8	3	-	-	9,109
2. Greblo	US	Comet	19+	2-	9	1	-	1	8,893
3. Burnett	US	Comet	17+	5-	7	3	1	-	8,624
4. Moyes	Aus	Mega II	16+	5-	6	5	-	-	8,552
5. Jones	US	Comet	16+	6-	6	4	1	-	8,207
6. Grigsby	US	Comet	14+	8-	5	4	2	-	7,781
7. Lopes	Bra	Comet	15+	7-	6	3	-	2	7,424
8. Pfeiffer	US	Comet	13+	7-	6	2	2	1	7,242
9. Calvert	GB	Atlas	13+	9-	6	1	3	1	7,160
10. Thevenot	Fra	Atlas	12+	10-	3	6	2	-	7,158
11. England	GB	Demon	12+	10-	3	6	2	-	7,152
12. Muller	Can	Comet	11+	10-	5	2	4	-	7,097
13. Bailey	GB	Atlas	13+	9-	5	3	2	1	7,072
14. Haddon	US	Comet	13+	8-	5	3	2	1	7,069
14. Croome =	Can	ASG 23	13+	8-	5	3	2	1	7,069
16. Lorentzen	Bra	Comet	12+	10-	4	4	3	-	6,942
17. Dourado	Bra	Comet	12+	10-	5	2	3	1	6,901
18. de Glanville	Fra	Vampire	13+	8-	6	1	2	2	6,754
19. Roussot	Fra	Atlas	11+	11-	2	7	2	-	6,737
20. Bally	Bra	Comet	10+	11-	3	5	2	1	6,494
21. Vandell	Can	Viper	10+	12-	3	4	4	-	6,347
22. Linhares	Bra	Comet	12+	7-	4	4	1	2	6,311
23. Belin	Fra	Atlas	9+	12-	3	3	5	-	6,176
24. Bernard	Fra	Atlas	9+	10-	2	6	2	1	6,128
25. Rouck	Can	ASG 23	9+	12-	3	4	3	1	6,042
26. Slater	GB	Mega II	9+	11-	3	3	4	1	5,893
27. Barber-Starkey	Can	Mega II	6+	14-	1	6	4	-	5,871
28. de Groot	Aus	Mega II	9+	13-	4	1	5	1	5,852
29. Collot	Fra	Atlas	8+	14-	2	4	4	1	5,560
30. Matthews/Tremblay	Can	Mega II	5+	15-	2	3	5	1	5,216
31. Martin	Aus	Mega II	7+	15-	2	3	4	2	5,006
32. Silvester	GB	Cutlass	4+	15-	1	4	5	1	4,882
33. Beer	Aus	Mega II	5+	17-	1	3	7	-	4,835
34. Bastos	Bra	Comet	3+	13-	0	3	4	4	3,061
35. Brierley	Aus	Mega II	1+	18-	0	2	5	4	2,861
36. Jarman	Aus	Mega II	2+	13-	0	2	5	4	2,842

One of the surprises of the competition, and I hope he doesn't mind me saying it, was Malcolm Jones. Malcolm had been well-beaten two years ago, but won last year in Guatemala. He made the American team by sheer effort and determination this year, and then went on to be 5th overall. He beat some good pilots on the way, but only met Englishmen twice, both times Slater, on speed runs, tasks 2 and 9, the American bankers.

The French lost out in the early part of the competition by being ill-prepared, and maybe one or two were a bit too confident, Mike de Glanville in particular. When Mike calmed down he had a series of seven tasks with six 1st places and one 2nd, after his early bad results. If they go out earlier, if they're a bit tougher with management - David Logan was asked to do too much as manager - and if there isn't the disparity between gliders next year there was this year, then the French will be formidable.

The Canadians lost their chance before they arrived in Tennessee. It looked like a mistake to leave the known tough flying areas of BC and go east to Quebec, where the Canadian Nationals was more like the 1979 and 1978 American Cup than Sean Dever's competition. Two of the Canadians were possibly out of their depth, and one - Andrw Barber-Starkey - had that dreadful run that afflicts all top pilots now and again (I've seen it hit Slater, Jeremy Fack, Johnny Carr, possibly Tom Haddon). Robin Pederson was missing from the Canadian team, which had tough money hassles, certainly less of the green stuff than the rest of us. It's also possible that the ASG 23s, which went well later, could have done with more testing, though I heard Tom Price, Randy Rouck and Larry Croome had virtually taken them off the factory floor and driven 2,000 miles to Tennessee to begin flying them.

The Brazilians, well, they *are* very good, but they went away at the end saying that next year they, too, will have managers compared to other teams. Two of their pilots missed the last day of the

	1sts	2nds	3rds	DSQS
US	38	17	8	3
GB	27	19	16	4
FRA	19	27	16	4
CAN	17	23	22	4
BRA	23	19	13	11
AUS	13	17	25	11

competition, and they also suffered the huge handicap of learning the site, and their gliders, on the day competition actually began. Pepe Lopes, in particular, is a future contender for the world championships.

Finally, Australia. Steve Moyes was his usual superb self, and Rob de Groot beat some good people. But it wasn't the best Australian team. Maybe next year we'll meet it.

Most of the comment on the British team will go privately to the BHGA Competitions Committee, but it's worth looking at some of the lessons to be learnt from our loss this year.

## WHY WE LOST?

This year we chose our team, and our reserve, before we left the USA, instead of the usual practice of picking a squad and leaving selection to the team managers on the day. Pilots had argued, successfully, that it was an imposition on the squad to subject them to this sort of pressure, and certainly there have been moments I could personally do without. On reflection, though, there's a possibility that Geoff Ball, our named reserve, felt in his soul he was a reserve and not really in competition for a



# AMERICAN CUP RESULTS 1980

## USA — First Place

1	2	3	4	5	6	7	8	9	10	11	Total Points
Joe Greblo — Comet 900 + England de Glanville X + Bernard	+ Bastos + Muller + Silvester	625 + Moyer + Lorentzen	940 + Roussot + Jarman	0 - Vandell Jarman X	929 + Collot + Beer	936 + Matthews + Belin	900 + Calvert + Collot	900 + Bailey + Collot X	949 + Vandell + Martin	914 + Belin + Beer	8,893
Jeff Burnett — Comet 900 + Barber-St Lopes X + Silvester	+ Muller + Silvester	940 + Hobson + Beer	934 + Bastos + Belin	600 - Moyer + Bailey	914 + Bailey + Thevenot	327 - Hobson - Lopes	612 - Thevenot Lopez X	926 + Roussot Rouck X	900 + Croome + England	647 - de Groot + England	8,624
Malcolm Jones — Comet 900 - de Groot Tremblay X + Slater	+ Moyer + Slater	900 + Tremblay + Brierley	900 + Tremblay + de Glanville	616 - Collot + Bastos	600 - Lorentzen + Vandell	337 - Collot + Vandell	900 + Barber-St + Slater	900 + Beer + Slater	945 + Lorentzen + Belin	600 - Bally + Vandell	8,207
Rich Grigsby — Comet 941 + Bernard + Bally	+ de Groot + Bally X	906 + Thevenot + Vandell	680 - de Groot + Dou Jo	647 - Hobson + Muller	627 - Hobson + de Groot	600 + Rouck + Dourado	945 - de Groot + Lorentzen	918 + Moyer + Lorentzen	326 - Moyer - Hobson	349 - Hobson - Thevenot	7,781
Rich Pfeiffer — Comet 900 - Muller Martin X	+ Hobson + Jarman	900 + Slater + de Glanville	300 - Calvert - Bally	913 + Silvester + Bally	900 + Barber-St + Silvester	629 - Lorentzen + Martin	300 - Slater - Belin	0 - Matthews No 3rd	900 + Collot + Matthews	900 + Brierley No 3rd	7,242
Tom Haddon — Comet 638 - Bailey + Durado + Collet 4,879	+ Rouck + Collet	300 - Linares - Bernard	0 - Croome Silvester X	632 - de Glanville + Tremblay	913 + Linares + Brierley	900 + Silvester + Brierley	938 + Matthews + Jarman	600 - Bernard No 3rd	300 - Linares - Slater	939 + Slater + Barber-St	7,099
4,879											47,816

## GREAT BRITAIN — Second Place

Graham Holton — Atlas 900 Linares X + Jarman	+ Pfeiffer + Jarman	600 - Burnett + Beer	933 + Thevenot + Vandell	909 + Grigsby + Muller	900 + Grigsby + de Groot	935 + Lopes + Burnett	909 + Moyer + Rouck	600 - Muller + Thevenot	623 - Moyer + Grigsby	900 + Thevenot + Grigsby	9,109
Bob Calvert — Atlas 0 - Thevenot - Rouck	+ de Glanville + Rouck	947 + Martin + Collot	947 + Bally + Pfeiffer	900 + Bernard + Brierley	300 - de Glanville - Bally	925 + Bally + Barber-St	649 - Greblo + Collot	300 - Lopes - Croome	945 + de Glanville + Beer	300 - de Glanville - Lorentzen	7,100
Bob England — Demon 600 - Greblo de Glanville X + Barber-St	+ Dourado + Barber-St	938 + Bally + Barber-St	944 + Collot + Martin	647 - Roussot + Beer	600 - Roussot + Bastos	610 + Croome + Beer	946 + Bally + Croome	600 + Dourado + de Groot	335 - Burnett - Croome	342 - de Groot - Burnett	7,152
Robert Bailey — Atlas 939 + Haddon + Dourado	+ Vandell + Belin	908 + Dourado + de Groot	944 + Beer + Muller	320 - Moyer - Burnett	615 - Burnett + T.V. Jones	900 + Roussot + de Groot	0 - Muller - Roussot	600 - Greblo + Collot X	900 + Bernard + Brierley	346 - Linares - Collot	7,072
Graham Slater — Mega II 341 - Belin - Moyer	+ Jones - Moyer	615 - Pfeiffer + de Glanville	0 Linares X Bernard X	900 + Barber-St + Linares	933 + Martin + Tremblay	310 - Bernard - Linares	900 - Belin + Pfeiffer	300 - Jones - Beer	630 - Linares + Haddon	645 - Haddon + Barber-St	5,893
Mark Silvester — Cutlass 924 + Bastos + Brierley 3,704	- Burnett + Muller	341 - Lopes - Rouck	0 - Croome Haddon X	600 - Pfeiffer + Bally	300 - Haddon + Barber-St	600 - Linares + Brierley	300 - Bally - Brierley	300 - Barber-St - Vandell	600 + Matthews No 3rd	600 + Matthews No 3rd	4,882
3,704											41,296

## FRANCE — Third Place

Gerard Thevenot — Atlas 900 + Rouck Calvert X + Lorentzen	+ Beer + Lorentzen	629 - Grigsby + Vandell	600 - Hobson + Vandell	600 - Lopes + Croome	347 - Burnett - Bailey	645 - Moyer + Muller	928 + Burnett Lopes X	300 - Muller - Hobson	615 + Dourado + Muller	648 - Hobson + Grigsby	7,158
Mike de Glanville 0 - Greblo - England	+ Calvert Linares X	300 - Pfeiffer - Slater	300 - Jones + Tremblay	932 + Haddon + Tremblay	944 + Bally + Calvert	919 + Jarman + Bastos	915 + Durado + Beer	944 + Linares Martin X	600 - Calvert + Beer	900 + Lorentzen + Calvert	6,754
Jean Roussot — Atlas 300 - Beer - Lorentzen	+ Croome + Brierley	600 - Croome + Jarman	643 - Greblo + Jarman	900 + England + Beer	900 + England + Bastos	647 + Bailey + de Groot	612 - Muller Bailey X	600 - Burnett Rouck X	600 - Lopes - de Groot X	300 - Croome - Lopes	6,737
Yvan Bernard — Atlas 300 - Grigsby - Bally	+ Greblo - Bastos	645 - Linares + Haddon	0 Linares X Slater X	600 - Calvert + Brierley	600 - Rouck + Jarman	945 + Linares + Slater	600 - Martin + Tremblay	936 + Haddon No 3rd	600 + Bailey Brierley X	600 - Martin + Rouck	6,128
Joel Belin — Atlas 900 + Moyer + Slater	- Bailey + Vandell	643 - Muller + Bastos	338 - Burnett + Bastos	648 - Dourado + de Groot	300 - Muller - Dourado	300 - Greblo - Matthews	900 - Slater + Pfeiffer	900 + Barber-St No 3rd	347 - Jones - Lorentzen	600 - Greblo + Beer	6,176
Jean Pierre Collot — Atlas 310 - Vandell - Jarman	- Haddon - Rouck	342 - Calvert - Martin	627 - England + Martin	901 + Jones + Bastos	635 - Greblo + Beer	945 + Vandell + Jones	300 - Greblo - Calvert	0 - Greblo - Bailey	600 - Pfeiffer + Matthews	600 - Linares + Bailey	5,500
2,710											38,513

## CANADA — Fourth Place

Willi Muller — Comet 900 + Pfeiffer Martin X + Silvester	- Burnett + Silvester	942 + Belin + Bastos	300 - Bailey - Beer	344 - Hobson - Grigsby	907 + Dourado + Belin	339 - Moyer - Thevenot	940 + Roussot Bailey X	918 + Hobson + Thevenot	300 - Dourado - Thevenot	600 - Moyer No 3rd	7,097
Larry Croome — ASG 23 0 - Hobson Linares X + Brierley	+ Roussot + Brierley	930 + Roussot + Jarman	900 Haddon X + Thevenot	315 - Lopes - Thevenot	318 - Lopes + Calvert	927 + England + Beer	600 + England + Bally	600 - Lopes + Calvert	600 - Burnett + England	937 + Lopes + Roussot	7,099
Randy Rouck — ASG 23 680 - Thevenot Calvert X + Collot	- Haddon + Collot	600 - Lopes + Silvester	300 - Moyer - Lopes	900 + Lorentzen + Martin	900 + Bernard + Jarman	900 + Grigsby + Dourado	389 - Hobson + Moyer	0 - Burnett - Roussot	600 - Bally No 3rd	333 - Martin - Bernard	6,042
Howard Vandell — Viper 913 + Jarman + Collot	+ Bailey + Belin	300 - Grigsby - Thevenot	314 - Hobson - Thevenot	900 Jarman X Greblo X	300 - Lorentzen - Jones	606 - Collot + Jones	614 - Haddon + Jarman	600 - Bally + Silvester	600 - Greblo + Martin	300 - Bally - Jones	6,347
Andrew Barber-Starkey — Mega II 600 - Burnett Lopes X + England	+ Dourado - England	300 - England - Bally	600 - Lorentzen + Brierley	600 - Slater + Linares	640 - Pfeiffer + Silvester	345 - Calvert - Bally	600 - Jones Bastos X	600 - Belin No 3rd	942 + Silvester No 3rd	344 - Haddon - Slater	5,671
Matthews/Tremblay Mega II 0 - de Groot - Jones	+ Lopes + Martin	611 - Jones + Brierley	600 - Jones + de Glanville	329 - de Glanville - Haddon	300 - Slater - Martin	600 - Greblo + Belin	304 - Martin - Bernard	900 + Pfeiffer No 3rd	320 - Pfeiffer - Collot	905 + Silvester No 3rd	5,210
3,013											37,642

## BRAZIL — Fifth Place

Lopes (Pep) — Comet 0 - Burnett + Barber-St	+ Martin + Tremblay	914 + Rouck + Silvester	923 + Moyer + Greblo	638 + Moyer + Rouck	903 + Thevenot + Croome	943 + Moyer + Croome	645 - Hobson + Burnett	0 - Thevenot - Burnett	900 + Croome + Calvert	914 + Roussot de Groot X	644 - Croome + Roussot	7,424
Haakon Lorentzen — Comet 600 - Beer + Roussot	- Thevenot + Beer	300 - Moyer - Greblo	900 + Barber-St Brierley X	600 + Rouck + Martin	942 + Jones + Vandell	900 + Pfeiffer + Martin	900 + de Groot + Grigsby	300 - Grigsby - Moyer	600 - Jones + Belin	600 - de Glanville + Calvert	6,942	
Dourado — Comet 339 - Bailey + England	+ England + Barber-St	646 + Bailey + de Groot	345 - de Groot - Grigsby	900 + Belin + de Groot	644 - Muller + Belin	300 - Rouck - Grigsby	936 + de Glanville + Beer	942 + England + de Groot	942 + Thevenot + Muller	0 - Moyer - Muller	6,501	
Bally — Comet 600 - Grigsby + Bernard	+ Grigsby - de Groot	638 - England + Barber-St	642 - Calvert + Pfeiffer	312 - Pfeiffer - Silvester	600 - de Glanville + Calvert	645 - Calvert + Barber-St	300 - England - Croome	913 + Vandell + Silvester	944 + Rouck No 3rd	900 + Jones + Vandell	6,494	
Linares — Comet 0 - Hobson Croome X + de Glanville X	- Calvert de Glanville X	900 + Bernard + Haddon	0 Bernard X Slater X	300 - Slater - Barber-St	600 - Haddon + Brierley	600 - Bernard + Slater	900 + Brierley + Silvester	600 - de Glanville + Martin	911 + Slater + Haddon	900 + Collot + Bailey	6,311	
Bastos — Comet 600 - Silvester + Brierley	- Greblo + Bernard	300 - Muller - Belin	600 - Burnett + Belin	317 - Collot - Jones	306 - Roussot - England	338 - de Glanville - Jarman	0 - Jones - Barber-St	0 - Jones - Barber-St	0 - Jones - Barber-St	0 - Jones - Barber-St	3,061	
2,139											37,133	

## AUSTRALIA — Sixth Place

Steve Moyer — Mega II 600 - Belin + Slater	- Jones + Slater	949 + Greblo + Lorentzen	944 + Lopes + Rouck	900 + Burnett + Bailey	600 - Lopes + Croome	950 + Thevenot + Muller	609 - Hobson + Rouck	600 + Grigsby + Lorentzen	900 + Hobson + Grigsby	900 + Muller No 3rd	8,552
Rob de Groot — Mega II 944 + Jones Tremblay X + Bally X	+ Grigsby + Dourado	300 - Bailey + Dourado	900 + Grigsby + Dourado	300 - Belin - Dourado	345 - Hobson - Grigsby	303 - Bailey - Roussot	920 - Lorentzen + Grigsby	300 - Dourado - England	0 - Lopes - Roussot	940 + Burnett + England	5,852
Rich Martin — Mega II 0 - Pfeiffer - Muller	+ Lopes + Tremblay	600 - Calvert + Collot	300 - England - Collot	340 - Rouck - Lorentzen	631 - Slater + Tremblay	345 - Lorentzen + Pfeiffer	900 + Bernard + Tremblay	0 - de Glanville - Linares	350 - Greblo - Vandell	940 + Bernard + Rouck	5,006
Bernie Beer — Mega II 900 + Lorentzen + Roussot	- Thevenot + Lorentzen	303 - Burnett - Hobson	600 - Bailey + Muller	300 - Roussot - England	300 - Greblo - Colon	300 - Croome - England	300 - de Glanville - Dourado	600 - Jones + Slater	332 - Calvert - de Glanville	300 - Greblo - Belin	4,835
Russell Brierley — Mega II 0 - Silvester - Bastos	- Croome - Roussot	300 - Jones - Tremblay	0 - Lorentzen - Barber-St	340 - Calvert - Bernard	326 - Haddon - Linares	300 - Haddon - Silvester	623 - Linares + Silvester	0 - Linares + Silvester	0 - Bailey - Bernard	638 - Pfeiffer No 3rd	2,861
Ian Jarman — Mega II 638 - Vandell + Collot	- Hobson + Pfeiffer	300 - Croome - Roussot	336 - Greblo - Roussot	0 - Vandell Greblo X	318 - Rouck - Bernard	630 - de Glanville + Bastos	320 - Haddon - Matthews	0 - Haddon - Matthews	0 - Haddon - Matthews	0 - Haddon - Matthews	2,842
3,082											29,948

place. There's also the argument that going through that final selection is so difficult that finally flying in the real competition is a picnic compared with it.

The way we ran the 1980 League must take some blame for our loss. For a start, we produced no new glider this year, and virtually killed our only home-produced speed-machine, the Cyclone. The purist argument went, if we don't have XC or sink-rate, then the competition is Mickey-Mouse. We ran few speed tasks, no roll-rate tasks, concentrating instead on sink-rate. BJ Harrison crystallised the argument in my mind on the way back from Gatwick, when he said we've reached a sort of sink-rate plateau, with no big difference between modern gliders. Given smooth air, and matching pilots, many modern machines will stay within 20 or 30 feet of each other when they top out. Some of them have more "thermability" than others, the ability to stay in a thermal rather than be spat out the side. But for the last year, while we've been dozing and waving our limp wrists at sink-rates, the Americans have got good sink-rates, good handling, then where can we go but towards faster machines? So next year's League will be profiled before it begins so we know exactly what we want to get out of it.

The Americans were also very good... by the way.

## THINGS WE DID RIGHT

We had a lot of help in the USA. Derek Evans, his wife Audrey and Joan Lane were quite superb in backing up the team. They're totally on top of what's happening, and were as quick with the results as the official scoring system. Noel Whittal, who went out with the 1978 team, was there again this year, and was "volunteered" as marshal and wind-dummy. His \$50 fee (he'll be pleased to learn) is all we have left in the BHGA Competitions account to begin 1981... let's hope it grows. Noel, by the way, became a genuine tree-topper in his Solar Storm, a story you should ask him to tell you.

Robert Bailey was this year's captain, following his captaincy at Grouse Mountain and - in effect - at the Bleriot Cup. Things would have been worse without him as captain. He has the peculiar, and invaluable, quality of never admitting defeat, and putting his own and everyone else's act together after a bad day so that next morning we can sail back in again for another scrap. He's been invited on to BHGA Competitions Committee where he can play a big part in shaping the way we approach things in 1981.

We can win the American Cup again, next year, as long as we can discover why we lost this year and overcome that. There's no doubt the UP Comet played the major part in the American victory. It's truly a fifth generation glider, compared to the best of the fourth generation machines, the Atlas. I don't expect the Americans to have that big an advantage again, and will certainly be taking such steps as are necessary to make sure they don't.

But the American Cup has also stopped being - virtually - a two-nation competition. No one doubts that next year the French will come back having learned from their experience. They saw the American Cup as the third Anglo-French meeting this year, the score being 1-1, and didn't like us beating them, never mind the Americans. They'll be strong next time. So will the Brazilians, who definitely need managers. The Canadians have less resources, but they are very determined. They need to concentrate on the 5th, 6th and 7th members of their team. Bill Moyer needs to know early enough when the American Cup is on to get the best Aussies out there. The Americans need to maintain their form. The Germans may be there next year, and the Japanese again.

It should be an interesting match.



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# AIR-WORTHINESS

## Where is it now?

The situation with the test-rig has deteriorated since my response to Len's editorial which suggested delivery last October. There has been a meeting between the BHGA/BHGMF and AIB at Farnborough to thrash out the problem. Although the urgency of the matter was accepted, it appears a low priority has been given to staff and general funds for their programme. BHGA Council and Airworthiness Board are making every effort to implement their own commissioning trials, and if we took delivery immediately, usable results would be available sometime in January given total control of its whereabouts and staffing. That is the bad news, and as explained before, it's a result of its procurement history.

The BHGA Airworthiness Board have been working on new proposals for a wholly satisfactory agreement with the BHGMF and its members. The main features of the new airworthiness scheme were presented to the BHGMF at their recent AGM and were formally accepted. The remainder of this article is intended to cover the new scheme thoroughly, so that members of the BHGA are fully informed of the changes being made, as from January 1st, 1981.

### REQUIREMENTS

#### Manufacturers

1) The current (March '79) BHGA/BHGMF Airworthiness Standards & Requirements will apply with one change, basically a concession on the structural testing requirements when a 'Type' design consists of more than one model (i.e. different sizes of a similar design). The model considered most critical structurally (usually the largest) will be tested to destruction. Other models will have their maximum payloads based on sensible scaling, depending on configuration and maximum flying speeds. The tested example will then be sealed, together with copies of the complete applications for all models of that particular 'Type' and be stored by the BHGA.

2) There will be no compulsory product liability insurance requirement, nor indemnification of the BHGA by the manufacturer.

3) The manufacturer is to supply 'Airworthiness Registration Certificates' with all models produced, certifying that the glider conforms to the type tested and has been test-flown to check its characteristics. A metal foil label is to be fixed on an exposed area of the airframe, containing an abbreviated version. An owners handbook is to be supplied.

4) The manufacturer must notify the BHGA Airworthiness Technical Committee of any changes to production models using pro-forma documentation.

5) The manufacturer must have the capability to carry out repairs and modifications, and these must conform to original build standards or standard repair schemes.

6) The charges are to be amended to £100/£150/£200 for one, two and three models of the 'Type' respectively.

#### Purchaser/New owner

1) £10 added to basic price of the hang glider to cover the charge made for the certificates and administration of these by the manufacturer.

2) Those requirements implied by the owners' half of the Airworthiness Registration Certificate. Registration of ownership with the BHGA, and the subsequent recording of modifications and in-

spections will be required annually, and after major repairs or overhaul.

3) New owners are required to check the certificate for validity and register the change of ownership, with BHGA headquarters.

N.B. a) Although the Registration Certificate and identity foil will be issued with all gliders the foreign owner would only wish to register if they are BHGA members and do not live in a country with their own registration requirements.

b) At the March '80 AGM £15/glider was agreed as the maximum. It is hoped to stay within budget on £10/glider for some time.

### BENEFITS

#### The Manufacturer

1) No compulsory public liability insurance or indemnification of BHGA Officers.

2) More assurance of better maintenance standards throughout the life of their products.

3) International competition requirements are currently met by the BHGA Airworthiness System and the foil label and certificate clearly identifies any glider that is eligible as a production type.

4) The new scheme provides the base for the introduction of the test-rig and subsequent full compliance with the export markets' requirements.

5) Low first cost for an application for C. of A. for Type (c.f. European charges) and only one model of Type to be tested beyond proof loading.

6) BHGA Airworthiness Account funds will be used for acquisition of test equipment and services should they be required in the future. BHGA/BHGMF airworthiness related research will have a better financial base for any vital projects to be kept under our control.

#### The Owner

The addition of about 1½% to the cost of a hang glider must give some worthwhile benefits to its owner. Some of these are:-

1) Better and safer gliders due to the application of the accrued funds for introducing the test-rig and providing research facilities.

2) Each glider test flown and certified conforming to specification before delivery. BHGA test flying of some examples of the 'Type'.

3) Improved and mandatory handbooks containing all the information required for safe operation of the hang glider by a novice to the sport. More accurate guide to permissible flying speeds, handling characteristics and certification category. e.g. "suitable for training".

4) Access to independent advice on modifications, repair and inspections from BHGA Club Technical or Safety Officers, Manufacturers or their representatives, and guaranteed repair facilities to original standard.

5) The metal foil identification label provides 'on the hill' evidence that you fly an 'Approved' and registered glider. This is becoming increasingly important for flying abroad. Even now you could be in dire straits in several countries if any flying incident brought you in touch with the law or its keepers, without an 'Approval' label. To this end our logo has been improved and appears on the label which has been designed to conform to the International format.

6) International competitions are requiring evidence of airworthiness standards and the current BHGA standards apply. The Registration Certificate as well as the foil may be required for compe-



tion entry. You will also know that a glider competing under the same name as yours is to the same specification.

In the short period that we have had an Airworthiness system in Britain many problems have presented themselves. The majority of manufacturers entered into the spirit of the programme at its inception, and it can be fairly said that none of these have suffered because of it. Those relying chiefly on exports are now suffering the expense and long delays of some European certification schemes. Generally, British gliders have maintained their reputation as being bullet-proof structurally, and the incidence of aerodynamic instability has been commendably low. Continuing improvements in quality, consistency, finish, the introduction of quick-rigging, detail safety features and common hardware standards has been achieved. This has contributed in no small way to our image among other aviators, foreign pilots and even the public at large. The manufacturer's own continuing improvements, their co-operation with the Airworthiness Board and Accident Investigation Boards benefits all British flyers immensely. To produce a totally effective system for our safety and their economics requires two things. Namely the New Airworthiness Scheme and the BHGA/CAA test-rig.

The rig is likely to be under BHGA control and this means being responsible for the operation of the certification trials, use by the manufacturer for development, government funded research and its maintenance and improvement over the years. That part of its use pertaining to certification duties and maintenance will have to be borne by the BHGA and only by a levy on sales can we avoid a high fee for 'Type' Certification. We *must* claim control of the test-rig and this new scheme plays a vital part, as well as pulling all the threads together for full International compliance. The BHGA Airworthiness Board and the BHGMF, whose co-operation in any airworthiness scheme is essential, have both approved this New Approach. I hope you, the flyer, will play your part by supporting the scheme.

**Clive Smith**  
Chairman, BHGA Airworthiness Board



# AIRSPACE BHGA goes into bat

Ted Frater, the BHGA Airspace co-ordinator, was appointed by Council two months ago, charged with the task of representing you all to the official Government agencies responsible for air space in the U.K. He also represents us at the NATMAC meetings where all air users meet twice a year to discuss matters affecting them and with the Civil Aviation Authority.

He received his formal aviation training with the Royal Air Force, and flew as aircrew with Coastal Command as a flight engineer. He has been flying hang gliders for five years, and been the sites and PRO officer for the Wessex Club for the past three. He flies a Cherokee on soaring days and adds a Soar Master on others. On his initiative, the Wessex club are the first hang gliding club in the UK to equip with airborne radio transceivers. Seven have been ordered and will be delivered in January of 1981. He says "they should considerably add to in-flight safety on a ten mile coastal flight, aid with thermal seeking when pair flying, and provide valuable information to the others in the scheme, whether training new club members or wind dummying on doubtful days." Results are awaited by other clubs and the CAA. The local Naval helicopter base will install our allotted frequency of 129.9MHz to improve safety at our prime coastal site which is right on the edge of their MATZ.

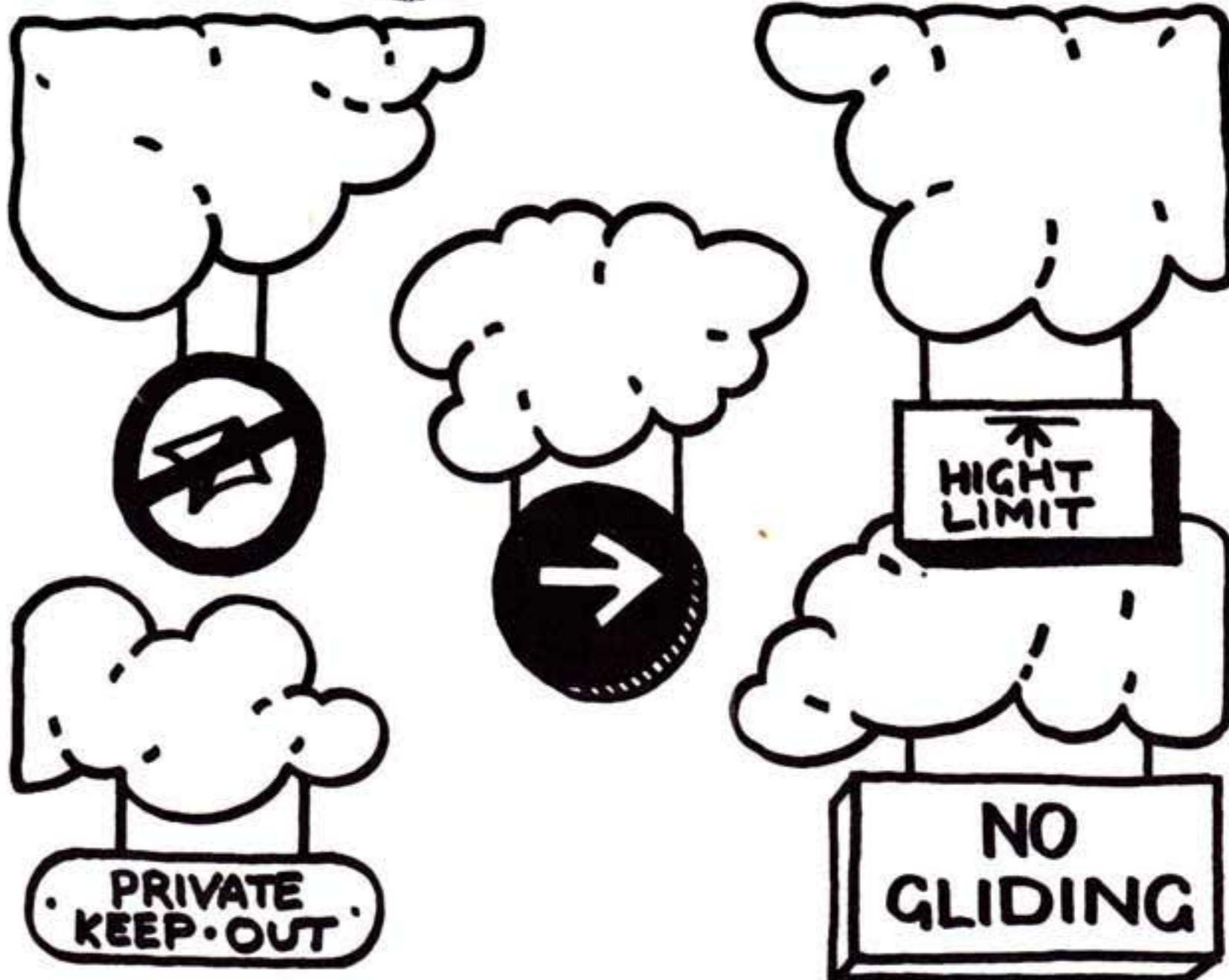
He is currently involved with the BHGA sites officer and others in finding a solution to the serious confrontation at the Dunstable Downs between the London Gliding Club and the Dunstable Hang Gliding Club which at time of writing is deadlocked.

## AIR SPACE

As your Air space co-ordinator, the task set me by Council seemed on the face of it, an extension of my work as sites officer for the Wessex club. Earlier this year I was involved in discussions with the Army at Salisbury Plain H.Q., and ultimately at Middle Wallop, making arrangements for an early warning system to cope with ground level helicopter flying affecting hang gliding sites in Wiltshire and Dorset. The interest I had, along with the co-operation I received, gave me a false illusion about the Air space job. No sooner had news of my job got around than problems with Airspace started to roll in.

The biggest to date is the major confrontation between the London Gliding Club and the Dunstable Hang Gliding Club over Dunstable Downs. This problem is not just Airspace, by byelaws, ground space, a dangerous flying charge involving the CAA, as well as a long history of complications stretching back five years. I have no doubt that this case will tax all the talents in the BHGA, as it will be seen as a test case where a mix of air-use takes place.

The main point of this article is to reply to last month's episode, "Brothers in law 6", by Lionel Alexander. After finding my way through the printer's errors (it's all there!) and having read the article several times, the main point of his criticism of us is the question of discipline.



*It seems that he has made the prime error of assuming that because he does not see the kind of order and discipline that he is accustomed to, it does not exist.*

This error is made by many other aviation disciplines when looking at us, or trying to come to grips with concepts and implications of hang gliding. His sentence "... the spectacle of anyone being free to unroll a hang glider from the roof of a car, take off, and fly, is terrifying..." must be the basis of his misunderstanding.

I know, and you know, the dozens of times you have walked up the hill in agony for those few minutes of flight down. We all know the time spent studying the weather, watching other fliers crash, or fail and give up. This is just part of the only way to learn the skills that make you a pilot of a hang glider. No easy dual, seated winch-launch sailplane with instructor in bubble canopy comfort. You are all Lilienthals, teaching yourselves to fly, not just to fly down, but to climb into the lift band and thermal away. If you have the determination to succeed in this most difficult of air sports you have the discipline it takes to fly any type of aircraft. This is not to under-rate other pilots' skills, but to define once and for all what it takes to be a hang glider pilot. Even if a hang glider pilot looks casual, acts laid back and appears to be a tramp, when it comes to flying he is anything but that. He has drilled himself to a set and safe routine that he automatically goes through before he flies.

His safety record proves the point. He has won his freedom to fly *because he has disciplined himself*.

This now brings me to my next point. On the 300 or so hang gliding sites regularly flown in the UK, and registered with the CAA as aerodromes, the freedom to fly is taken for granted by us. The problems that arise on those sites where we share the air with our 'Brothers' are a result of a conflict between their "freedom to fly" and ours. The CAA has ruled that air space in an ATZ *must* be shared, and it follows that both we and the sail planes must accept rules that provide for safe flight for *all*.

Anyone who cannot or will not fly safely will be ruled out of the air by the CAA. So far, they have been very restrained in their response to complaints about us. The fact that Ann Welch became our President shows how much we fledglings need guidance till we have fully established our wings.

Reading hundreds of letters between the BHGA, the BGA, and the clubs, there's no doubt that sharing air with gliders presents us with the greatest problems. These will only be resolved if we all make a real effort to show our brothers that we mean to be as disciplined toward them as we are towards each other when we fly.

Three rules stand out as fundamental to our sharing of air space with them.

(1) On a marginal day, with sailplanes scraping at hill height, I think the right course of action is for hang gliders to top land till the sailplane has either made it back to base or climbed away from the hill.

The reason for this is that you can top land or even go down and be back up in a fraction of the time it would take him to land at base, or the minimum of three hours he needs to relaunch after landing out.

(2) If it's a buoyant thermic day, stick to the number agreed to be in the air with the gliding CFI unless they are not in operation.

(3) When no sailplanes are flying, it's all yours! As soon as they do fly revert to (1) or (2).

In addition to this, it's BHGA policy to support clubs in their dealings with the BGA, because at the highest level there is understanding between us. There is one further point that is important. *The BHGA will not accept prohibition on any site shared with other users, and will constantly seek ways to reach agreement with those other air users.* I look forward to contributing to this in the future and will report to you on developments as they take place.

This is my basis for working toward a happy union between the Slow 'uns and the Fast 'uns. See you on the hill.



# HANG GLIDING'S 10th BIRTHDAY

Bob Calvert, flying early Standard. Note prone harness. Photo Graham Fotherby.

from Brian Milton

On May 23rd, 1971, in Southern California, a teacher called Jack Lambie organised a meeting of friends interested in ultralight flight. He chose the date as the 123rd anniversary of the birth of a German known as the father of flying, Otto Lilienthal, born in 1848, killed when one of his wings folded in 1896. Jack Lambie wanted to bring together the ideas on low and slow flight that had been the subject of experiment in California for the previous seven years. Fifteen aircraft turned up, 13 of them rigid bodiless bi-planes known as "hang looses", based on aircraft built at the end of the nineteenth century by the American pioneer Octave Chanute. The other two were flappy wing rogallas, known as "Miller Wings".

At the first Lilienthal Meet the longest flight lasted 16 seconds covering about 200 feet. Lambie saw it as the beginning of ultralight flight, but made the classical mistake of believing future ultralights would be based on the "traditional" aircraft design of the hang looses. He was subsequently bitter that the explosion of interest that followed that meeting went into Rogallos. Many of the early participants went into manufacturing flexwing hang gliders, and still make a living at it. They say that the publicity after that meeting resulted in 300 to 400 letters a day with enquiries.

May 23rd, 1981, is less than 9 months away. In the intervening 10 years from Jack Lambie's meeting, experimental aviation has gone back to its roots, to Lilienthal, Chanute, Percy Pilcher, and taken off in an entirely new direction, of which the mainstream is hang gliding. (The 1980 Farnborough Show, for example, with the latest in conventional aviation, had little to show in the way of new technology. Whatever new aircraft were on display were just ringing the changes in previously discovered knowledge.) The experiments in slow flight, between 12 mph and 50 mph, are genuinely breaking new ground, and the pace of change is comparable to the 1920s in conventional aviation. This year, for example, the year of the "Trike", in which power was successfully applied to a fold-away rogallo. Gossamer Albatross, which crossed the Channel last year, and its predecessor Gossamer Condor, the first real man-powered aircraft, were extensions of rogallo hang gliders. The experiments going on into sun-powered aircraft, one of which has flown for 4 minutes, and made 1/4 mile at roughly 30 feet, all derive from what should be recognised as the new aviation mainstream, hang gliding.

The problem about this new tack that aviation is taking is that the real world hasn't recognised what is going on. In another age, such as the Victorians, or the 1930s, or maybe even the 1960s, the fact that a man can stretch out his wings on a hill, launch gently into the air by the power of his feet, climb 5,000 feet to a passing cloud, and wheel gently away across country to land 80 miles later, would be a cause of wonder. For one reason or another, all the media ever asks about hang gliding is, in effect... when are you going to be killed? People have flown more than 100 miles in the USA, climbed 8,200 feet in this country, regularly set off with



clouds, talking to each other, in company, flying, doing what Lilienthal and the Wright Brothers and da Vinci dreamed about, and the only questions that regularly get asked in Britain are when - occasionally - someone dies trying to learn how to fly. Exactly the same questions are asked in 1980 as I had to answer when I first went into hang gliding in 1974.

All the pioneers of the sport are still alive. Even Dr Francis Rogallo, in his mid-70s, flying on sand dunes on Kill Devil Hill - where the Wright Brothers flew - on the latest of his machines. In the USA there are 30,000 pilots, in Germany 10,000, in France 4,000, in Japan and Russia 5,000 apiece, and in this country, 4,000. The market is worth at least £100 million. The directions open to hang gliding are almost too staggering to contemplate. One day, it's certain, a bunch of pilots will follow the great birds across Europe to migrate south for the winter, riding dynamic lift as they do, because many of the big birds have a still air range - under the power of their wings - of just 20 miles. As they do thousands of miles on the dynamic lift provided by the air, so will a hang glider pilot. This winter, 1980/81, with the help of the Royal Society for the Protection of Birds, we're going to set about plotting the routes.

The military possibilities are also intriguing. At a cost of about £3,000, for basic equipment, one could build a small foldaway aircraft capable of launching from a mountain - or a valley or a patrol boat - capable only of slow flight, but able to reach

up thousands of feet and fly hundreds of miles on three or four gallons of fuel. It wouldn't sell to countries which spend £4 million on an aircraft, half a million on training a pilot, with a Christian love for life. But for countries which rely - as say China, Vietnam, numerous Third World countries do - on sheer weight of numbers to carry the day, one could equip 1,000 men with power and lethal flexwings, and train them, for the cost of one sophisticated ground attack fighter. And who's to say they wouldn't be more effective?

It's worth looking at the sporting side too, because hang gliding is almost a classical sport. It has all the elements of a sport, courage, beauty, risk, except that one vital ingredient, a body of journalists able to interpret skill for the Great British Public. If a horse gets killed in the Grand National, or a Grand Prix driver is injured, or a man runs a mile in 3 minutes and 30 seconds, there's always two dozen journalists able to explain the risk in the first two cases, and the wonder in the third. Without the commentators, no one would be turned on. No one would know, frankly, what was happening and when to cheer. That's the situation, not just in sporting hang gliding, but in the innovative, exciting, brave and sometimes fatal changes that are occurring every year.

- Note to all Clubs and National organizations. This date is a dead cert for publicity, when the media will be willing to look back over the first ten years. Think about what you want to project. We've scheduled the Bleriot Cup for that date.





# SMALL TURN-OUT FOR CLUB-MEET (and it wasn't flyable either)

The 1980 AGM voted that a club delegate conference should be held in October to provide a forum for more detailed discussion than is possible at an AGM, and to allow sufficient time for motions to be put forward to the 1981 meeting. Thirty-five people attended the meeting on November 8th in Northampton, representing seventeen clubs and including nine Council Members and BHGA staff.

Despite the relatively small numbers (or maybe because of them) the meeting did turn out to be a useful one with ideas being proposed, discussed, accepted and rejected.

Much of the discussion centered around the clubs - their position in relation to the BHGA, club membership, control of sites, site usage and the communication between Council and Club Members.

Recent figures from Taunton Office have shown that only fifty percent of BHGA members are also members of clubs. Therefore half the hang gliding population are 'permanent visiting flyers' on sites negotiated, paid for and administered by the clubs which represent only half their potential membership.

Some proposals to remedy this situation were put forward for Council consideration:

1. BHGA membership should cost more for those who did not join a club. This could be achieved by levying a surcharge, after one or two years BHGA membership, on those who had not joined a club.
2. Associate or visiting membership of clubs should only be available to full members of other clubs.
3. The cost of visiting should relate to the length of visit, i.e. one day's flying in a year should not require associate membership of a club.

Clubs having problems with 'cowboys' on their sites should contact Council and ask for disciplinary action to be taken. It has generally been found that the disciplinary committee actions are effective in persuading offenders to toe the line. The new BHGA membership stickers should help to make

identification of pilots easier.

## Sites Guides

The question of National sites guides was raised, with some clubs in favour and some totally opposed to any form of national guide. However, all present were in favour of the club contacts list and map, published in the July issue of 'Wings'; so much so that it was agreed to recommend that this should be published every six months.

## 'Wings'

'Wings' at present is funded through BHGA membership fees and advertising revenue, although the first moves are being made to sell copies abroad and to other flying enthusiasts.

Delegates congratulated Brian on his editorship, which it was felt had improved. The major criticism was that there were too few technical articles and that there was a need for more information aimed at the less experienced flyer.

## Training

Colin Lark gave a report on the first club instructors course and explained the role of a club instructor. Some clubs objected to the way that an AGM decision about issuing PIs through clubs had been interpreted. The proposers of the AGM motion had not anticipated that the PI requirements would include a written test. It was agreed that the training committee would liaise closely over future developments which affected training in clubs.

## Council Structure

Each Council Member is responsible for a particular area of BHGA operations with additional officers appointed for specific areas as necessary. Delegates agreed that the system was working well but that more communication between clubs and Council was desirable. All clubs get copies of Council Meetings Minutes but it was agreed that Council Members should be allocated a group of clubs for liaison purposes. The club chairman's meeting and this delegate conference had already gone a long way towards improving communications.

Barbara Bedding.

# POINT OF VIEW

Dr Dunstan Hadley,  
BHGA Medical Adviser

There is a noticeable gap between the top two hundred or so pilots, and the other 4,000 top to bottom flyers. This is partly due I think to the development of high performance gliders, which separate the experts from the rest. It is also due to the fact that most of the BHGA members are occasional flyers, who could be much better if they had the time, or if the weather was better when they did have the time. They never improve enough to fly high performance gliders in the way that they should be flown.

The gliders, in gaining performance, have lost something in ease of rigging and portability. This is no importance to the pilot who can almost always top land. It may not be possible, but I would like to see a return to simplicity, so that a glider could again be opened like an umbrella, flown to the bottom if a top landing proved to be too difficult, and unrigged as easily to be carried up, yet still be able to soar as well as present-day medium gliders.

I would also like to see a glider which had no vices (a pilot too!). A glider which would go from a stall into a parachute-type descent, if the pilot failed to recover from the stall. In other words a "very safe kite". Modern gliders are safe, in fact much safer than the old "standards", but I would like to see them even more safe. We are not all very good pilots yet.

I think too, a word should be said in favour of the glider kit. I bought my first glider as a kit, it was slightly less costly. I admit that most of the work had already been done. The sail was made, the rigging wires were made. It only required a few holes to be drilled, a few brackets to be made, a little sawing, but at least the glider had to be assembled by the owner. If a person has to build his glider he understands it better. He knows how to take it apart again to inspect it, and how it should be put together. He has a better understanding of structural safety.

It should still be possible to supply a glider as a kit. It would have to be very carefully designed, if possible so that it would not be assembled incorrectly, and good instructions supplied with it. This might seem a lot to ask, but the thrill of actually building, and flying, your own aircraft is unique.

Because of design improvements, glider styles progress rapidly. It might be worth a trial to hold a competition for a one design class. It seems to work for yachts, and would enable aspiring competition pilots to learn their skill in fair competition. There would still be open events, to encourage development, but three or four one design classes might stimulate development of competition within the BHGA. It would also be necessary for Olympic events, should they ever be held.

Previously I have always felt that *ab initio* training should be carried out seated. I now think that there is a case for flying prone from the start. Actually the pupil pilots would be flying standing up to begin with, but would have a harness which allowed a gradual transition to prone as they progressed. Some schools now do this, but I think that we should hear more opinions about it. There may be disadvantages too, such as problems with longitudinal stability.

Increase in safety and simplicity should now, I believe, be something in which both the BHGA and the BHGMF should concentrate some extra effort, in order to improve our sport.



"Yes, they were one of the really great parachute teams."



# "UNACCUSTOMED AS I AM".

If you've been in hang-gliding for any length of time you will inevitably have established a nodding acquaintanceship with the good old human emotion of fear. The strange thing is that the thrills on the hills rarely reduce many of us to the same degree of jelly-kneed terror that the prospect of public speaking does.

The autumn evenings signal the start of the open season for speaker-finders, and any moderately well known local flier is fair game to be asked to give a talk to Rotarians, Scouts, Ladies Luncheon Clubs or even primary schools. As a fairly seasoned campaigner who has experienced most public-speaking disasters, here are a few hints and tips to give confidence should you ever find yourself dry-mouthed in front of a hall full of strangers with the slide projector jammed.

**Firstly: The groundwork:** Don't be afraid to ask your contact about the venue. How many in the audience? How big is the hall? Is there a power supply? Can the windows be blacked out? Will there be a heavy-metal rock group rehearsing in the next room? Above all, is there room to assemble a glider? Of all the possible visual aids, there is nothing to compare with a complete hang-glider when it comes to holding an audience.

**Secondly: Your Material.** Don't make the mistake of thinking that your audience want an erudite lecture on the aerodynamic aspects of ultralight flight. They have come to hear *your* story of your flying. By all means dress it up with a few brief historical references to add perspective, but don't overdo it. Obviously you won't let a public relations opportunity like this pass without reference to the BHGA, and the way the sport is self-regulated at present. Do have the BHGA address handy so that if any or your audience want to know more about schools, clubs etc, they can be told where to write to.

**Thirdly: Visual Aids:** For a previously uninformed audience there is nothing to beat your flying equipment. If there is space for the glider, that's best of all, but you'll still need your harness, helmet, vario, altimeter, ventimeter etc. Remember, even after all these years, most people are still convinced that we leap off cliffs while relying on muscle power to remain in contact with our "Hand Gliders"!

**Fourthly: Films and Equipment:** This is the area where the scope for disaster is almost unlimited. Once the lights are out you will have the opportunity to bore your audience to the point of rigor mortis while at the same time displaying a degree of fumbling incompetence that would make Tommy Cooper look like the Great Houdini. Some Golden Rules are:

**Don't overdo the slides:** Two dozen are plenty — 36 almost certainly too many.

**Never, ever show unedited amateur cine film:** even the most basic of handwritten filmed titles and 'ends' cards plus a bit of fearless cutting of less than perfectly focussed or very repetitive footage makes a tremendous difference to the image presented to your audience.



Noel Whittall.

**If using borrowed projectors etc.,** borrow them a day or two beforehand and use them first.

**Disbelieve** promises that a screen/extension lead/projector stand etc. will be provided by your hosts. Take your own, it's safer.

**Expect** projector lamp bulbs to blow, and have with you not only spares, but also a screwdriver to fit them with. Remember, if a bulb is going to fail, it will do so while being used!

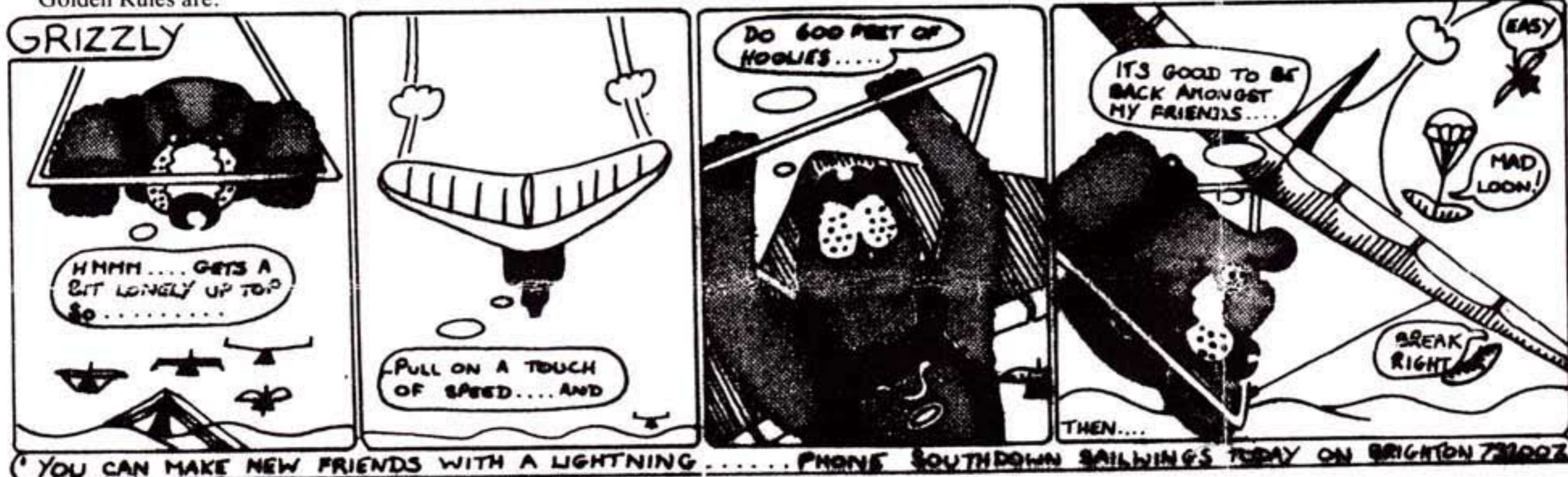
**Add a bit of professionalism** to a slide presentation quite simply by knowing that professionals always use a title slide to set up the focus on. (I use a shot of the "Eagle and Child" pub sign in Oxford, which shows a baby suspended by its nappy from an eagle's talons.) Also, after the last slide, add one which is completely black and get the hall lights put on when this comes up, rather than expose your audience to a blinding white screen at the end of the show.

**Do use a magazine-type projector for slides,** and plan the order of the pictures to give some sort of flow. Always have the slides marked so that the top right hand corner of each one as it goes into the magazine is clearly indicated. This will rob your audience of the opportunity for barracking ribald comments when slides are projected upside down or sideways, but I feel its worth it.

**Above all, enjoy giving the talk** — if you can communicate the pleasure you get from your chosen sport you will be doing a service for the whole hang-gliding community.

Sometimes you will be offered a fee, or expenses, and may have a problem knowing what to ask or accept. Obviously if you are dealing with a commercial enterprise who are going to make a profit from your efforts, then go for as much as the market will stand and enjoy the proceeds. On the other hand, my technique with voluntary organizations is to accept modest expenses which are then donated to a local worthy cause. In my case this is the Upper Wharfedale Fell Rescue association. This is an excellent organisation who provide a worthwhile service over the area in which my club (The Dales HGC) operates.

**It'll be alright on the night.** Yes, but only if you've done your groundwork and tried to eliminate the foul-up factor. I learned my lesson about twenty years ago when on behalf of my then employer I was scheduled to present a programme of motor race and rally films to a large motor club. The films arrived late, and I had no chance to preview them. You can imagine how I felt when the eagerly anticipated main feature turned out to be a quite staggeringly turgid work about shoe production in Leicester. I never got to the bottom of how that found its way into the can!





# ICARUS ALL SORTS

..... **hubris** is a Greek word roughly meaning pride before a fall, and 1979 Grouse Mountain champion **John Davis** is thinking of making **Hubris** his middle name. The story goes that at the 1980 Grouse Mountain competition, he took off and began 360ing back over takeoff, singing "Nobody Does it Better" in a loud voice to wind up his opponents. He then went to the bottom, landed out of the target area... and was disqualified from the meet.....

..... when the American Cup was over, various persons were seen waving grubby notes and wheeling deals with the American team to steal away with Comets. No one got a discount... it was a sellers market... but **Bill Moyes** sloped off with one for a shotgun marriage with his Mega 2s..... **Gerard Thevenot**, photographed peering dubiously down a Comet wing, also shipped one off to France for transplant surgery..... and a minor minion well-known to Icarus took one back to England for dissection and comparison tests in Marlborough. This winter there'll be a lot of banging and crashing and cursing noises behind closed doors as we all make certain we never get left that far behind again.....

..... **Ivor John** writes in from Saudi Arabia to ask, where are they now? The heroes of yesteryear? That got Icarus wondering..... first-ever BHGA Chairman **Martin Hunt** wrote a book on hang gliding, said he had more time when he retired from the top job to go on flying, but was last seen sitting in the middle of an English vineyard waiting for his wines to grow. Is he still there?..... controversial obergruppenfuhrer **John James**, nee Haynes, who founded NHGA and faded with the advent of BHGA, last heard of living in Spain and making occasional trips to this country to buy and sell caravans. John was said to be the first hang glider pilot to soar in this country, and for a while in Spain was experimenting with towing off water. Is he still doing that?..... what about **Geoff McBroom**, the pioneer hang glider pilot in Britain, back in 1972? McBroom Sailwings, responsible for the Argus and the Harrier, faded slowly away. Geoff appeared in a colour supplement piece once, making land buggies, but is now thought to be reconciled to mainstream aviation..... is this true?.....

..... who's heard recently of **Miles Handley**, the wayward genius who designed the Gulp and the Gryphon, of whom Bill Moyes said he was one of the most original designers in the world? Miles wasn't happy with flying himself after a crash a couple of years back, but what really blew him out of hang gliding was the financial screwing he got when **Waspair** left the country. He had become involved in a complicated biscuit-packing machine, last I heard, and was also interested in sailboats. **Jill**, his wife, was one of the mainstays behind the SHGC and the BHGMF.... Miles wrote all the early air-worthiness standards which saved a lot of British lives.... where are they now?.....

..... **Eric Short** used to be known as the 360 Kid, and had ambitions back in 1974/1975 to rival Brian Wood. He'll be remembered for his sticky fingers at the 1976 Mere then he launched **Brian Wood**, caught his fingers in Brian's harness, and had to fly down hanging on for grim life. Went off to the oil rigs, was seen once in 1978, and then gone..... where is he now?.....

..... **Brian Wood**.... ace of aces, first National Champion, first League Champion (1977), left Britain suddenly in 1979 just before he would probably have secured selection for the 1979 American Cup team, to go live in Holland. Last heard he was still there, with his wife **Fran** and two



Brian Wood - photo Mark Junak.

nippers, working in a boatyard and..... tragedy..... doing very little flying, if at all. Hear there are plans to move East toward Germany where the flying is better, and he may be prepared to change his old **Birdman Cherokee**, on which he made the first British XC - 6 miles - off a tow at Little Snoring in August 1979, for something more up-to-date from Solar Wings.... a **Typhoon**?... what's the wind blowing for Brian these days?.....

.... remember **Brian Gaskin**?..... he was at Rhossili in late 1974, one of three pilots in one day who learned that behind every cliff there's a rotor.... hard learning, it was, and though Brian carried on flying for another couple of years, his heart wasn't in it. Remember him with a big Wasp CB 240 up for sale at Mere in (was it 1976?), and those demonstrations on top of Rhossili of parascending? He's now a big-wig in the parascending movement, one of their governing council no less, a rarity going the other way to natural progress.....

..... jubilation in Japan at the 1980 **American Cup** results, for the oddest reason. It isn't that the Japanese are happy at the British getting beaten as a sort of revenge for the 1978 American Cup, in which a scratch Japanese team was extremely pleasant but not brilliant at flying. The jubilation has a more commercial base. The UP company, like many American hang gliding firms, established a dealer network abroad, and UP went big in Japan. When **Peter Brock**, UP boss, was having a thin time of it last year because of the American market, his Japanese agent, **Yusige Yamasaki**, came to the rescue. But the cost was a little 51 percent ownership of UP. Now the **Comet** has justified that rescue operation, who wants to be a millionaire?.....

..... notice how hang gliding is creeping into advertisers copy? **John Hudson** sends in the copy of a **Smirnoff Vodka** ad, with a nice-looking lady holding that drink in one hand and a big net in the other. In the background, with a sail like a butterfly, is a hang glider. It looks like an early Australian model (the hang glider, not the lady) superimposed on the net picture, with the current Smirnoff slogan ("Well, they said anything could happen")..... talking of adverts, of all places, the London Underground gives us a plug. There's a series on

mouthwash, for a product called **Listerine**, on the theme, "Nice face, pity about the breath". In one such scenario, the lady in question wants to make it as an actress (when everyone knows her breath smells like a North Wales boot). She's said to have as much chance of being a star as "getting an O-level exam pass in solo hang gliding".....

..... good news US Competition boss **Keith Nichols**, once the US National Champion, who badly broke his arm early this year flying in South Africa. He lost his job with Electra-Flyer boss **Larry Newman**, was supposed to take up a position in **Bill Bennett's** company (but didn't), and was last heard of nursing a withered right arm in a lady's abode in New York, organising competitions. Well, he's still into organising, trying to put a big one together in Lake Tahoe next August, but he's back flying again, which will ease his soul. We were all a bit worried that he'd never make it back up again (that's talking about flying, of course).... But mind your back, Keith, The Mafia are mumbly again the the political knives are out.....

..... competition in the magazine field in the USA is difficult to get into. We've all heard about **Glider Rider**, and the USHGA's **Hang Gliding** magazine. There is, though, a third one called **Whole Air Magazine**, run by a really nice guy called **Dan Johnson**, who has the school and shop at **Crystal**, in Tennessee. It comes out 6 times a year, has a colour cover, and costs only \$5 in the USA, which is so much cheaper than **Wings** it isn't true, but Dan tells me costs out there are so much cheaper too. **Whole Air** is distinguished by its viewpoint, which isn't Californian like **Hang Gliding**, and its detachment. It does good glider reports, concentrates mainly on classical hang gliding (though power is adequately covered), and its viewpoint is internationalist - our own **Noel Whittall**, for instance, is their European correspondent. Write to Dan at Box 144, Lookout Mountain, TN 37350....

..... in the economic depression, **Len Gabriels** has a welcome bit of news. His former sponsor, **Bluebird Toffees**, who have a factory in the West Midlands, is showing an interest in him again now they've had second thoughts about the value of a much more expensive balloon. Bluebird, some of you will remember, sponsored the kite that Len flew from North of London to (almost) Paris, and which he would have made more famous if paperwork hadn't grounded him a couple of hours out of the French capital. Well, the toffee company wants to get back into hang gliding and back Len against a number of all-comers, including superstar **Gerry Breen**. More details as they come in, but a nice new year present is a tin of Bluebird Toffees, guaranteed to warm your heart (as well as pull out your fillings.) Bluebird celebrated Len's flight by producing a pretty tin with **Satory's** 1890 Flying Machine, **Louis Bleriot's** 1909 mono, the 1913 **Derperdussin** Racer and others, crowned by a lid with Len on Bluebird. Write to Bluebird, Hunnington, Halesowen, West Midlands, B62 0EN if you want to get one of the fast diminishing stock.....

..... has the sheer **snobbery** of hang gliding ever put your nose out? Tyro members of the **Wings!** team, **Mark Junak** and **Ian Butcher**, decided they'd both like to use altimeters as a guide to top landings, especially judging landing heights. But as semi-nobles they find it difficult to overcome the psychological barrier of attaching "fancy" equipment to their kites, a practice generally "reserved"(?) for top pilots. If this "shyness" can be overcome, they think, maybe a lot more would-be Icarus's could progress faster, the market for altimeters would expand, and prices would come down.....



# INSURANCE

The following Personal Accident Insurances are placed at Lloyd's and are applicable to United Kingdom based BHGA Members. They are effective throughout Europe. Extensions beyond that can however be arranged.

**This last year's claim experience has forced underwriters to increase premium on capital sums — but a lower renewal premium applies to those previously insured without claim.**

## PERSONAL ACCIDENT BENEFITS IN THE EVENT OF A HANG GLIDING ACCIDENT

**CAPITAL SUM**  
IN THE EVENT OF DEATH, LOSS OF EYE/LIMB (OR USE THEREOF) OR PERMANENT TOTAL DISABILITY

Code	Capital Sum Benefit	New Premium	Renewal Minimum
A5	£ 5,000	£ 25.00	£20.00
A6	£ 6,000	£ 30.00	£24.00
A10	£10,000	£ 50.00	£40.00
A15	£15,000	£ 75.00	£60.00
A20	£20,000	£100.00	£80.00

**WEEKLY BENEFIT**  
PAID UP TO 104 WEEKS (EXCLUDING FIRST 14 DAYS) FOR SO LONG AS DOCTOR CERTIFIES YOU TOTALLY UNABLE TO FOLLOW NORMAL OCCUPATION

Code	Weekly Benefit	Premium
D20	£20 per week	£12.00
D30	£30 per week	£18.00
D40	£40 per week	£24.00
D50	£50 per week	£30.00
D60	£60 per week	£36.00

*FOR COMPETITION PILOTS i.e. THOSE TAKING PART IN NATIONAL OR INTERNATIONAL COMPETITIONS OR THE LEAGUE — OR COMPETITIONS ABOVE CLUB LEVEL, UNDERWRITERS HAVE INSISTED ON THE ABOVE RATES PLUS 25%*

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

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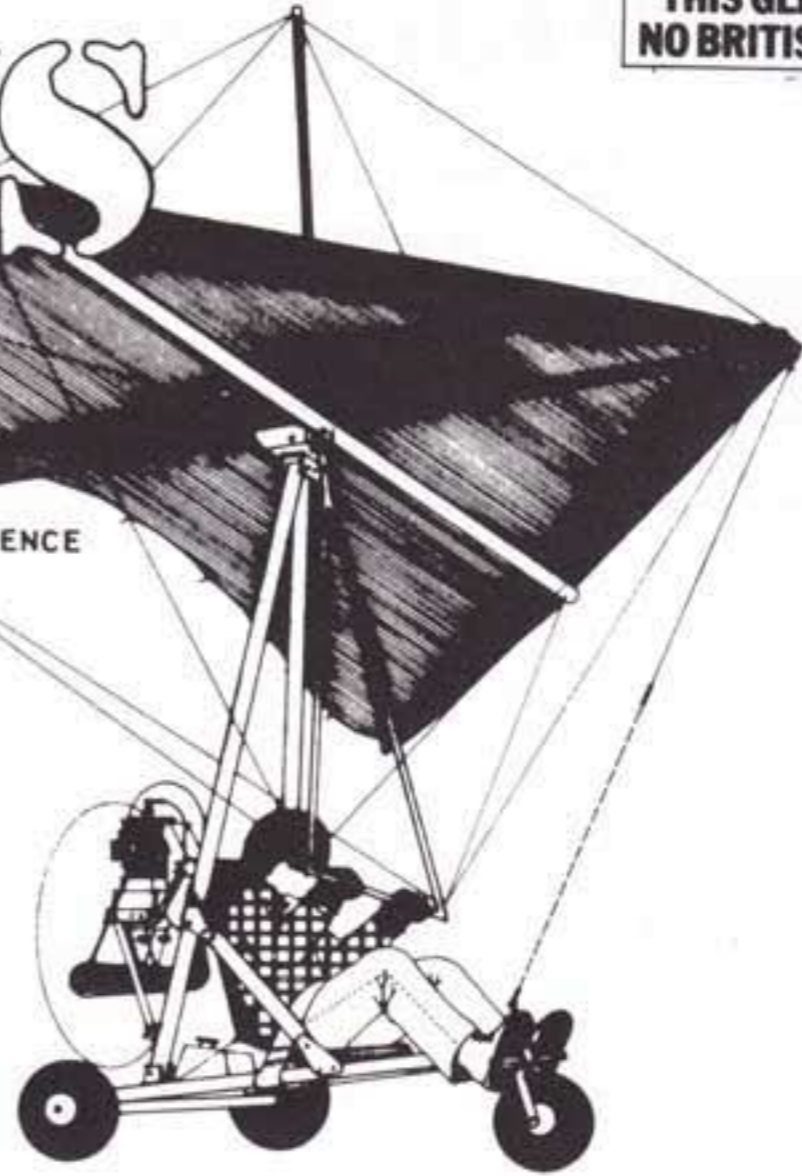
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For your own safety, if you are purchasing a second-hand glider, check that it is a registered BHGA model, see it test flown, test fly it, and inspect it thoroughly for damage or wear to critical parts. If in doubt seek advice from the Club Safety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

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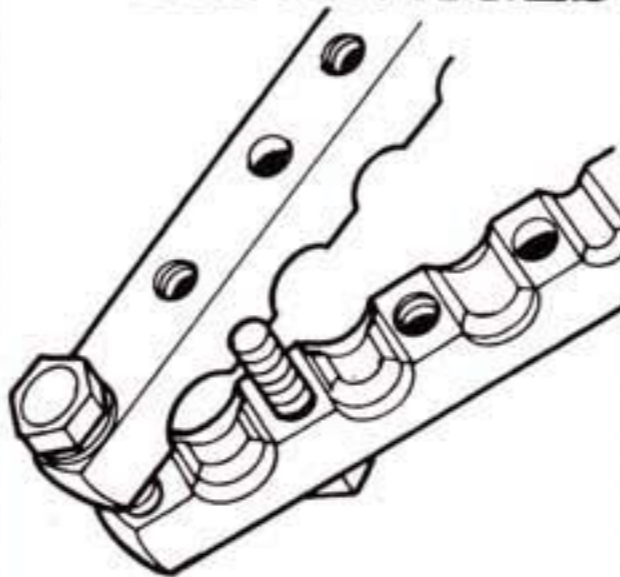
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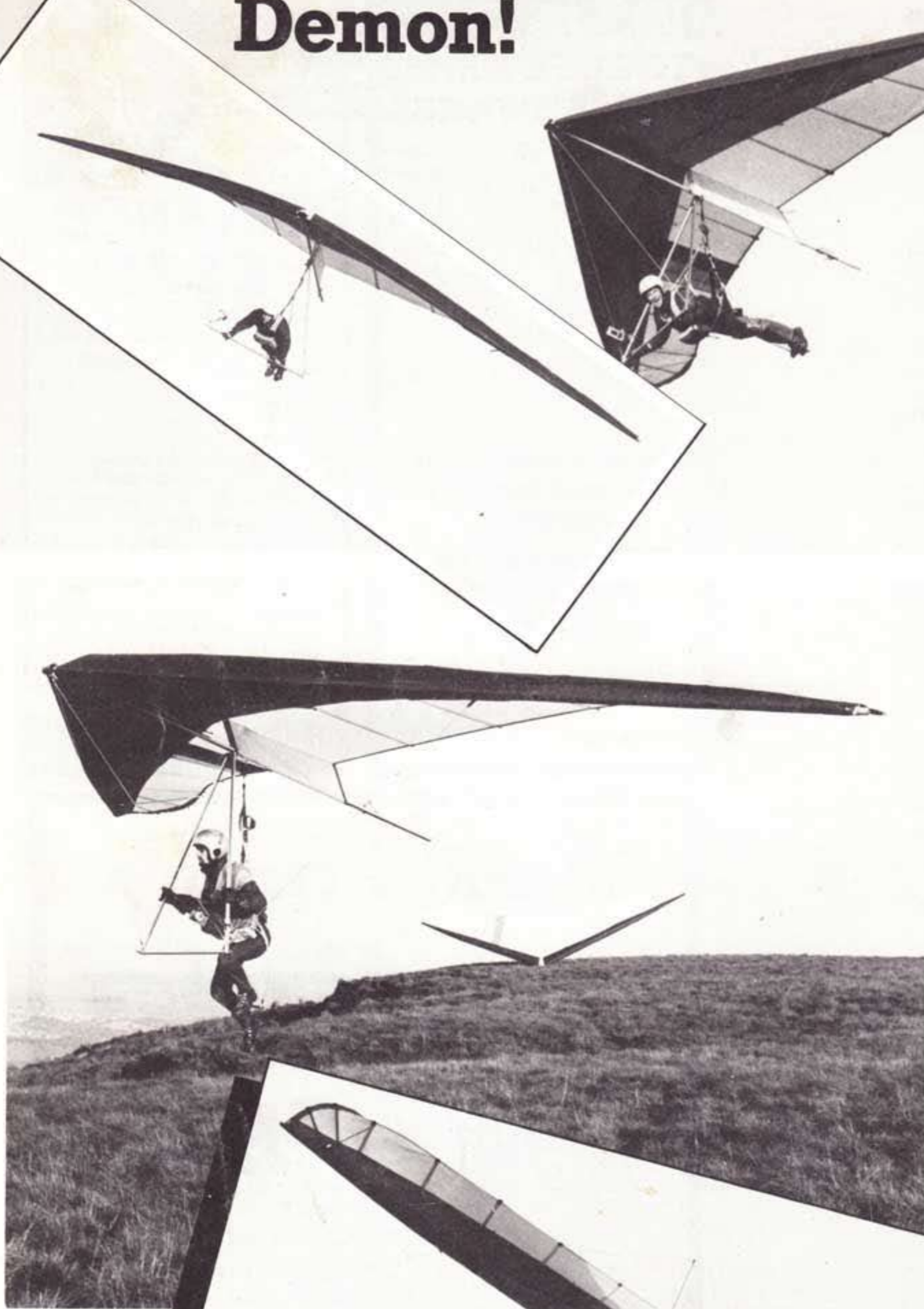


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